

Hydrocarbon Exploration Program - Exploration Well Asopus-1 in Block 2 - Ionian Sea

ECF-3008
Chemical Use Plan (CUP)

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LIST OF ABBREVIATIONS

ABBREVIATION	EXPLANATION
BAT	Best Available Techniques
BOP	Blow Out Preventer
CUP	Chemical Use Plan
E&P	Exploration & Production
ERP	Emergency Response Plan
ESBS	Environmental and Social Baseline Study
ESIA	Environmental and Social Impact Assessment
ESM	Environmental and Social Management
ETS	Emission Trading System
EU	European Union
EUOAG	European Union Offshore Oil & Gas Authorities Group
GIIP	Good International Industry Practice
GOP	Good Oilfield Practices
HAZID	Hazard Identification
HAZOP	Hazard and Operability Study
HEREMA	Hellenic Hydrocarbon and Energy Resources Management
HOCNF	Harmonised Offshore Chemical Notification Format
HSE	Health, Safety and Environment
LMP	Liquid Mud Plant
LWD	Logging While Drilling
MEP	Marine Environment Protection
MODU	Mobile Offshore Drilling Unit
NoWO	Notification of Well Operations
NSS	National Spatial Strategy

ABBREVIATION	EXPLANATION
OCNS	Offshore Chemical Notification Scheme
O&G	Oil & Gas
OGP	(International Association of) Oil & Gas Producers
OPRC	Oil Pollution Preparedness, Response and Co-operation Convention
OSM	Oil Spill Modelling
OSPAR	Convention for the Protection of the Marine Environment of the North-East Atlantic
PLONOR	Pose Little Or No Risk to the Environment
P&A	Plug and Abandonment
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
SDS	Safety Data Sheets
UNCLOS	United Nations Convention on the Law of the Sea
UNECE	United Nations Economic Commission for Europe
UNEP	United Nations Environment Programme
WBM	Water-Based Mud
WMP	Waste Management Plan
WL	Wireline Logging

1 Introduction

All Mediterranean coastal States and the European Union are Contracting Parties to the Barcelona Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean. The Protocol for the Protection of the Mediterranean Sea against Pollution Resulting from Exploration and Exploitation of the Continental Shelf and the Seabed and its Subsoil ("Offshore Protocol") sets out specific obligations for offshore oil and gas activities, including the requirement that the Competent Authority approve the use and storage of chemicals for such activities based on a Chemical Use Plan. This Chemical Use Plan is prepared in accordance with Articles 1(k) and 9(1) of the Offshore Protocol, and with the Mediterranean Offshore Action Plan and related regional offshore guidelines adopted under UNEP/MAP.

In Greece, Law 4409/2016 designates the Hellenic Hydrocarbon and Energy Resources Management Authority (HEREMA) as the Competent Authority for offshore safety in oil and gas operations, granting it regulatory and supervisory powers over upstream hydrocarbon activities. Accordingly, the use and storage of chemicals for offshore activities shall be subject to HEREMA acceptance based on this Chemical Use Plan, in accordance with Greek legislation and any obligations arising from the Offshore Protocol. Operators are required to apply best available, environmentally effective and economically appropriate techniques when planning and conducting offshore activities, consistent with Article 8 of the Offshore Protocol and the measures defined in the Mediterranean Offshore Action Plan.

The purpose of this Chemical Use Plan is to identify the chemical products proposed for use during the Asopus-1 exploration drilling programme, describe their intended applications, quantify anticipated usage and potential discharge where applicable, and demonstrate that chemical selection, handling and management arrangements are consistent with applicable regulatory requirements, Good International Industry Practice (GIIP), and the application of Best Available Techniques (BAT) and Best Environmental Practice (BEP).

The Chemical Use Plan is the formal document submitted to the Competent Authority to support the approval, management and control of chemicals used and stored during offshore operations. It shall be submitted to HEREMA for review and approval before the commencement of activities. The Plan covers all chemical substances expected to be present on the drilling unit during drilling, well construction, well abandonment and associated contingency operations. Only chemical substances approved or authorised for use by HEREMA under applicable Greek legislation and relevant Offshore Protocol obligations may be used offshore.

In accordance with the definition in Article 1(k) of the Offshore Protocol, this Chemical Use Plan shall, at a minimum, show:

- The chemical substances which the Operator intends to use during the operations.
- The purposes for which the Operator intends to use those chemical substances.
- The maximum concentrations and maximum quantities of chemical substances expected to be used during all periods of the operations.
- The area within which the chemical substances may potentially be released into the marine environment.

For the Asopus-1 exploration well, the area within which chemical substances may be released comprises the immediate vicinity of the well location (seabed and overlying water column) and the surrounding water column and seabed within the Block 2 lease area, as further described in the ESIA.

To support HEREMA's assessment of environmental risk, the Operator's internal chemical management system requires that each chemical be accompanied by documented information on toxicity, biodegradability and bioaccumulation, consistent with international offshore practice. In this context where possible, data sets and hazard rankings, including those used in the Harmonised Offshore Chemical Notification Format and the UK–Netherlands Offshore Chemical Notification Scheme (OCNS) administered by the Centre for Environment, Fisheries and Aquaculture Science (CEFAS), serve as supporting technical tools for screening and comparing chemical hazards and informing product selection.

The subsequent sections of this Plan present the proposed chemical inventory, intended uses, environmental characteristics, estimated usage and discharge quantities, and the management measures applied to minimise risks to the marine environment.

2 Project Summary

The Asopus-1 well is a single offshore exploration well planned within Block 2, offshore Greece. The objective of the well is to evaluate the hydrocarbon potential of the target geological formations through drilling and wireline logging. The well is an exploration-only project, and no production facilities or hydrocarbon production activities are proposed as part of the Project.

The Asopus-1 exploration well will be drilled using established offshore exploration drilling practices, progressing sequentially from shallow seabed sections to the planned final depth. Well construction will be carried out in accordance with the HEREMA-accepted Notification of Well Operations (NoWO), maintaining well control and integrity throughout the operation. The operations include:

- Riserless drilling will be undertaken for the conductor and surface-hole sections using seawater and water-based drilling fluids. During this phase, drilling fluids and drill cuttings are discharged directly to the seabed in accordance with the planned drilling programme.
- Following installation of the marine riser and Blowout Preventer (BOP), drilling returns will be circulated back to the MODU via a closed-loop system. Drilling fluids will be processed through the rig solids-control equipment for treatment and reuse, thereby minimising drilling fluid consumption and discharge.

Well construction and abandonment will be carried out in accordance with established offshore practices designed to ensure well integrity and prevent unplanned releases to the marine environment. The well construction is defined by the indicative casing schedule presented in Table 2-1, which sets out the sections, casing sizes, drilling fluid systems, and approximate depths used to assess drilling discharges, seabed disturbance, and contingency scenarios.

The project does not include a production phase, and as such, no produced water will be present.

Table 2-1: Indicative well casing plan for Asopus-1 Base Case

NO.	SECTION NAME	DRILLING FLUID	HOLE SIZE		CASING SIZE		DEPTH BELOW SEABED	LENGTH OF HOLE SECTION
			IN	MM	IN	MM	M MD	M
1	36-in Conductor Jetting	Seawater / WBM	-	-	36	914	±70	±70
2	26-in Hole x 20-in Surface Casing	Seawater / WBM	26	660	20	508	±730	±660
3	17-1/2-in Hole x 13-5/8-in Intermediate Casing	WBM	17-1/2	444	13-5/8	346	±1,216	±490
4	12-1/4-in Hole x 9-5/8-in Intermediate Liner	WBM	12-1/4	311	9-5/8	245	±2,660	±1,195
5	8-1/2-in Hole	WBM	8-1/2	216	-	-	±3,750	±1,340

Based on the current well design, the drilling sequence comprises:

- Mobilise the drilling rig within the operational area. Prepare to start drilling (spud).
- Jet the 36-in conductor.
- Drill ahead the 26-in hole section. Run and cement the 20-in surface casing.
- Run the BOP on the marine riser.
- Drill the 17-1/2-in hole section. Run and cement the 13-5/8-in intermediate casing.
- Drill the 12-1/4-in hole section - this section has a contingent wireline logging programme.
- Run and cement the 9-5/8-in liner.
- Drill the 8-1/2-in hole section. Conduct wireline logging to evaluate the primary target.
- Plug and abandon (P&A) the well using cement barriers.

Water demand for the Project will be met primarily using a combination of seawater and desalinated water produced by offshore desalination units installed on the Stena DrillMAX. Seawater will be abstracted directly from the surrounding marine environment and used for the preparation and mixing of drilling fluids and cement slurries, while desalinated water will be used as the source water for BOP hydraulic fluids and other selected technical and domestic uses, following appropriate treatment in dedicated BOP water conditioning systems, in line with standard deepwater offshore practice and with the objective of minimising reliance on transported freshwater resources.

It should be noted that there may be contingency activities such as sidetrack drilling, re-drilling sections and re-spudding of a well.

3 Chemical Use

Chemical products proposed for use during the Asopus-1 exploration well have been selected in accordance with Energean's chemical management procedures, taking into consideration operational performance, well integrity requirements, personnel safety, environmental characteristics and applicable regulatory requirements. Information on product hazards, environmental properties and supplier documentation has been reviewed as part of the chemical selection process.

The chemical inventory in this Plan includes both products expected to be used during the planned drilling programme and additional products that may be used if required during operations. The quantities and types of chemicals described in this Plan are based on the current well design and the planned drilling programme. Actual chemical consumption may vary depending on the operational conditions encountered during drilling. Inclusion of a chemical in the inventory does not imply that the product will necessarily be used during the Project.

For the purposes of this Chemical Use Plan, a primary additive is a chemical expected to be used as part of the planned drilling fluid, cementing or other operational programme to achieve the required technical performance, well control and well integrity objectives. A contingency additive is a chemical included in the chemical inventory for use only if specific operational conditions arise, such as unexpected formation behaviour, drilling fluid losses, excessive foaming, bacterial activity, hydrogen sulphide, or the need to adjust drilling fluid or cement properties.

The chemicals addressed in this Plan are primarily associated with drilling, cementing and other activities. The main categories include water-based drilling fluid additives, cementing chemicals, blowout preventer (BOP) hydraulic control fluids, and thread compounds.

Chemicals will be stored in designated areas of the drilling unit in accordance with the drilling contractor's management system and applicable offshore requirements. Storage, handling and transfer of chemicals will be controlled by established operational procedures. The main storage areas onboard the drillship are the paint store, chemical store and sack store, all of which have closed drains and are bunded.

Chemicals used for general vessel operation and maintenance (e.g., cleaning agents, boiler chemicals, water treatment products, and general-purpose lubricants and greases) are not included in the offshore chemical use inventory because they are not intentionally discharged into the marine environment. These materials are typically used in small quantities and are managed under the vessel's MARPOL-compliant waste and discharge control systems. Any accidental release of such products with the potential to reach the marine environment is addressed under the Project's Pollution Prevention Management Plan (PPMP) and Emergency Response Plan (ERP).

Deck washing and cleaning activities are controlled to minimise discharge into the marine environment, with a preference for collection and treatment through the vessel's drainage systems where practicable, in accordance with MARPOL requirements.

No bulk storage of drilling chemicals is planned at the onshore logistics base. Limited quantities of packaged chemicals and drilling consumables may be stored temporarily to support offshore operations. Chemicals will be stored and managed primarily onboard the MODU in designated storage areas for chemical storage and handling.

3.1 Drilling Fluids

Drilling fluids (drilling muds) are used to maintain well control, transport drilled cuttings, cool and lubricate the drill bit, stabilise the wellbore and provide the hydrostatic pressure necessary for safe drilling operations. All well sections will use water-based mud (WBM). Although the UNEP/MAP Common Standards and Guidelines permit low-toxicity non-aqueous drilling fluid (NADF) in deeper sections with strict discharge controls, NADF will not be used or discharged for Asopus-1.

The muds include weighting agents and chemicals to provide the required weight, viscosity, gel strength, and fluid loss control for exploration drilling. Additional chemical additives may be incorporated into the water-based mud systems where required to achieve the drilling fluid properties necessary for safe and efficient drilling operations.

3.1.1 Riserless section – Seawater and WBM

Seawater combined with high-viscosity gel sweeps will serve as the drilling fluid for the initial conductor jetting and 26-in surface-hole section, with discharge at the seabed. Gel sweeps typically contain viscosifying and conditioning additives used to provide the required drilling fluid properties during riserless drilling operations. Cuttings and the water-based mud will be discharged at the seabed during the riserless sections.

3.1.2 Drilling with returns to the MODU – WBM

After completing the riserless sections, a marine riser and a blowout preventer (BOP) stack are installed to connect the well to the MODU and enable a closed-circulating system. The MODU's primary solids-control equipment, including shale shakers and a centrifuge, removes cuttings from the mud before recirculating the fluid back to the well.

Intermediate and target-hole sections will be drilled with water-based mud. Different shaker screen mesh sizes will be installed to remove specific particle sizes, thereby optimising drilling fluid properties.

3.2 Cement slurry

As drilling progresses, sections of the well are drilled sequentially to target depth intervals. At each interval, casing is run into the well and cemented in place. Cement slurry is pumped down the casing and circulated back through the annulus to provide zonal isolation, support casing integrity, protect shallow formations and enable continued drilling into deeper formations.

The 36-in conductor will be jetted in without cementing. The 20-in surface casing string will then be installed and cemented in the 26-in hole, with an appropriate excess cement volume to ensure effective placement and zonal isolation. Most cement will remain between the casing and formation, but some excess may be discharged to the seabed.

For subsequent cementing operations conducted after installation of the marine riser, cement is placed and retained within the wellbore annulus to provide zonal isolation and well integrity. Following installation of the

marine riser, displaced fluids and excess returns associated with cementing operations are returned to the drilling unit through the riser circulation system.

Cement systems comprise cement and associated additives used to achieve the slurry properties required for the planned well design. The cement additives included in this Plan comprise products expected to be used during normal operations, together with additional products that may be used if required during cementing operations.

3.3 BOP Fluid Chemicals

The BOP hydraulic control system uses a dedicated hydraulic control fluid required for normal operation, testing, maintenance and emergency well control functions. Small operational releases may occur during routine testing, maintenance activities and operation of the subsea BOP system. There is no planned disposal of unused BOP hydraulic control fluid to the marine environment. Where operational releases occur, the discharged fluid is diluted with seawater and consists predominantly of seawater, with hydraulic control fluid typically comprising approximately 4.5% of the discharge volume.

3.4 Thread Compounds (Pipe Dope)

Thread compounds (pipe dope) are lubricating and sealing compounds applied to threaded connections on drill pipe, casing and other tubulars during make-up and break-out operations to reduce friction and galling, provide corrosion protection, and maintain pressure-tight connections. Thread compounds are not intended for discharge to the marine environment and do not form part of any planned operational discharge stream associated with the Asopus-1 well; any environmental exposure would be limited to minor incidental residues associated with application, handling or cleaning activities.

4 Description of Chemical Substances

4.1 Chemical Selection, Assessment, and Control

This Chemical Use Plan sets out the chemicals that Energean currently intends or expects to use during the Asopus-1 offshore exploration drilling campaign, and the controls governing their storage, handling, use, and, where applicable, discharge during operations. It applies to chemicals proposed for storage and use on the drilling unit that may result in planned or accidental release to the marine environment. No well-completion, stimulation, or production-related chemicals are planned for the Project.

In accordance with the Mediterranean Offshore Guidelines, the Plan covers drilling fluid additives, cementing chemicals, BOP hydraulic control fluids, thread compounds and other chemicals associated with the drilling programme. It describes the intended use and assesses the environmental risks of these chemicals, as well as the approach used to assess and manage those risks.

The chemical selection follows a hierarchical approach where possible:

- Avoid.
- Substitute.
- Minimise.
- Control.

The acceptance criteria include:

- Preference for chemicals classified as low environmental hazard or Pose Little Or No Risk (e.g., PLONOR or equivalent classifications where available).
- Where Mediterranean-specific chemical classification data are not available, internationally recognised systems¹ such as OSPAR, HOCNF and OCNS are applied as screening tools. These frameworks provide a conservative and well-established basis for environmental hazard assessment and are used to support, rather than replace, the requirements of the Mediterranean Offshore Guidelines.
- Demonstration that environmental risks are low and acceptable based on the screening assessment and supporting environmental studies.

Chemical selection has considered technical performance, operational safety and environmental characteristics. Where chemicals are not classified as low environmental hazard, their use is reviewed in the context of the required operational function and the availability of suitable alternatives.

Safety data sheets (SDS) are provided for all chemicals listed in the tables and for selected additional products used operationally or as contingency alternatives. The SDS include essential information on product properties, hazards, and handling requirements, and is part of the information base for this Plan.

The Project has been designed and will be implemented in a manner consistent with the principles and recommendations set out in the European Commission BAT Guidance Document for Offshore Hydrocarbon

¹ [Hazard Assessment Process - Cefas \(Centre for Environment, Fisheries and Aquaculture Science\)](#)

Exploration and Drilling Activities². Chemical selection, handling and management measures incorporated into the Project are intended to minimise the potential for adverse impacts on the marine environment and are consistent with the application of Best Available Techniques (BAT) and Best Environmental Practice (BEP).

The compatibility of the Project design with proposed risk management approaches, and best available techniques in regard to the handling and management of chemical additives offshore is analysed in Table 4-1 below:

Figure 4-1: Compatibility of Project design with Best Risk Management Approaches and Best Available Techniques

OFFSHORE ACTIVITY	BEST RISK MANAGEMENT APPROACHES (BRMA) / BEST AVAILABLE TECHNIQUES (BAT)	PROJECT DESIGN PROVISIONS AND COMPATIBILITY
3. Handling & Storage of Chemicals	BRMAs include the implementation of an HSE Management System, use of chemicals in accordance with applicable European Union chemicals legislation (including REACH and, where relevant, the EU Biocidal Products Regulation), application of recognised offshore chemical screening and risk assessment approaches, and incorporation of inherently safe engineering design to minimise the potential for chemical releases. They also include controlled chemical transfer, storage, and handling procedures (including bunding, closed drainage systems where applicable, trained personnel, and inventory management), supported by spill contingency planning, routine inspection and maintenance, and systematic recording, reporting, and investigation of incidents to ensure risks are reduced to ALARP.	Chemicals are limited to those required for drilling, cementing, and associated operational activities, including drilling fluid additives, cementing chemicals, BOP hydraulic control fluids and thread compounds. The selection of chemicals considers operational requirements, environmental characteristics and applicable regulatory requirements. Where Mediterranean-specific classification data are unavailable, recognised offshore chemical assessment systems, including OSPAR HOCNF and the Offshore Chemical Notification Scheme (OCNS), are used as supporting tools for chemical hazard screening and assessment. All chemicals are selected under chemical management procedures with preference for low-toxicity and low bioaccumulation products (ESIA - Section 6.7.1.1). Storage of chemicals includes controlled handling, containment, and spill prevention measures (ESIA - Section 6.7.1.2). Pipe dope and chemical residues are managed as controlled hazardous waste streams and removed to shore (ESIA - Sections 6.9.1.1.3 and 6.9.1.4). Hazardous waste streams (oily sludge, solvents, contaminated materials) are segregated, stored onboard, and transferred to licensed facilities (ESIA - Section 6.9.1.4).

All requirements relating to pollution prevention and emergency or accidental release response measures are covered on the separate Pollution Prevention Management Plan (PPMP) and the Emergency Response Plan (ERP), respectively. Moreover, disposal considerations are fully covered within the separately prepared Waste Management Plan (WMP). Drilling fluids and occasional cement slurry and BOP hydraulic fluids are evaluated within the Environmental & Social Impact Assessment document.

² https://bureau-industrial-transformation.jrc.ec.europa.eu/sites/default/files/inline-files/hydrocarbons_guidance_doc.pdf

4.2 Drilling fluids and cement slurry additives

A chemical inventory for drilling fluids and cement slurry additives is outlined in Table 4-1 and Table 4-2, respectively.

The **Chemical Label Coding** presented in Table 4-1 and Table 4-2 is based on recognised international schemes such as OCNS, OSPAR and HOCNF that allow the assessment of potential environmental risks posed by the distinct chemical additives comprising the drilling or cementing fluid, as follows:

- **PLONOR**: Substances considered to pose little or no environmental risk under normal use conditions.
- **GOLD, E, or other recognised offshore chemical classifications** (where available) are treated as indicative hazard rankings and are always interpreted in conjunction with Mediterranean-specific requirements, operational needs and the principles of BAT/BEP.

No chemicals proposed for use in drilling fluids or cementing operations are listed under Annex I (List of Substances the Use of Which Is Prohibited) of the Offshore Protocol. The chemical selection process is intended to ensure that prohibited substances are excluded from procurement and use.

Where chemicals are assigned higher-hazard classifications under recognised offshore chemical assessment systems, their inclusion is based on the operational function they perform and the absence of a technically suitable alternative for the intended application.

Cementing additives are subject to the same hazard screening, selection criteria and control measures as drilling fluid additives.

Table 4-1: Properties of key chemical substances for the preparation of drilling fluids according to their SDS.

#	CHEMICAL SUBSTANCE (SDS)	CAS ¹ – NUMBER (SDS SECTION 3)	PROPERTIES (SDS SECTION 9)	HAZARDS IDENTIFICATION (SDS SECTION 2)	HAZARDS TO THE ENVIRONMENT (PBT ASSESSMENT - SDS SECTION 12)	SAFETY MEASURES (SDS SECTION 8)	HAZARD SYMBOL (SDS SECTION 2)	SDS PROVIDED (Y/N)	CHEMICAL LABEL CODING
1	Bentonite (Bentone® 128)	14808-60-7	Solid, Powder, Off-white, Odorless,	Repeated and/or prolonged exposures may cause lung damage (Silicosis).	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.	Use an approved respirator whenever exposure limits are exceeded Always use Safety glasses, Protective gloves	-	Y	PLONOR
2	Caustic Soda	1310-73-2	Solid, Pellets, White, Odourless, pH = 14, Soluble in water	H314 – Causes severe skin burns and eye damage.	The product does not contain any substance classified as PBT or vPvB.	Face shield. Use eye protection in accordance with EN 166 , designed to provide protection against spray mists. Wear suitable gloves. Impervious gloves. Gloves must comply with EN 374 . Wear suitable protective clothing. Long-sleeved clothing. Chemical-resistant apron (EN 340) Where workers are exposed to concentrations above the exposure limit, suitable certified respiratory protective equipment must be used (EN 136, EN 140, EN 141, EN 143, EN 149, EN 405).		Y	E
3	Soda Ash (Sodium Carbonate)	498-19-8	-	-	-	No special protective equipment is required, handle in compliance with good industrial hygiene and safety standards	-	Y	PLONOR
4	PAC UL (NewPac™ LV)	-	Solid, Powder, White to pale yellow, Odorless, pH=6.0 – 8.0, Relative density = 1.6, Soluble in water, Fine dust dispersed in air	Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)	0.6% of the mixture consists of components of unknown hazards to the aquatic environment	Wear safety glasses with side shields (or goggles) Wear suitable protective clothing No protective equipment is needed under normal use conditions.	-	Y	PLONOR
5	CMC HV (CMC HV S)	-	Solid, Powder, White to pale yellow, Odorless, pH = 6 – 8.5, Soluble in water, Vapor pressure = < 10E -06 mm/Hg, Bulk density = 0.5 – 0.8	This substance is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]	This substance is not considered to be persistent, bioaccumulating nor toxic (PBT)	No special protective equipment required	-	Y	PLONOR
6	PAC R (NewPac™ R)	-	Solid, Powder, White to pale yellow, Odorless, Soluble in water, Relative bulk density = 1.6	This substance is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]	The product does not contain any substance(s) classified as PBT or vPvB	Wear safety glasses with side shields (or goggles). Use eye protection according to EN 166 , designed to protect against spray mists Nitrile rubber. Gloves must conform to standard EN 374 , Long sleeved clothing. (EN 340).	-	Y	PLONOR

#	CHEMICAL SUBSTANCE (SDS)	CAS ¹ – NUMBER (SDS SECTION 3)	PROPERTIES (SDS SECTION 9)	HAZARDS IDENTIFICATION (SDS SECTION 2)	HAZARDS TO THE ENVIRONMENT (PBT ASSESSMENT - SDS SECTION 12)	SAFETY MEASURES (SDS SECTION 8)	HAZARD SYMBOL (SDS SECTION 2)	SDS PROVIDED (Y/N)	CHEMICAL LABEL CODING
7	NaCl (Sodium Chloride 98.5% - Sea Salt)	7647-14-5	Solid, Granules, White to off white, Odorless, Melting point 801°C, Boiling point 1413°C, pH = 5 – 7, Water Solubility = 258g/L @ 20°C, Relative density = 2.16, Molecular Weight = 58.44	This substance is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]	The product does not contain any substance(s) classified as PBT or vPvB	Safety glasses with side shields (or goggles). Eye protection must conform to standard EN166	-	Y	PLONOR
8	KCl (Potassium Chloride)	7447-40-7	Solid, Crystalline, White, Odorless, Melting point 770°C, Boiling point 1500°C, Water solubility = 300g/L @ 20°C, Relative density = 1.98, Liquid density = 1.98 g/cm ³ , Molecular weight = 74.55	This substance is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]	The product does not contain any substance(s) classified as PBT or vPvB.	Wear safety glasses with side shields (or goggles). Wear suitable protective gloves. Wear suitable protective clothing.	-	Y	PLONOR
9	Barite (NewBar™)	7727-43-7 Barium Sulfate (>87%) 1332-58-7 Kaolin (<5%) 1317-65-3 Calcium carbonate (3-7%) 14808-60-7 Quartz (<3%)	Solid, Power, White to beige, red brown, Odorless, Melting point = 1580°C, ph= 8-10, Insoluble in water, Relative density = 4.2	This substance is classified as not hazardous according to regulation (EC) 1272/2008 [CLP] This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]	The product does not contain any substance(s) classified as PBT or vPvB	Wear safety glasses with side shields (or goggles). Use eye protection according to EN 166, designed to protect against spray mists Wear suitable protective clothing. (EN 340) When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. (EN 136, EN 140, EN 141, EN 143, EN 149, EN 405).	-	Y	PLONOR
10	Defoamer (NoFoam™ NS)	-	Liquid, Clear, Slight odor, Flash point >100°C, Insoluble in water, Relative density = 0.95 – 0.97, Liquid density = 0.95 – 0.97	This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]	Contains 0 % of components with unknown hazards to the aquatic environment	Use eye protection according to EN 166, designed to protect against spray mists Nitrile rubber. Gloves must conform to standard EN 374 (EN 340). Long sleeved clothing.	-	Y	GOLD
11	Lignosulphonate (CF) (Newedge™)	129521 – 66 - 0	Solid, Powder, Dark brown, Odorless, pH = 3.2 – 4.0, Water Solubility = 32% @ 20°C	This substance is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]	The product does not contain any substance(s) classified as PBT or vPvB.	Use eye protection according to EN 166, designed to protect against spray mists (EN 340). Long sleeved clothing.	-	Y	PLONOR

#	CHEMICAL SUBSTANCE (SDS)	CAS ¹ – NUMBER (SDS SECTION 3)	PROPERTIES (SDS SECTION 9)	HAZARDS IDENTIFICATION (SDS SECTION 2)	HAZARDS TO THE ENVIRONMENT (PBT ASSESSMENT - SDS SECTION 12)	SAFETY MEASURES (SDS SECTION 8)	HAZARD SYMBOL (SDS SECTION 2)	SDS PROVIDED (Y/N)	CHEMICAL LABEL CODING
12	XC Polymer (Flowzan™ Biopolymer)	-	Powder, Solid, Cream to light yellow, Slight odor, pH= 5.5 – 8.5, Relative density = 1.4 – 1.6, Completely soluble in water	Not a hazardous substance or mixture according to Regulation (EC) No 1272/2008.	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.	NIOSH approved respirator Eye wash bottle with pure water. Safety glasses. Wear as appropriate: Protective suit. Safety shoes.	-	Y	PLONOR
13	Modified starch (Victosal)	9005 – 25 – 8 (Starch)	Solid, Powder, White, Odorless, pH = 6.06, Water solubility 150g/L @ 20°C, Relative density = 1.8	This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]	The product does not contain any substance(s) classified as PBT or vPvB.	Wear safety glasses with side shields (or goggles). Use eye protection according to EN 166, designed to protect against powders and dusts Wear suitable protective clothing. (EN 340) When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. (EN 136, EN 140, EN 141, EN 143, EN 149, EN 405)	-	Y	PLONOR
14	H ₂ S Scavenger (Basalon GL 40)	107-21-1 glyoxal, Ethanediol	Liquid, Colorless to yellow, Boiling point 103.5°C, Flash point n/a, pH = 2 – 3.5 – 11, Miscible in water, Relative density = 1.27sg	H320 Causes eye irritation. H315 Causes skin irritation. H332 Harmful if inhaled. H303 May be harmful if swallowed. H317 May cause an allergic skin reaction. H335 May cause respiratory irritation. H341 Suspected of causing genetic defects. H402 Harmful to aquatic life.	Ecotoxicity: Acutely harmful for aquatic organisms. Based on long-term (chronic) toxicity study data, the product is very likely not harmful to aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.	Respiratory protection: Wear respiratory protection if ventilation is inadequate. Gas filter for gases/vapours of organic compounds (boiling point <65 °C, f.e. EN 14387 Type AX) Hand protection: Suitable chemical resistant safety gloves (EN 374) also with prolonged, direct contact Manufacturer's directions for use should be observed because of great diversity of types. Eye protection: Safety glasses with side-shields (frame goggles) (e.g. EN 166) Body protection: must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).		Y	Gold
15	Magnesium oxide	1309 – 48 - 4	Solid, White, Melting point = 2800°C, Boiling point = 3600°C, Relative density = 3.6	This substance is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]	No information available	No special protective equipment required.	-	Y	PLONOR
16	Sized CaCO ₃ (all grades) (NewCarb™)	1317 – 65 – 3 (Calcium Carbonate)	Solid, Granular powder, White to beige, Odourless, Relative density = 2.6 – 2.7,	H350 – May cause cancer. H373 – May cause damage to organs through prolonged or repeated exposure.	No information available	Use eye protection according to EN 166, designed to protect against spray mists. Wear safety glasses with side shields (or goggles). Gloves must conform to standard EN 374. Wear suitable gloves. Nitrile rubber. Impervious gloves. (EN 340). Wear suitable protective clothing. Chemical resistant apron. (EN 136, EN 140, EN 141, EN 143, EN 149, EN 405). When workers are facing concentrations above the exposure limit, they must use appropriate certified respirators.		Y	PLONOR
		14808 – 60 – 7 (Quartz)							PLONOR

#	CHEMICAL SUBSTANCE (SDS)	CAS ¹ – NUMBER (SDS SECTION 3)	PROPERTIES (SDS SECTION 9)	HAZARDS IDENTIFICATION (SDS SECTION 2)	HAZARDS TO THE ENVIRONMENT (PBT ASSESSMENT - SDS SECTION 12)	SAFETY MEASURES (SDS SECTION 8)	HAZARD SYMBOL (SDS SECTION 2)	SDS PROVIDED (Y/N)	CHEMICAL LABEL CODING
17	Granular Fibre (all grades) (Formation Seal)	-	Solid, Powder, Beige to dark brown, Insoluble in water, Relative density = 1.25 – 1.35	This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]	No information available	Use eye protection according to EN 166, designed to protect against spray mists. Wear safety glasses with side shields (or goggles). (EN 340). Wear suitable protective clothing. Chemical resistant apron. (EN 136, EN 140, EN 141, EN 143, EN 149, EN 405). When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.	-	Y	PLONOR
18	Acid Soluble fibres (NewCarb™Flake)	1317 – 65 – 3 (Calcium Carbonate)	Solid, Flakes, White to beige, Odourless, Negligible water solubility, Relative density = 2.6 – 2.7	This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]	No information available	Use eye protection according to EN 166, designed to protect against spray mists. Wear safety glasses with side shields (or goggles). (EN 340). Wear suitable protective clothing. Chemical resistant apron. (EN 136, EN 140, EN 141, EN 143, EN 149, EN 405). When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.	-	Y	PLONOR
		14808 – 60 – 7 (Quartz)							
19	Nutshell (all grades) (NewPlug™ (F,M,C))	-	Solid, Granules, Light brown to dark brown, Odourless, Insoluble in water, Relative density = 1.4, Liquid density = 1.4	This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]	No information available.	Use eye protection according to EN 166, designed to protect against spray mists. Wear safety glasses with side shields (or goggles). Gloves must conform to standard EN 374. Wear suitable gloves. Nitrile rubber. Impervious gloves. (EN 340). Wear suitable protective clothing. Chemical resistant apron.	-	Y	
20	Graphite (NewSeal25)	7782-42-5 Graphite	Solid, powder, light grey, Odorless	This substance is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]	LC50: >100mg/l (96h, Danio rerio) The substance is not PBT / vPvB PBT assessment does not apply	Wear safety glasses with side shields (or goggles). Eye protection must conform to standard EN 166. Wear suitable gloves. Gloves must conform to standard EN 374 Wear suitable protective clothing. (EN 340) When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. (EN 136, EN 140, EN 141, EN 143, EN 149, EN 405).		Y	PLONOR

#	CHEMICAL SUBSTANCE (SDS)	CAS ¹ – NUMBER (SDS SECTION 3)	PROPERTIES (SDS SECTION 9)	HAZARDS IDENTIFICATION (SDS SECTION 2)	HAZARDS TO THE ENVIRONMENT (PBT ASSESSMENT - SDS SECTION 12)	SAFETY MEASURES (SDS SECTION 8)	HAZARD SYMBOL (SDS SECTION 2)	SDS PROVIDED (Y/N)	CHEMICAL LABEL CODING
21	Biocide (Aquacar™GA 24)	111 – 30 – 8 (Glutaral; glutaraldehyde; 1,5-pentanedial)	Liquid, Translucent, Fruity, pH = 3.1 – 4.5, Freezing point = -6 °C, Boiling point = 100.7°C, Vapor pressure = 0.27hPa @ 20 °C, Relative vapor density = 0.80, Relative density 1.060 @ 20 °C, Water solubility = 1000g/L @ 20 °C, Dynamic viscosity = 2.5 Cp @ 25 °C, Kinematic viscosity = 3.125cSt @ 25°C	H302 - Harmful if swallowed. H314 - Causes severe skin burns and eye damage. H317 - May cause an allergic skin reaction. H331 - Toxic if inhaled. H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled. H412 - Harmful to aquatic life with long lasting effects.	This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).	Use eye protection according to EN 166, designed to protect against spray mists. Wear safety glasses with side shields (or goggles). Gloves must conform to standard EN 374. Wear suitable gloves. Nitrile rubber. Impervious gloves. Use the following CE approved air-purifying respirator: Full-face respirator (meeting standard EN 136). Organic vapor cartridge with a highly toxic particulate pre-filter, type AP3 (meeting standard EN 14387).		Y	E
22	Oxygen Scavenger (Deoxy DEHA)	223-055-4 Ethanamine, N-ethyl-N-hydroxy-3710-84-7	Liquid, colorless, odorless, Boiling point 100 °C, pH 10.5, soluble in water	H226 - Flammable liquid and vapor H312 - Harmful in contact with skin H332 - Harmful if inhaled H335 - May cause respiratory irritation H411 - Toxic to aquatic life with long lastin	Ecotoxicity Harmful to aquatic life with long lasting effects. Product does not meet PBT/vPvB criteria.	Wear safety glasses with side shields or goggles (EN 166). Wear suitable impermeable gloves (EN 374). Wear appropriate protective clothing (EN 340). Where exposure limits may be exceeded, use suitable respiratory protection.		Y	TBC
23	EvoCon (Surfactant / Fluid Conditioner)	27252-75-1 Poly(oxy-1,2-ethanediyl), alpha-octyl-omega-hydroxy-	Liquid, Yellow , Flash point = >100 °C, Partially soluble in water, SG:1.0-1.1	H318 - Causes serious eye damage	No information available.	Tight sealing safety goggles. Wear suitable gloves. Wear suitable protective clothing. No respiratory equipment under normal conditions			TBC

Table 4-2: Properties of key chemical substances for the preparation of cement slurry according to their SDS.

#	CHEMICAL SUBSTANCE (SDS)	CAS ¹ – NUMBER (SDS SECTION 3)	PROPERTIES (SDS SECTION 9)	HAZARDS IDENTIFICATION (SDS SECTION 2)	HAZARDS TO THE ENVIRONMENT (PBT ASSESSMENT - SDS SECTION 12)	SAFETY MEASURES (SDS SECTION 8)	HAZARD SYMBOL (SDS SECTION 2)	SDS PROVIDED (Y/N)	CHEMICAL LABEL CODING
1	G Class Cement (Cement – Class G Dyckerhoff)	65997-15-1 (Portland cement) 14808-60-7 (Crystalline silica, quartz)	Solild, Grey, Odourless, pH = 12.4, Dispersible in water, Relative density = 3.15 – 3.17 g/cm ³ , Bulk density = 1505.74 kg/m ³	H315 - Causes skin irritation. H317 - May cause an allergic skin reaction. H318 - Causes serious eye damage. H335 - May cause respiratory irritation.	The product does not contain any substance(s) classified as PBT or vPvB above the threshold of declaration.	Wear safety glasses or goggles to protect against exposure. Dust proof goggles. (EN-166). Tight sealing safety goggles. (EN-166). Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374). Impervious rubber gloves. Nitrile gloves. Wear suitable gloves. Impervious gloves. Wear clothing appropriate for the work environment. Dusty clothing should be laundered before reuse. Use precautionary measures to avoid creating dust when removing or laundering clothing. Wear suitable protective clothing. Long sleeved clothing. Wear a NIOSH certified, European Standard EN 149 (FFP2/FFP3), AS/NZS 1715, or equivalent respirator when using this product. Dust/mist respirator. (N95, P2/P3).	 	Y	PLONOR
2	Defoamer (NF – 6)	-	Liquid, Yellow, Mild odour, Boiling point = 182 °C, Flash point = >170 °C, Relative density = 0.93, Liquid density 7.70 lbs/gal, Dispersible, Autoignition temperature = 385 °C	Contains no hazardous substances in concentrations above cut-off values according to the competent authority	This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT). This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).	Wear a NIOSH certified, European Standard EN 149, AS/NZS 1715:2009, or equivalent respirator when using this product. Organic vapor respirator with a dust/mist filter. (A2P2/P3) Chemical-resistant protective gloves (EN 374) Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374): Polyvinylchloride gloves. (>= 8 mm thickness) Wear protective clothing impervious to the chemical substance, including boots, gloves, lab coat, apron, rainjacket, pants or coverall, as appropriate, to prevent skin contact. Normal work coveralls. Chemical goggles; also wear a face shield if splashing hazard exists. (EN-166)	-	Y	GOLD
3	Silicalite Liq.	-	Liquid, Dark grey, Odourless, pH = 6 – 8, Freezing point 0 °C, Boiling point = 100 °C, Falsh point = 100 °C, Vapor pressure = 22.9, Relative density = 1.37, Liquid density = 11.64 lbs/gal, Miscible with water	Contains no hazardous substances in concentrations above cut-off values according to the competent authority	This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT). This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).	Normal work gloves. Skin Protection Normal work coveralls. Eye Protection Wear safety glasses or goggles to protect against exposure. (EN-166) Eyewash fountains and safety showers must be easily accessible.	-	Y	E
4	Retarder (HR – 4)	-	Solid, Brown, Odourless, pH = 9 – 10.3, Relative density = 1.2 – 1.3	Contains no hazardous substances in concentrations above cut-off values according to the competent authority	This substance is not considered to be persistent, bioaccumulating nor toxic (PBT). This substance is not considered to be very persistent nor very bioaccumulating (vPvB).	Normal work gloves. Skin Protection Normal work coveralls. Eye Protection Wear safety glasses or goggles to protect against exposure. (EN-166) Eyewash fountains and safety showers must be easily accessible.	-	Y	E

#	CHEMICAL SUBSTANCE (SDS)	CAS ¹ - NUMBER (SDS SECTION 3)	PROPERTIES (SDS SECTION 9)	HAZARDS IDENTIFICATION (SDS SECTION 2)	HAZARDS TO THE ENVIRONMENT (PBT ASSESSMENT - SDS SECTION 12)	SAFETY MEASURES (SDS SECTION 8)	HAZARD SYMBOL (SDS SECTION 2)	SDS PROVIDED (Y/N)	CHEMICAL LABEL CODING
5	KCl	7447 - 40 - 7 (Potassium chloride)	Solid, White to grey, Odourless, pH = 9.2, Melting point = 771 °C, Boiling point = 1413 °C, Relative density = 1.99, Molecular weight = 74.55	No information available	This substance is not considered to be persistent, bioaccumulating nor toxic (PBT). This substance is not considered to be very persistent nor very bioaccumulating (vPvB).	Wear a NIOSH certified, European Standard EN 149, AS/NZS 1715:2009. Dust/mist respirator. (N95, P2/P3) Normal work gloves. Wear clothing appropriate for the work environment. Dusty clothing should be laundered before reuse. Use precautionary measures to avoid creating dust when removing or laundering clothing. Normal work coveralls. Dust proof goggles. (EN-166)	-	Y	PLONOR
6	Bentonite	14808 - 60 - 7 (Crystalline silica, quartz)	Solid, Odourless, Not flammable, Insoluble in water, Relative density = 2.65 g.cm ³ , <1300 kg/m ³ , Moisture = < 12%	H351 - Suspected of causing cancer. H373 - May cause damage to organs through prolonged or repeated exposure.	This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT) This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB)	Wear safety glasses or goggles to protect against exposure. (EN-166). Wear suitable gloves. Wear a NIOSH certified, European Standard EN 149, AS/NZS 1715:2009, or equivalent respirator when using this product.		Y	PLONOR
7	C - Dye (C - Dye 530)	107 - 21 - 1 (Ethanediol) 64 - 19 - 7 (Acetic Acid) Dye	Liquid, Pungent, pH = 3 - 4, Freezing point = <-15 °C, Boiling point = >100 °C, Flash point = >100 °C, Evaporation rate = Below 110 kPa, Relative density = 1.04 gcm ⁻³ @ 20 °C, Soluble, Viscosity = 2.5 cSt @ 20 °C	H373 - May cause damage to organs through prolonged or repeated exposure (kidneys).	All components are not considered to be PBT or vPvB.	Safety glasses with side shields are considered minimum protection. Wear chemical resistant gloves. Nitrile gloves with a minimum thickness of 0.4mm are recommended. Use of protective clothing is good industrial practice.		Y	GOLD
8	TUNED SPACER E+	14808 - 60 - 7 (Crystalline silica, quartz)	Solid, Dark grey, Odourless, Relative density = 2.51	H351 - Suspected of causing cancer. H372 - Causes damage to organs through prolonged or repeated exposure.	Contains 0 % of components with unknown hazards to the aquatic e	Wear safety glasses or goggles to protect against exposure. (EN-166). Normal work gloves. Wear suitable gloves. Wear clothing appropriate for the work environment. Dusty clothing should be laundered before reuse. Wear a NIOSH certified, European Standard EN 149 (FFP2/FFP3), AS/NZS 1715, or equivalent respirator when using this product.		Y	GOLD
9	Barite (NewBar™)	7727-43-7 Barium Sulfate (>87%) 1332-58-7 Kaolin (<5%)	Solid, Power, White to beige, red brown, Odourless, Melting point = 1580°C, ph= 8-10, Insoluble in water, Relative density = 4.2	This substance is classified as not hazardous according to regulation (EC) 1272/2008 [CLP] This mixture is classified as not hazardous according to	The product does not contain any substance(s) classified as PBT or vPvB	Wear safety glasses with side shields (or goggles). Use eye protection according to EN 166, designed to protect against spray mists Wear suitable protective clothing. (EN 340) When workers are facing concentrations above the exposure limit they must use appropriate	-	Y	PLONOR

#	CHEMICAL SUBSTANCE (SDS)	CAS ¹ - NUMBER (SDS SECTION 3)	PROPERTIES (SDS SECTION 9)	HAZARDS IDENTIFICATION (SDS SECTION 2)	HAZARDS TO THE ENVIRONMENT (PBT ASSESSMENT - SDS SECTION 12)	SAFETY MEASURES (SDS SECTION 8)	HAZARD SYMBOL (SDS SECTION 2)	SDS PROVIDED (Y/N)	CHEMICAL LABEL CODING
		1317-65-3 Calcium carbonate (3-7%)		regulation (EC) 1272/2008 [CLP]		certified respirators. (EN 136, EN 140, EN 141, EN 143, EN 149, EN 405).			
10	Halad - 300L (Halad® 300L NS)	- (reaction products of paraformaldehyde and 2-hydroxypropylamine)	Liquid, Hazy light tan, Mild odour, pH = 5.5 - 6.5, Flash point = > 93.11 °C	H317 - May cause an allergic skin reaction	Readily biodegradable (69.4% @ 28d)	Safety glasses with side-shields. If splashes are likely to occur, wear: Goggles, Face-shield. (EN-166). Wear safety glasses with side shields (or goggles). Impervious gloves. Wear protective clothing impervious to the chemical substance, including boots, gloves, lab coat, apron, rain jacket, pants or coverall, as appropriate, to prevent skin contact. Wear a NIOSH certified, European Standard EN 149, AS/NZS 1715:2009, or equivalent respirator when using this product.		Y	GOLD
11	Latex 4000	-	Liquid, Milky white, Faint odour, pH = 6.5 - 7.5, Freezing point = 0 °C, Boiling point = 100 °C, Relative density = 1.02, Soluble in water	Contains no hazardous substances in concentrations above cut-off values according to the competent authority	Product is not classified as hazardous to the environment (Ecotoxicity)	Wear a NIOSH certified, European Standard EN 149, AS/NZS 1715:2009, or equivalent respirator when using this product. Dust/mist respirator. (N95, P2/P3) Use gloves which are suitable for the chemicals present in this product as well as other environmental factors in the workplace. Wear protective clothing appropriate for the work environment. Safety glasses with side-shields. If splashes are likely to occur, wear: Goggles, Face-shield. (EN-166)	-	Y	GOLD
12	HR - 4L	-	Liquid, Dark brown, Slight odour, Boiling point = 100 °C, Vapor pressure = 7.5, Relative density = 1.18 - 1.21, Soluble in water,	Contains no hazardous substances in concentrations above cut-off values according to the competent authority	This substance is not considered to be persistent, bioaccumulating nor toxic (PBT). This substance is not considered to be very persistent nor very bioaccumulating (vPvB).	Normal work gloves. Normal work coveralls. Wear safety glasses or goggles to protect against exposure. (EN-166)	-	Y	E
13	SCR - 100L	-	Liquid, Blue, Odourless, pH = 3 - 4, Freezing point = -4 °C, Flash point = > 93 °C, Relative density = 1.16, Liquid density = 9.66, Soluble in water, Autoignition temperature = 520 °C, Viscosity = 15 - 30 cP @ 25 °C, VOC Content ~ 60%	Contains no hazardous substances in concentrations above cut-off values according to the competent authority	This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT). This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).	Dust/mist respirator. (N95, P2/P3) Normal work gloves. Normal work coveralls. Wear safety glasses or goggles to protect against exposure. (EN-166)	-	Y	GOLD

#	CHEMICAL SUBSTANCE (SDS)	CAS ¹ - NUMBER (SDS SECTION 3)	PROPERTIES (SDS SECTION 9)	HAZARDS IDENTIFICATION (SDS SECTION 2)	HAZARDS TO THE ENVIRONMENT (PBT ASSESSMENT - SDS SECTION 12)	SAFETY MEASURES (SDS SECTION 8)	HAZARD SYMBOL (SDS SECTION 2)	SDS PROVIDED (Y/N)	CHEMICAL LABEL CODING
14	HALAD - 344 (Halad@344 Cement Additive)	-	Powder, White to off white, Odourless, Freezing point = -8 °C, Soluble in water, Relative density = 1.22,	Contains no hazardous substances in concentrations above cut-off values according to the competent authority	This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT). This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).	Wear a NIOSH certified, European Standard EN 149, AS/NZS 1715:2009, or equivalent respirator when using this product. Dust/mist respirator. (N95, P2/P3) Normal work gloves. Wear safety glasses or goggles to protect against exposure. (EN-166)	-	Y	GOLD
15	HALAD - 413 (Halad@413 Cement Additive)	-	Solid, Brown - black, Sweet odour, pH = 7.5, Relative density = 1.48, Miscible in water,	Contains no hazardous substances in concentrations above cut-off values according to the competent authority	Contains no substances known to be hazardous to the environment.	Wear a NIOSH certified, European Standard EN 149, AS/NZS 1715:2009, or equivalent respirator when using this product. Dust/mist respirator. (N95, P2/P3) Normal work gloves. Wear safety glasses or goggles to protect against exposure. (EN-166)	-	Y	GOLD
16	GasStop (Gasstop Additive)	-	Solid, White to off white, Odourless, pH = 7 - 8, Freezing point = -8 °C, Flash point = > 93.3 °C, Relative density = 1.37, Soluble in water, Molecular weight = > 600, VOC Content < 5%	Contains no hazardous substances in concentrations above cut-off values according to the competent authority	This substance is not considered to be persistent, bioaccumulating nor toxic (PBT). This substance is not considered to be very persistent nor very bioaccumulating (vPvB).	Dust/mist respirator. (N95, P2/P3) Use gloves which are suitable for the chemicals present in this product as well as other environmental factors in the workplace. Wear protective clothing appropriate for the work environment. Wear safety glasses or goggles to protect against exposure.	-	Y	GOLD
17	Econolite (Econolite liquid)	1344 - 09 - 8 (Sodium silicate)	Liquid, Clear to hazy, Slightly soapy, Melting point = -1 °C, Initial boiling point = 101 °C, pH = 11.2, Soluble in water, Relative density = 1.4	H315 - Causes skin irritation. H318 - Causes serious eye damage.	The substance is not PBT / vPvB PBT assessment does not apply	Chemical goggles; also wear a face shield if splashing hazard exists. (EN-166). (EN-166). Tight sealing safety goggles. Chemical-resistant protective gloves (EN 374). Nitrile gloves. Wear a NIOSH certified, European Standard EN 149, AS/NZS 1715:2009, or equivalent respirator when using this product.		Y	PLONOR
18	SA - 1015	-	Powder, White to tan, Slight odour, pH = 7, Flash point = > 93 °C, Relative density = 1.45 - 1.55, Forms gel when mixed with water, Autoignition temperature = 204 °C	Contains no hazardous substances in concentrations above cut-off values according to the competent authority	This substance is not considered to be persistent, bioaccumulating nor toxic (PBT). This substance is not considered to be very persistent nor very bioaccumulating (vPvB).	Wear a NIOSH certified, European Standard EN 149, AS/NZS 1715:2009, or equivalent respirator when using this product. Use gloves which are suitable for the chemicals present in this product as well as other environmental factors in the workplace Wear impervious protective clothing, including boots, gloves, lab coat, apron, rain jacket, pants or coverall, as appropriate, to prevent skin contact. Wear safety glasses or goggles to protect against exposure. (EN-166)	-	Y	GOLD
19	CFR - 3	-	Solid, Red brown, Musty, pH = 7 - 8, Relative density = 1.28, Bulk density = 38, Soluble in water,	Contains no hazardous substances in concentrations above cut-off values according to the competent authority	This substance is not considered to be persistent, bioaccumulating nor toxic (PBT). This substance is not considered to be very persistent nor very bioaccumulating (vPvB).	Dust/mist respirator. (N95, P2/P3) Normal work gloves. Wear safety glasses or goggles to protect against exposure. (EN-166)	-	Y	GOLD

#	CHEMICAL SUBSTANCE (SDS)	CAS ¹ - NUMBER (SDS SECTION 3)	PROPERTIES (SDS SECTION 9)	HAZARDS IDENTIFICATION (SDS SECTION 2)	HAZARDS TO THE ENVIRONMENT (PBT ASSESSMENT - SDS SECTION 12)	SAFETY MEASURES (SDS SECTION 8)	HAZARD SYMBOL (SDS SECTION 2)	SDS PROVIDED (Y/N)	CHEMICAL LABEL CODING
20	SEM 8 (Surfactant)	68037 - 05 - 8 (Polyethylene glycol (C6-C10) alkyl ether, sulfate ammonium salt)	Liquid, Clear light yellow, Alcohol odour, pH = 7 - 8.5, Freezing point = - 29 °C, Flash point = 33.89 °C, Relative density = 1.054, Soluble in water	H226 - Flammable liquid and vapor H315 - Causes skin irritation H318 - Causes serious eye damage H412 - Harmful to aquatic life with long lasting effects	Toxic to aquatic life with long lasting effects. The product does not contain any substance(s) classified as PBT or vPvB above the threshold of declaration.	Chemical goggles; also wear a face shield if splashing hazard exists. Tight sealing safety goggles. Impervious gloves. Rubber apron. Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron. Antistatic boots. Wear a NIOSH certified, European Standard EN 149, AS/NZS 1715:2009, or equivalent respirator when using this product.		Y	GOLD
		67 - 63 - 0 (Isopropanol)							

Notes: The information presented in Table 4-1 and Table 4-2 is a summary of selected information extracted from suppliers' Safety Data Sheets. Full product handling, occupational health and emergency response requirements are contained within the relevant SDS and are not reproduced in full in this Plan. Chemical label codes are not part of the Safety Data Sheets (SDSs); they have been included in this table solely for ease of reference.

The majority of drilling fluid additives are classified as PLONOR/PLO substances. A limited number of additives are classified as GOLD or E due to their specific technical function. These products are used only where required to achieve the drilling fluid properties necessary for safe well construction and well control and are used in the minimum quantities required for their intended function.

The H₂S scavenger is included as a contingency chemical and would only be used where required to mitigate the presence of hydrogen sulphide and protect personnel, equipment and well integrity.

TBC: Hazard classification to be confirmed on the basis of final supplier SDS and, where applicable, OSPAR/OCNS data, prior to offshore use. Any resulting changes in classification will be notified to HEREMA as part of the chemical approval process.

4.3 BOP Fluid Chemicals

Given the limited quantities, high dilution (see 0 **Note:** Additives marked as ‘-’ are included for completeness only and included in the inventory for transparency but are not part of the base maximum quantity estimates.

BOP Fluid Chemicals), readily biodegradable nature of the fluid, and the open offshore receiving environment, the environmental risk associated with incidental BOP control fluid discharges is assessed as low, localised and short-term.

Table 4-3: Properties of the BOP hydraulic fluid according to its SDS.

#	1
Chemical Substance (SDS)	STACK MAGIC ECO V2
CAS ¹ – Number (SDS Section 3)	107-21-1 Ethane-1,2-diol
	141-43-5 2-Aminoethanol
	4719-04-4 2,2',2''-(Hexahydro-1,3,5-triazine-1,3,5-triyl)triethanol
	141-43-5* Neutralised 2-Aminoethanol
	68439-39-4* Neutralised Poly(oxy-1,2-ethanediyl), a-(2-ethylhexyl)-w-hydroxy-,phosphate
	3302-10-1* Neutralised 3,5,5-trimethylhexanoic acid
	112-05-0* Neutralised nonanoic acid
	102-71-6 2,2',2''-Nitrilotriethanol
Properties (SDS Section 9)	Liquid, clear colourless, pH>9.2

Hazards Identification (SDS Section 2)	H315 - Causes skin irritation H317 – May cause an allergic skin reaction H318 – Causes serious eye damage H373 - May cause damage to organs through prolonged or repeated exposure
Hazards to the Environment (PBT Assessment - SDS Section 12)	No special environmental measures are necessary
Safety Measures (SDS Section 8)	Eye protection must conform to standard EN 166. Tightly fitting safety goggles. Protective gloves complying with EN 374 Lightweight protective clothing. Apron. Impervious glove Do not breathe vapors, mist or gas. In case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators
Hazard Symbol (SDS Section2)	
SDS Provided (Y/N)	Y

4.4 Thread Compounds (Pipe Dope)

Thread compounds (pipe and casing dope) are used to lubricate and seal rotary-shouldered connections on the drill string and premium casing connections. These compounds are classified as non-discharged chemicals during normal operations. Any environmental exposure would be limited to minor incidental residues associated with the application of the compound to threaded connections.

Thread compounds included in this Plan comprise products that may be used during drilling and casing operations in accordance with equipment requirements and operational needs. Application is controlled to minimise excess compound, and excess material is typically removed during make-up operations. Thread compounds are not intended for discharge to the marine environment and do not form part of any planned operational discharge stream associated with the Asopus-1 well.

The selected thread compounds are included in the following chemical inventory, presented in Table 4-4 below, and supported by product-specific documentation (SDS) provided as part of the submission.

Table 4-4: Properties of the thread compounds according to their SDS.

#	CHEMICAL SUBSTANCE (SDS)	CAS ¹ – NUMBER (SDS SECTION 3)	PROPERTIES (SDS SECTION 9)	HAZARDS IDENTIFICATION (SDS SECTION 2)	HAZARDS TO THE ENVIRONMENT (PBT ASSESSMENT - SDS SECTION 12)	SAFETY MEASURES (SDS SECTION 8)	HAZARD SYMBOL (SDS SECTION 2)	SDS PROVIDED (Y/N)
Tool Maintenance & Lubrication								
1	Dry PTFE Lube FG	68512-91-4 (Hydrocarbons, C3-4-rich, petroleum distillate Petroleumgas (1,3-butadiene < 0.1%) hydrocarbons, C6, isoalkanes, < 5% n-hexane Hydrocarbons, C7-C9, isoalkanes	Propane / butane propelled liquid, White, Characteristic odour, Boiling point = 55 °C, Flash point = - 26 °C, Relative density = 0.73 g/cm ³ @ 20 °C, Insoluble in water, Auto ignition = >200 °C	H222 - Extremely flammable aerosol H229 - Pressurised container: May burst if heated. H315 - Causes skin irritation. H336 - May cause drowsiness or dizziness. H411 - Toxic to aquatic life with long lasting effects.	Hazardous to the aquatic environment, chronic category 2 Toxic to aquatic life with long lasting effects.	When handling the product wear chemical-resistant gloves (standard EN 374) Use a reusable glove with a minimum breakthrough time of 30 minutes. Nitrile gloves Wear safety eyewear according to EN 166.		Y
2	GB Unigrease LEP2	Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Pr)esters, Zinc salts	Grease, Amber to brown, Odourless, Melting point = 200 °C, Flash point = > 200 °C, Relative density = 0.88 @ 15 °C, Insoluble in water, Autoignition temperature > 200 °C	H315 - Causes skin irritation. H319 - Causes serious eye irritation. H411 - Toxic to aquatic life with long lasting effects.	No information on PBT assessment	Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. It is recommended that gloves are made of the following material: Polyvinyl chloride (PVC). Use barrier creams to prevent skin contact. Respiratory protection must be used if the airborne contamination exceeds the recommended occupational exposure limit.		Y
3	KOPR - KOTE®	74869-21-9 hydrocarbons having carbon numbers predominantly in the range of C12 through C50 7782-42-5 Graphite 7440-50-8 Copper	Paste / Gel, Copper Bronze, Petroleum odour, pH = 7, Melting point = 232 °C, Boiling point = 316 °C, Flash point = > 221 °C, Vapor density = >5, Relative density = 1.15, Insoluble in water, Autoignition temperature = >260 °C	H315 - Causes skin irritation H319 - Causes serious eye irritation	No information available.	If splashes are likely to occur, wear safety glasses with side-shields Wear suitable gloves. Impervious gloves. Nitrile rubber. Wear suitable protective clothing. Long sleeved clothing.		Y
4	MOLYKOTE® D-321 R Anti-Friction Coating Spray	74-98-6 propane 123-86-4 n-butyl acetate 64742-82-1 naphtha (petroleum), hydrodesulphurized heavy 9022-96-2 Polybutyl titanate 1314-13-2 zinc oxide	Aerosol containing a dissolved gas, Black, Solvent-like, extremely flammable aerosol, Relative density = 1.05, not oxidising, extremely flammable aerosol	H222 - Extremely flammable aerosol. H229 - Pressurised container: May burst if heated. H373 - May cause damage to organs (Central nervous system) through prolonged or repeated exposure. H412 - Harmful to aquatic life with long lasting effects.	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.	Use safety glasses (with side shields). Safety glasses (with side shields) should be consistent with EN 166 or equivalent. Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur. Use chemical resistant gloves classified under Standard EN374 Wear clean, body-covering clothing. Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines.		Y

#	CHEMICAL SUBSTANCE (SDS)	CAS ¹ – NUMBER (SDS SECTION 3)	PROPERTIES (SDS SECTION 9)	HAZARDS IDENTIFICATION (SDS SECTION 2)	HAZARDS TO THE ENVIRONMENT (PBT ASSESSMENT - SDS SECTION 12)	SAFETY MEASURES (SDS SECTION 8)	HAZARD SYMBOL (SDS SECTION 2)	SDS PROVIDED (Y/N)
		106-97-8 butane						
		1317-33-5 Molybdenum disulfide						
		7782-42-5 Graphite						
5	RUST VETO AS	- Highly refined base oil (Viscosity >20.5 cSt @40 °C)						
		68603-10-1 Hydrocarbon waxes (petroleum), oxidized, Me esters, barium salts	Grease, Brown, Mild odour, Melting point = > 150 °C, Boiling point = > 300 °C, Flash point = > 200 °C, Relative density = 0.90 @ 15.5 °C, Immiscible in water, VOC Content = 37 g/L	EUH208 – May produce an allergic reaction	This preparation contains no substance considered to be persistent, bioaccumulating nor toxic (PBT). This preparation contains no substance considered to be very persistent nor very bioaccumulating (vPvB).	Safety glasses with side-shields Protective gloves complying with EN 374 Long sleeved clothing No special respiratory protective equipment required	-	Y
		- Benzene, mono-C10-13-alkyl derivs., distn. residues, sulfonated, barium salts						
		- Overbased calcium sulfonate thickener with 5% molybdenum disulfide						
6	TECTYL® 506	64742 - 47 - 8 Distillates (petroleum), hydrotreated light	Liquid, Amber, Solvent Odour, Flash point = >= 105 °F(41 °C), Vapor pressure = 2 mmHg @ 20 °C, Vapor density = >1 (Air=1), Relative density = 0.864, Negligible solubility, Viscosity = 80 cSt @ 40 °C, Volatiles, % by weight = 45.74	H226 -Flammable liquid and vapor H335 - May cause respiratory irritation	No data available	Wear chemically resistant safety glasses with side shields when handling this product. Wear protective nitrile gloves. Wear chemically resistant safety glasses with side shields when handling this product.		Y
		68608 - 26 - 4 Sulfonic acids, petroleum, sodium salts						
7	WAXOYL AEROSOL CLEAR	- Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane	Liquid, Colorless, Characteristic odour, Boiling point=10.1 °C,	H222, H229 - Extremely flammable aerosol.	This mixture does not contain any substances that are assessed to be a PBT or a vPvB	Wash hands, forearms and face thoroughly after handling chemical products		Y

#	CHEMICAL SUBSTANC E (SDS)	CAS ¹ – NUMBER (SDS SECTION 3)	PROPERTIES (SDS SECTION 9)	HAZARDS IDENTIFICATION (SDS SECTION 2)	HAZARDS TO THE ENVIRONMENT (PBT ASSESSMENT - SDS SECTION 12)	SAFETY MEASURES (SDS SECTION 8)	HAZARD SYMBOL (SDS SECTION2)	SDS PROVI DED (Y/N)
		74-98-6 propane	Heat of combustion = 14.61 kJ/g	Pressurized container: may burst if heated. H315 - Causes skin irritation. H317 - May cause an allergic skin reaction. H336 - May cause drowsiness or dizziness. H411 - Toxic to aquatic life with long lasting effects.		Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Wear a respirator conforming to EN140 with type A/P2 filter or better.		
	- Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics,<2% aromatics							
	106-97-8 butane							
	75-28-5 isobutane							
	- Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics,<2% aromatics							
	61789-86-4 Sulfonic acids, petroleum,calcium salts							
8	WD-40®	- Hydrocarbons, C9 – C11, n-alkanes, isoalkanes, cyclics, <2% aromatics	Aerosol, liquid, Light brown, Characteristic odour, Lower explosion limit = 0.8 Vol - %, Upper, Upper explosion limit = 9 Vol - %, Insoluble, Relative density = 0.662g/ml	H304 – May be fatal if swallowed and enters airways H336 – May cause drowsiness or dizziness H222 – Extremely flammable aerosol H229 – Pressurised container: May burst if heated	The distinct substances are not PBT or vPvB substances	Wash hands before breaks and at end of work Tight fitting protective goggles with side protection (EN 166) Normally not necessary skin-hand protection Protective nitrile gloves		Y
	8042-47-5 White Mineral Oil							
	- Distillates, hydrotreated light paraffinic							
Casing Thread Compounds (Casing Dope)								
1	JET LUBEAPI-MODIFIED	7439-92-1 lead massive	Solid, Metallic, Paste, Petroleum like odour, Non flammable, Flash point = > 221 °C Open cup, Insoluble in water	H319 - Causes serious eye irritation. H350 - May cause cancer. H360 - May damage fertility or the unborn child. H362 - May cause harm to breast-fed children.	Contains no PBT/vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII	Ensure good ventilation of the work station. Chemical goggles or safety glasses Wear suitable protective clothing Neoprene or nitrile rubber gloves		Y
	7782-42-5 graphite							
	7440-66-6 Zinc							
	7440-50-8 copper							

#	CHEMICAL SUBSTANCE (SDS)	CAS ¹ – NUMBER (SDS SECTION 3)	PROPERTIES (SDS SECTION 9)	HAZARDS IDENTIFICATION (SDS SECTION 2)	HAZARDS TO THE ENVIRONMENT (PBT ASSESSMENT - SDS SECTION 12)	SAFETY MEASURES (SDS SECTION 8)	HAZARD SYMBOL (SDS SECTION 2)	SDS PROVIDED (Y/N)
		1305-78-8 calcium oxide		H372 - Causes damage to organs through prolonged or repeated exposure. H410 - Very toxic to aquatic life with long lasting effects.				
		14808-60-7 quartz						
		1314-13-2 zinc oxide						
		471-34-1 calcium carbonate						
		1309-48-4 magnesium oxide						
		1317-36-8 lead monoxide						
		1306-19-0 cadmium oxide						
2	BESTOLIFE 4010 NM	Calcium acetate 62-54-4	Viscous semi-solid, Light gray, Petroleum odour, Boiling point = 208 °C, Flash point = >= 160 °C, Autoignition temperature = 490 °C, Negligible solubility, Relative density = 1.3	H319 - Causes serious eye irritation	Not relevant	Wear the following personal protective equipment: Safety goggles Equipment should conform to BS EN 166. Chemical-resistant gloves Wear suitable protective clothing No protective respiratory equipment is needed under normal use conditions.		Y
		Calcium Oxide 1305-78-8						
		Quartz 14808-60-7						
		Calcium Fluoride 7789-75-5						
3	Jet-Lube SEAL-GUARD ECF	Fluorite (CaF ₂) 14542-23-5	Solid, black or grey, grease, petroleum like odour, Flash Point >232 °C open cup, VOC content <0.1%	Not classified, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.	The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment	Wear suitable protective clothing, Neoprene or nitrile rubber gloves	-	Y
		distillates (petroleum), hydrotreated heavy paraffinic 64742-54-7						
		Distillates (petroleum), hydrotreated heavy naphthenic 64742-52-5						
		Distillates, petroleum, hydrotreated heavy naphthenic 64742-52-5						
		Distillates (petroleum), solvent-dewaxed heavy Paraffinic 64742-65-0						
4	BAKERLOK (Resin)	25085-99-8 Propane, 2,2-bis[4-(2,3-epoxypropoxy)phenyl]-, polymers	Grey paste, mild odor, insoluble in water, Flash point = 121 °C, Relative density = 1.4	H315 – Causes skin irritation H317 – May cause an allergic skin reaction	Toxic to aquatic life with long lasting effects	Safety glasses. Ensure eye bath is to hand. Protective gloves. Nitrile or butyl rubber recommended.		Y

#	CHEMICAL SUBSTANCE (SDS)	CAS ¹ – NUMBER (SDS SECTION 3)	PROPERTIES (SDS SECTION 9)	HAZARDS IDENTIFICATION (SDS SECTION 2)	HAZARDS TO THE ENVIRONMENT (PBT ASSESSMENT - SDS SECTION 12)	SAFETY MEASURES (SDS SECTION 8)	HAZARD SYMBOL (SDS SECTION 2)	SDS PROVIDED (Y/N)
		2210-79-9 1,2-Epoxy-3-(2-methylphenoxy)propane		H319 – Causes serious eye irritation H341 – Suspected of causing genetic effects				
5	BAKERLOK (Hardener)	68131-73-7 Polyethylene polyamines	Liquid, Red, Amine odour, Flash point = > 93 °C, Vapor density = > 1, Relative density = 1.02, Insoluble in water, soluble in alcohols and petroleum distillates, Viscosity=300-500 cps	H315 – Causes skin irritation H317 – May cause an allergic skin reaction H318 – Causes serious eye damage H334 – May cause allergy or asthma symptoms or respiratory difficulties if inhaled	Ecotoxicity : No known significant effects or critical hazards.	Safety glasses. Safety goggles where risk of splash exists. Ensure eye bath is to hand. Protective gloves. Nitrile recommended. Use a NIOSH approved respirator where air levels exceeding TWA may exist. Organic vapor cartridges.		Y
Drill string Thread Compound (Pipe Dope)								
1	Jet - Lube® Korr-Guard	74869-21-9 Lubricating greases (carbon numbers predominantly in the range of C12 through C50)	Paste / Gel, Light Olive, Petroleum Odour, Neutral pH, Melting point = > 200 °C, Boiling point= > 260 °C, Flash Point= > 221 °C, Relative density = 0.95, Insoluble in water, Negligible VOC content	Not a dangerous substance or mixture according to the Globally Harmonized System (GHS).	No information available	No special protective equipment required. No special protective equipment required. No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.	-	Y
2	BESTOLIFE HONEY KOTE	64742-52-5 Naphthenic (Dist.) 7782-42-5 Graphite 64742-57-0 Residual oils 14807-96-6 Talc 7440-50-8 Copper metal powder 471-34-1 Calcium carbonate 64742-54-7 Paraffinic (Dist.) 16389-88-1 Dolomite	Solid, Viscous semi-solid, Copper coloured, Petroleum odour, Flash point = >= 200 °C, Negligible water solubility, Relative density = 1.3	H302 - Harmful if swallowed H312 - Harmful in contact with skin H410 - Very toxic to aquatic life with long lasting effects	The product does not contain any substance(s) classified as PBT or vPvB above the threshold of declaration.	Wear safety glasses with side shields (or goggles). PPE16 - Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. Wear suitable gloves. Wear suitable protective clothing. Long sleeved clothing. No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.		Y

#	CHEMICAL SUBSTANCE (SDS)	CAS ¹ – NUMBER (SDS SECTION 3)	PROPERTIES (SDS SECTION 9)	HAZARDS IDENTIFICATION (SDS SECTION 2)	HAZARDS TO THE ENVIRONMENT (PBT ASSESSMENT - SDS SECTION 12)	SAFETY MEASURES (SDS SECTION 8)	HAZARD SYMBOL (SDS SECTION 2)	SDS PROVIDED (Y/N)
		1305-78-8 Calcium oxide						
		64742-65-0 heavy paraffinic (Dist.)						
		64742-56-9 Baseoil (Dist.)						
		64742-55-8 light paraffinic (Dist.)						
		64742-53-6 Light naphthenic (Dist.)						
		1305-62-0 Calcium hydroxide						
		64-19-7 Acetic acid						
		14808-60-7 Quartz						
		1474044-79-5 Calcium						
3	BESTOLIFE STORAGE COMPOUND	64742-52-5 heavy naphthenic (Dist.)	Viscous semi-solid, off-white, Petroleum odour, Not classified as a flammability hazard, Relative density = 1.0, Negligible water solubility	H317 - May cause an allergic skin reaction.	No information provided	Chemical-resistant gloves Safety glasses Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential. Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc)		Y
		471-34-1 Calcium carbonate						
		1317-65-3 Limestone						
		64742-53-6 light naphthenic						
		57855-77-3 Calcium bis						
		7620-77-1 12-Hydroxy lithium stearate						
		13463-67-7 Titanium dioxide						

#	CHEMICAL SUBSTANC E (SDS)	CAS ¹ – NUMBER (SDS SECTION 3)	PROPERTIES (SDS SECTION 9)	HAZARDS IDENTIFICATION (SDS SECTION 2)	HAZARDS TO THE ENVIRONMENT (PBT ASSESSMENT - SDS SECTION 12)	SAFETY MEASURES (SDS SECTION 8)	HAZARD SYMBOL (SDS SECTION2)	SDS PROVI DED (Y/N)
4	BESTOLIFE 4010 NM	Calcium acetate 62-54-4	Viscous semi-solid, Light gray, Petroleum odour, Boiling point = 208 °C, Flash point = >= 160 °C, Autoignition temperature = 490 °C, Negligible solubility, Relative density = 1.3	H319 - Causes serious eye irritation	No relevent	Wear the following personal protective equipment: Safety goggles Equipment should conform to BS EN 166. Chemical-resistant glovesIf Wear suitable protective clothing No protective respiratory equipment is needed under normal use conditions.		Y

5 Chemical Substances Purpose of Use

The chemicals identified in Table 5-1, represent the products expected to be used during the offshore exploration drilling campaign. Chemicals are grouped according to their operational application (drilling fluids, cementing, BOP hydraulic systems and tubular thread compounds). Each product has a defined operational function and will be used only as required to support safe and efficient drilling operations. Products identified as **Contingency** will only be used if operational conditions require their application.

The chemicals listed below are those anticipated to be used during drilling, cementing, well control and tubular handling operations. Their use is limited to their intended operational purpose and is managed in accordance with the applicable Safety Data Sheets (SDS), offshore chemical management procedures and permit requirements.

Table 5-1: Chemical additives and intended use

#	CHEMICAL ADDITIVE	FUNCTION	PURPOSE OF USE	USAGE STATUS
Water-Based Mud (WBM) Additives				
1	Bentonite (Bentone® 128)	Viscosifying agent	Increases drilling fluid viscosity to improve cuttings transport and wellbore stability.	Contingency
2	Caustic Soda	Alkalinity control	Controls mud alkalinity (pH) to optimise drilling fluid performance and protect equipment.	Primary
3	Soda Ash (Sodium Carbonate)	water hardness control	Treats make-up water by removing calcium and magnesium hardness before mud preparation.	Primary/ Contingency
4	PAC UL (NewPac™ LV)	Fluid loss control agent	Reduces drilling fluid filtration losses while maintaining low viscosity.	Primary
5	CMC HV (CMC HV S)	Fluid loss control agent	Provides additional fluid loss control and increases viscosity when required.	Contingency
6	PAC R (NewPac™ R)	Fluid loss control agent	Controls fluid loss and improves filter cake quality	Primary
7	NaCl (Sodium Chloride 98.5% - Sea Salt)	Salt- clay inhibition	Provides shale/clay inhibition by reducing clay swelling and dispersion.	Primary
8	KCl (Potassium Chloride)	Salt- clay inhibition	Alternative or enhanced shale inhibitor for reactive formations.	Contingency
9	Barite (NewBar™)	Weighting agent	Increases drilling fluid density to maintain well control and prevent influxes.	Contingency

#	CHEMICAL ADDITIVE	FUNCTION	PURPOSE OF USE	USAGE STATUS
10	Defoamer (NoFoam™ NS)	Defoamer	Controls and suppresses foam generation in drilling fluids during mixing and circulation operations.	Contingency
11	Lignosulphonate (CF) (Newedge™)	Thinner / Deflocculant	Controls drilling fluid rheology and reduces excessive viscosity and gel strengths.	Primary
12	XC Polymer (Flowzan™ Biopolymer)	Viscosifier / Rheology modifier	Increases drilling fluid viscosity and improves hole cleaning, suspension and carrying capacity.	Primary
13	Modified starch (Victosal)	Fluid loss control agent	Provides fluid loss control and assists in formation protection.	Primary
14	Basalon GL 40	H ₂ S Scavenger	Removes dissolved hydrogen sulphide from drilling fluids to protect personnel and equipment.	Contingency
15	Magnesium oxide	Alkalinity control additive	Alkalinity control / pH control additive.	Contingency
16	Sized CaCO ₃ (all grades) (NewCarb™)	Fluid loss control agent	LCM used to bridge fractures and reduce drilling fluid losses.	Primary
17	Granular Fibre (all grades) (Formation Seal)	Loss circulation material (LCM)	Bridges and seals fractures and highly permeable formations to reduce drilling fluid losses.	Contingency
18	Acid Soluble fibres (NewCarb™Flake)	Lost Circulation Material (LCM)	Provides temporary sealing of loss zones and can subsequently be removed by acid treatment if required.	Contingency
19	Nutshell (all grades) (NewPlug™ (F,M,C)	Lost circulation material (LCM)	Seal fractures, vugs, and permeable formations where drilling mud is being lost.	Contingency
20	Graphite (NewSeal25)	Lubricant / Lost circulation material	Reduces torque and drag, improves lubricity and may assist in sealing naturally fractured formations.	Contingency
21	Biocide (Aquacar™GA 24)	Biocide	Kill bacteria, fungi, and algae in drilling fluids, completion fluids, water injection systems, and storage tanks. Prevents microbial degradation, corrosion caused by sulfate-reducing bacteria (SRB), and biofouling	Contingency

#	CHEMICAL ADDITIVE	FUNCTION	PURPOSE OF USE	USAGE STATUS
22	Oxygen Scavenger (Deoxy DEHA)	Oxygen scavenger	Removes dissolved oxygen from water-based systems such as drilling fluids, completion fluids, and injection water	Contingency
23	EvoCon	Surfactant / Fluid Conditioner	Improves wetting and cleaning efficiency and assists in removal of drilling fluid residues.	Contingency
Cementing Additives				
1	G Class Cement	Cement G	Primary cement used to secure casing and provide zonal isolation.	Primary
2	NF-6	Antifoam	Reduces foaming during cement slurry mixing.	Primary
3	Silicate Liq.	Extender	Extends cement slurry by reducing density and increasing yield.	Primary
4	HR-4	Retarder	Retards cement setting time in high-temperature conditions.	Primary
5	KCl	Salt	Provides shale inhibition and compatibility with reactive formations during cementing.	Primary
6	Bentonite	Extender	Extends cement slurry and reduces slurry density.	Contingency
7	C-Dye	Dye	Colours cement slurry for identification during operations.	Primary
8	TUNED SPACER E+	Spacer Viscosifier	Increases spacer viscosity to improve mud removal before cementing.	Primary
9	Barite	Weighting agent	Increases cement slurry density for high-pressure well conditions.	Primary
10	HALAD-300L	Fluid Loss Additive	Reduces fluid loss from cement slurry into permeable formations.	Contingency
11	Latex 4000	Fluid Loss Additive	Improves fluid loss control and enhances cement flexibility.	Contingency
12	HR-4L	Retarder	Liquid retarder used to delay cement setting time.	Contingency

#	CHEMICAL ADDITIVE	FUNCTION	PURPOSE OF USE	USAGE STATUS
13	SCR-100L	Retarder	Retarder used to control thickening time under elevated temperatures.	Contingency
14	HALAD-344	Fluid Loss Additive	Reduces fluid loss from cement slurry and assists in maintaining designed slurry properties.	Primary
15	HALAD-413	Fluid Loss Additive	Reduces fluid loss from cement slurry under specific well design conditions.	Primary
16	GasStop	Gas Control Additive	Prevents gas migration through cement during setting.	Primary
17	Econolite	Extender	Lightweight extender used to reduce cement density.	Primary
18	SA-1015	Suspension Agent	Suspension agent preventing solids settling in cement slurry.	Primary
19	CFR-3	Dispersant	Dispersant that improves slurry flow and reduces viscosity.	Primary
20	SEM-8	Surfactant	Improves spacer wetting and enhances drilling mud removal before cementing.	Primary
BOP Hydraulic Fluid				
1	STACK MAGIC ECO V2	Hydraulic fluid	Fire-resistant hydraulic fluid used to operate, test, and maintain the Blowout Preventer (BOP) control system safely in offshore environments.	Primary
Tool Maintenance & Lubrication				
1	DRY PTFE LUBE FG	Thread lubricating, sealing and protective compounds	Dry-film lubricant reducing thread friction and preventing seizure.	Primary
2	GB Unigrease LEP2		Extreme-pressure grease protecting threaded connections against wear and corrosion.	Primary
3	KOPR - KOTE		Premium thread compound providing lubrication, sealing and galling protection for threaded connections.	Primary
4	MOLYKOT		Anti-seize lubricant reducing friction and preventing thread damage.	Primary

#	CHEMICAL ADDITIVE	FUNCTION	PURPOSE OF USE	USAGE STATUS
5	RUST VETO		Corrosion inhibitor protecting casing threads during storage and handling.	Primary
6	Tectyl 506		Protective coating preventing corrosion during transport and storage.	Primary
7	WAXOYL		Wax-based corrosion inhibitor for long-term storage protection.	Primary
8	WD40		Water-displacing lubricant used for light corrosion protection and freeing seized components.	Primary
Casing Thread Compounds (Casing Dope)				
1	JET LUBE API MODIFIED	High Pressure Thread compound for reducing friction during make up.	API-compliant thread compound providing lubrication, sealing and anti-galling protection for casing connections.	Primary
2	BESTOLIFE 4010 NM	Premium Thread Compound for reducing friction during make up	Non-metallic premium thread compound providing lubrication, sealing and corrosion protection	Contingent
3	Jet-Lube SEAL-GUARD ECF	Premium Thread Compound for reducing friction during make up	Non-metallic advanced thread compound designed to meet the requirements of propriety metal to metal seal threads	Contingent
4	0953A-BAKERLOK-GHS-EN	Used to lock threads in place	Companion locking/sealing compound used with Bakerlok systems for secure threaded joints.	Primary
5	0953B-BAKERLOK-GHS-EN	Used to lock threads in place	Companion locking/sealing compound used with Bakerlok systems for secure threaded joints.	Primary
Drill string Thread Compound (Pipe Dope)				
1	Jet-Lube Korr-Guard Storage Compound	Thread lubricating, sealing and protective compounds	Corrosion protection compound applied to drill string threads during storage and transport.	Contingent
2	Bestolife Honey Kote		Thread compound providing lubrication, sealing and wear protection during drill string make-up and break-out.	Contingent

#	CHEMICAL ADDITIVE	FUNCTION	PURPOSE OF USE	USAGE STATUS
3	Bestolife 4010 NM		Protective coating preventing corrosion and thread damage during storage of drill pipe and drilling tools.	Primary

Note: Products listed in this section include maintenance and preservation chemicals used to support drilling equipment, tubular handling and surface tooling. They are included to complete the chemical inventory and to provide visibility of products that may be present on board during the Project. These products are not intended for discharge into the marine environment and do not form part of any planned operational discharge stream associated with the Asopus-1 well.

Thread compound selection is driven by connection design, manufacturer recommendations and operational requirements. Products identified as Primary are expected to support planned operations, while contingency or connection-specific products may be used where required by equipment specifications or operational conditions. Thread compounds are not intended for discharge to the marine environment.

6 Maximum Concentrations and Maximum Quantities of Chemical Substances

The quantities set out in this Chemical Use Plan are based on the current well design and planned operations. All maximum quantities are upper-bound estimates for authorisation purposes, and actual consumption is expected to be lower.

Contingency activities, including sidetrack drilling, re-drilling individual hole sections, or re-spudding the well, may require additional quantities of chemicals of the same type and function as those described in this Plan. Use of contingency chemicals will be recorded during operations, and quantities will be reported in accordance with HEREMA and Offshore Protocol reporting requirements.

6.1 Drilling fluids and cement slurry additives

The concentrations of additives in the drilling mud, as well as the estimated quantities for the preparation of this by wellbore section, are presented in Table 6-1 and Table 6-2, respectively. Concentrations and quantities represent maximum estimated values based on the current well design and drilling fluid programme. For contingency chemicals, the values presented represent upper-bound estimates where applicable. Actual usage may vary depending on operational conditions encountered during drilling.

In the following tables, values expressed in kg or L represent total estimated quantities for the relevant well section or operation, whereas values expressed in kg/m³ or L/m³ represent concentrations in the drilling fluid or cement slurry.

Certain contingency products, including LCMs, biocides, oxygen scavengers and surfactants, are not incorporated into the base drilling fluid or cement slurry formulations and therefore do not have a defined maximum system concentration. These products may be used in discrete, short-term treatments if required. They are listed in the chemical inventory for transparency; however, because their use is uncertain and episodic, they are not included in the base concentration and quantity estimates presented in the tables.

Table 6-1: Estimated maximum concentration of additives in the drilling fluids by well section

ADDITIVES	CONCENTRATION	SECTION (HOLE SIZE)				
		I (36")	II (26")	III (17-1/2")	IV (12-1/4")	V (8-1/2")
Bentonite (Bentone® 128)	kg/m ³	100.00	50	40.00	40.00	-
Caustic Soda	kg/m ³	1.00	1.00	1.00	1.00	-
Soda Ash (Sodium Carbonate)	kg/m ³	1.00	2.00	1.00	1.00	-
PAC UL (NewPac™ LV)	kg/m ³	-	6.00	6.00	6.00	6.00
CMC HV (CMC HV S)	kg/m ³	6.00	6.00	-	-	-
PAC R (NewPac™ R)	kg/m ³	-	-	6.00	6.00	-

ADDITIVES	CONCENTRATION	SECTION (HOLE SIZE)				
		I (36")	II (26")	III (17-1/2")	IV (12-1/4")	V (8-1/2")
NaCl (Sodium Chloride 98.5% - Sea Salt)	kg/m ³	-	330.00	171.00	171.00	-
KCl (Potassium Chloride)	kg/m ³	-	-	114.00	114.00	-
Barite (NewBar™)	kg/m ³	-	-	515.00	515.00	82.00
Defoamer (NoFoam™ NS)	kg/m ³	-	-	2.00	2.00	-
Lignosulphonate (CF) (Newedge™)	kg/m ³	-	-	-	6.00	6.00
XC Polymer (Flowzan™ Biopolymer)	kg/m ³	4.00	4.00	3.00	3.00	4.00
Modified starch (Victosal)	kg/m ³	-	-	4.00	4.00	6.00
H2S Scavenger (Basalon GL 40)	kg/m ³	-	-	-	2.00	2.00
Magnesium oxide	kg/m ³	-	-	-	4.00	4.00
Sized CaCO ₃ (all grades) (NewCarb™)	kg/m ³	-	-	86.00	86.00	115.00

Table 6-2: Estimated maximum quantities of additives for drilling fluid preparation by well section

ADDITIVES	QUANTITY	SECTION (HOLE SIZE)					TOTAL
		I (36")	II (26")	III (17-1/2")	IV (12-1/4")	V (8-1/2")	
Bentonite (Bentone® 128)	kg	14000.00	18750.00	27200.00	27200.00	-	87150.00
Caustic Soda	kg	-	375.00	680.00	680.00	-	1735.00
Soda Ash (Sodium Carbonate)	kg	140.00	750.00	680.00	680.00	-	2250.00
PAC UL (NewPac™ LV)	kg	-	2250.00	4080.00	4080.00	3540.00	13950.00
CMC HV (CMC HV S)	kg	2250.00	6000.00	6000.00	6000.00	-	20250.00
PAC R (NewPac™ R)	kg	-	2250.00	4080.00	4080.00	-	10410.00

ADDITIVES	QUANTITY	SECTION (HOLE SIZE)					TOTAL
		I (36")	II (26")	III (17-1/2")	IV (12-1/4")	V (8-1/2")	
NaCl (Sodium Chloride 98.5% - Sea Salt)	kg	-	118694.00	116280.00	116280.00	-	351254.00
KCl (Potassium Chloride)	kg	-	-	77520.00	77520.00	-	155040.00
Barite (NewBar™)	kg	-	150000.00	250200.00	250200.00	48380.00	698780.00
Defoamer (NoFoam™ NS)	lt	-	500.00	1020.00	1020.00	500.00	3040.00
Lignosulphonate (CF) (Newedge™)	kg	-	-	4080.00	4080.00	3540.00	11700.00
XC Polymer (Flowzan™ Biopolymer)	kg	2500.00	1500.00	2040.00	2040.00	2537.00	10617.00
Modified starch (Victosal)	kg	-	6000.00	4000.00	2720.00	3540.00	16260.00
H2S Scavenger (Basalon GL 40)	kg	-	-	1360.00	5000.00	2500.00	8860.00
Magnesium oxide	kg	-	-	-	1770.00	885.00	2655.00
Sized CaCO3 (all grades) (NewCarb™)	kg	-	-	58480.00	58480.00	67850.00	184810.00

The concentrations as well as the estimated quantities of additives for the preparation of the cement slurry across all sections, are presented in Table 6-3.

Table 6-3: Estimated maximum concentrations and maximum quantities of additives for cement slurry preparation

ADDITIVES	CONCENTRATION (KG/M ³ OR L/M ³ AS APPLICABLE)	MAXIMUM QUANTITY	UNITS
G Class Cement	4721.00 kg/m ³	600000.00	kg
NF-6	0.9	712.00	lt
Silicate Liq.	142.00	24329.00	lt
HR-4	0.6	851.70	kg
KCl	4	22108.80	kg
Bentonite	2.5	8476.20	kg
C-Dye	1.5	30	lt
Tune Spacer E+	30	4344	kg
Barite	48.2	46373	kg
HALAD-300L	-	-	lt
Latex 4000	71.00	11197.00	lt
HR-4L	8.00	-	lt
SCR-100L	-	-	lt
HALAD-344	-	1276.60	kg
HALAD-413	-	1424.00	kg
GasStop	0.50	1897.1	kg
Econolite	-	-	kg
SA-1015	10.5	480.30	kg
CFR-3	0.90	1525.20	kg
Surfactant	100	4200	lt

Note: Additives marked as '-' are included for completeness only and included in the inventory for transparency but are not part of the base maximum quantity estimates.

6.2 BOP Fluid Chemicals

Stack Magic V2 is water-soluble, fully biodegradable, and expected to disperse quickly in the marine environment. At the dilution levels presented in **Error! Not a valid bookmark self-reference.**, the control fluid demonstrates low acute toxicity to marine organisms with rapid dilution and dispersion in the open marine environment further limiting exposure upon discharge. Releases of BOP control fluid are therefore considered low risk, localised, and short term, supporting classification as a low hazard discharge with no

significant adverse environmental risk. Any operational releases of BOP hydraulic fluid would occur in the immediate vicinity of the subsea BOP stack and wellhead at the Asopus-1 well location.

Table 6-4: Hydraulic fluid mix dilution levels

FUNCTION	VOLUME (L)	FREQUENCY		TOTAL VOLUME PER WELL (L)				
		PLANNED	CONTINGENCY	PLANNED	CONTINGENCY	TOTAL		
						HYDRAULIC FLUID MIX	POT WATER	STACK MAGIC
<i>Accumulator Dump</i>	2000	1	1	2,000	2,000	4,000	3,820	180
<i>Failsafe (12 per BOP)</i>	3	400	400	1,200	1,200	2,400	2,292	108
<i>Rigid Conduit volume</i>	18,000	1	1	18,000	18,000	36,000	34,380	1,620
<i>EDS</i>	500	0	1	0	500	500	478	22
Totals				21,200	21,700	42,900	40,970	1,930

6.3 Thread Compounds (Pipe Dope)

Thread compound (pipe and casing dope) quantities used are **minimised through the application of best operational practices** (e.g., using specialised applicator brushes to prevent over-doping) and are supported by supplier-provided environmental certification data.

Given these controls, the residual environmental risk from using these materials is considered negligible due to their composition, application method, and expected release pathways.

7 Annex: Products SDS

SODA CAUSTICA (Caustic Soda)

Data del Rilascio 30-dic-2015

Data di revisione 21-giu-2022

Versione 2.8

SEZIONE 1: Identificazione della sostanza/miscela e della società/impresa

1.1. Identificatore del prodotto

Codice del Prodotto	NDF00121
Denominazione del Prodotto	SODA CAUSTICA (Caustic Soda)
Numero CE	215-185-5
N. CAS	1310-73-2
Sostanza/miscela pura Contiene Idrossido di sodio	Sostanza
Peso molecolare	39.9971

1.2. Usi identificati pertinenti della sostanza o della miscela e usi sconsigliati

Uso Raccomandato	Alcalinizzante
Usi sconsigliati	Nessuno noto

1.3. Informazioni sul fornitore della scheda di dati di sicurezza

Fornitore

 Newpark Drilling Fluids S.p.A.
 Via Salaria 1313/C
 00138 ROMA (Italy)

Per ulteriori informazioni, contattare

Punto di Contatto	Telephone: + 39 06 8856111 Fax: +39 06 8889363 Website: www.newpark.com
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Indirizzo e-mail	hse-hqit@newpark.com
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1.4. Numero telefonico di emergenza

Numero telefonico di emergenza - §45 - (CE)1272/2008	
Europa	112
Croazia	+385 1 7776 920 ; +385 01 2348 342 (Centar za kontrolu otrovanja, 24 sata)
Francia	+(33)-975181407
Germania	0800-181-7059; +(49)- 69643508409
Ungheria	+(36)-18088425
Italia	800-789-767; +(39)-0245557031 Milano 24/24 Ospedale Niguarda Ca'grande Piazza ospedale maggiore 3 +39 0266101029

	Roma 24/24 Policlinico Gemelli Largo Agostino Gemelli 8 +39 063054343
Paesi Bassi	+(31)-858880596
Romania	(+40)-37-6300026
Spagna	900-868538; +(34)-931768545
Svizzera	145, (+41) 435082011
Regno Unito	+(44)-870-8200418

SEZIONE 2: Identificazione dei pericoli

2.1. Classificazione della sostanza o della miscela

Regolamento (CE) n. 1272/2008

Corrosione/irritazione della pelle	Categoria 1 Sottocategoria A - (H314)
Lesioni oculari gravi/irritazione oculare	Categoria 1 - (H318)

2.2. Elementi dell'etichetta

215-185-5

Contiene Idrossido di sodio



Segnalazione

Pericolo

Indicazioni di pericolo

H314 - Provoca gravi ustioni cutanee e gravi lesioni oculari

Consigli di Prudenza - UE (§28, 1272/2008)

P260 - Non respirare la polvere/i fumi/i gas/la nebbia/i vapori/gli aerosol

P280 - Indossare guanti/indumenti protettivi e proteggere gli occhi/il viso

P303 + P361 + P353 - IN CASO DI CONTATTO CON LA PELLE (o con i capelli): togliersi di dosso immediatamente tutti gli indumenti contaminati. Sciacquare la pelle [o fare una doccia]

P305 + P351 + P338 - IN CASO DI CONTATTO CON GLI OCCHI: sciacquare accuratamente per parecchi minuti. Togliere le eventuali lenti a contatto se è agevole farlo. Continuare a sciacquare

P310 - Contattare immediatamente un CENTRO ANTIVELENI o un medico

Informazioni supplementari

Questo prodotto richiede indicazioni di pericolo avvertibili al tatto se fornito a privati. Questo prodotto richiede chiusure di sicurezza per bambini se fornito a privati.

2.3. Altri pericoli

Nocivo per gli organismi acquatici.

SEZIONE 3: Composizione/informazioni sugli ingredienti

3.1 Sostanze

Denominazione chimica	Peso-%	Numero di registrazione REACH	Numero CE	Classificazione secondo il	Limite di concentrazione	Fattore M	Fattore M (lungo)
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				regolamento (CE) n. 1272/2008 [CLP]	specifico (SCL)		termine)
Idrossido di sodio 1310-73-2	100	01-2119457892-27-XX XX	215-185-5	Skin Corr. 1A (H314)	Eye Irrit. 2 :: 0.5%≤C<2% Skin Corr. 1A :: C≥5% Skin Corr. 1B :: 2%≤C<5% Skin Irrit. 2 :: 0.5%≤C<2%	-	-

Testo completo di frasi H e EUH: vedere Sezione 16Stima della Tossicità Acuta

Nessuna informazione disponibile

Denominazione chimica	LD50 orale mg/kg	LD50 dermico mg/kg	LC50 inalazione - 4 ore - polvere/nebbia - mg/l	Inalazione LC50 - 4 ore - vapore - mg/l	Inalazione LC50 - 4 ore - gas - ppm
Idrossido di sodio 1310-73-2	325	1350	Nessun informazioni disponibili	Nessun informazioni disponibili	Nessun informazioni disponibili

Questo prodotto non contiene sostanze candidate estremamente preoccupanti a una concentrazione $\geq 0,1\%$ (Regolamento (CE) n. 1907/2006 (REACH), Articolo 59)

SEZIONE 4: Misure di primo soccorso**4.1. Descrizione delle misure di primo soccorso**

Avvertenza generica	Mostrare questa scheda di dati di sicurezza al medico presente. È necessaria una consultazione medica immediata.
Inalazione	Rimuovere all'aria fresca. Chiamare subito un medico o un centro antiveleni. In caso di assenza di respirazione, praticare la respirazione artificiale. Se la respirazione è difficile, (il personale qualificato deve) somministrare ossigeno.
Contatto con gli occhi	Sciacquare immediatamente con molta acqua, anche sotto le palpebre, per almeno 15 minuti. Tenere gli occhi bene aperti mentre si effettua lo sciacquo. Non raschiare l'area colpita. Togliere le eventuali lenti a contatto se è agevole farlo. Continuare a sciacquare. Consultare immediatamente un medico.
Contatto con la pelle	Lavare immediatamente con molta acqua e sapone e togliere tutti gli abiti contaminati e le scarpe. Consultare immediatamente un medico.
Ingestione	NON provocare il vomito. Non somministrare mai nulla per via orale a una persona in stato di incoscienza. Consultare immediatamente un medico. Pulire la bocca con acqua e bere poi molta acqua.
Autoprotezione del primo soccorritore	Assicurarsi che il personale medico sia consapevole del materiale coinvolto, prendere precauzioni per proteggersi e prevenire la diffusione della contaminazione. Indossare indumenti di protezione personale (cfr. Capitolo 8). Evitare il contatto con la pelle, gli occhi o l'abbigliamento. Evitare un contatto diretto con la pelle. Utilizzare una barriera per praticare la respirazione bocca a bocca.

4.2. Principali sintomi ed effetti, sia acuti che ritardati

Sintomi	Sensazione di bruciore.
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4.3. Indicazione dell'eventuale necessità di consultare immediatamente un medico e di trattamenti speciali

Nota per i medici	Il prodotto è un materiale corrosivo. Effettuare una lavanda gastrica o l'induzione al vomito
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sono controindicate. Verificare l'eventuale perforazione dello stomaco o dell'esofago. Non somministrare antidoti chimici. Può presentarsi asfissia causata da un edema della glottide. Può presentarsi un marcato aumento della pressione sanguigna con rantoli, espettorato schiumoso ed elevate pressione arteriosa differenziale.

SEZIONE 5: Misure antincendio

5.1. Mezzi di estinzione

Mezzi di Estinzione Idonei Utilizzare misure estinguenti appropriate alle circostanze locali e all'ambiente circostante.

Grande incendio ATTENZIONE: l'utilizzo di spruzzo d'acqua per l'estinzione degli incendi potrebbe essere inefficace.

Mezzi di estinzione non idonei Non disperdere il materiale versato con getti d'acqua ad alta pressione.

5.2. Pericoli speciali derivanti dalla sostanza o dalla miscela

Pericoli specifici derivanti dal prodotto chimico Il prodotto provoca ustioni agli occhi, alla pelle e alle mucose. La decomposizione termica può provocare il rilascio di gas e vapori irritanti.

Prodotti di combustione pericolosi Ossidi di sodio.

5.3. Raccomandazioni per gli addetti all'estinzione degli incendi

Equipaggiamento di protezione speciale e precauzioni per gli addetti all'estinzione di incendi I vigili del fuoco devono indossare un apparecchio autorespiratore e una tuta ermetica antincendio. Utilizzare dispositivi di protezione individuale.

SEZIONE 6: Misure in caso di rilascio accidentale

6.1. Precauzioni personali, dispositivi di protezione e procedure in caso di emergenza

Precauzioni individuali Evitare il contatto con la pelle, gli occhi o l'abbigliamento. Garantire un'aerazione sufficiente. Utilizzare il dispositivo di protezione individuale richiesto. Attenzione! Materiale corrosivo. Evacuare il personale verso le aree sicure. Tenere le persone lontane e sopravvento rispetto alla perdita/fuoriuscita.

Altre informazioni Fare riferimento alle misure di protezione elencate nelle sezioni 7 e 8.

Per chi interviene direttamente Utilizzare una protezione individuale raccomandata nella Sezione 8.

6.2. Precauzioni ambientali

Precauzioni ambientali Impedire ulteriori fuoriuscite o perdite, se è sicuro farlo. Non deve essere rilasciato nell'ambiente. Non consentire la penetrazione nel suolo/sottosuolo. Impedire che il prodotto penetri negli scarichi.

6.3. Metodi e materiali per il contenimento e per la bonifica

Metodi di contenimento Impedire ulteriori fuoriuscite o perdite, se è sicuro farlo.

Metodi di bonifica Prelevare meccanicamente, collocando il prodotto in appositi contenitori per lo smaltimento.

Prevenzione di rischi secondari Pulire a fondo gli oggetti e le aree contaminate rispettando le norme ambientali.

6.4. Riferimenti ad altre sezioni

Riferimenti ad altre sezioni Per ulteriori informazioni, cfr. Sezione 8. Per ulteriori informazioni, cfr. Sezione 13.

SEZIONE 7: Manipolazione e immagazzinamento

7.1. Precauzioni per la manipolazione sicura**Precauzioni per la manipolazione sicura**

Maneggiare nel rispetto delle buone norme igieniche e di sicurezza industriali. Evitare il contatto con la pelle, gli occhi o l'abbigliamento. In caso di ventilazione insufficiente, usare un apparecchio respiratorio adatto. Manipolare il prodotto soltanto in un sistema chiuso o predisporre un adeguato sistema di ventilazione a estrazione. Non mangiare, né bere, né fumare durante l'uso. Togliere tutti gli indumenti contaminati e lavarli prima di indossarli nuovamente.

Raccomandazioni generiche sull'igiene professionale

Evitare il contatto con la pelle, gli occhi o l'abbigliamento. Usare guanti adatti e proteggersi gli occhi/la faccia. Non mangiare, né bere, né fumare durante l'uso. Togliersi di dosso e lavare gli indumenti e i guanti contaminati, incluse le parti interne, prima di indossarli nuovamente. Gli indumenti da lavoro contaminati non devono essere portati fuori dal luogo di lavoro. Si consiglia una pulizia regolare delle apparecchiature, dell'area di lavoro e degli indumenti. Lavarsi le mani prima delle pause e subito dopo aver manipolato il prodotto.

7.2. Condizioni per lo stoccaggio sicuro, comprese eventuali incompatibilità**Condizioni di immagazzinamento**

Conservare il recipiente chiuso e in un luogo fresco, ben ventilato e asciutto. Conservare fuori della portata dei bambini. Conservare sotto chiave. Proteggere dall'umidità. Conservare lontano da altri materiali.

Storage class (TRGS 510)

8 B

7.3. Usi finali particolari**Usi identificati**

Misure di gestione del rischio (RMM) Le informazioni necessarie sono contenute nella presente Scheda dei dati di sicurezza.

SEZIONE 8: Controllo dell'esposizione/protezione individuale**8.1. Parametri di controllo****Limiti di Esposizione**

Denominazione chimica	Unione Europea	Austria	Belgio	Bulgaria	Croazia
Idrossido di sodio 1310-73-2	-	TWA: 2 mg/m ³ STEL 4 mg/m ³	-	TWA: 2.0 mg/m ³	STEL: 2 mg/m ³
Denominazione chimica	Cipro	Repubblica Ceca	Danimarca	Estonia	Finlandia
Idrossido di sodio 1310-73-2	-	TWA: 1 mg/m ³ Ceiling: 2 mg/m ³	Ceiling: 2 mg/m ³	TWA: 1 mg/m ³ STEL: 2 mg/m ³	Ceiling: 2 mg/m ³
Denominazione chimica	Francia	Germania	Germania MAK	Grecia	Ungheria
Idrossido di sodio 1310-73-2	TWA: 2 mg/m ³	-	-	TWA: 2 mg/m ³ STEL: 2 mg/m ³	TWA: 1 mg/m ³ STEL: 2 mg/m ³
Denominazione chimica	Irlanda	Italia	Italia REL	Lettonia	Lituania
Idrossido di sodio 1310-73-2	STEL: 2 mg/m ³	-	Ceiling: 2 mg/m ³	TWA: 0.5 mg/m ³	Ceiling: 2 mg/m ³
Denominazione chimica	Lussemburgo	Malta	Paesi Bassi	Norvegia	Polonia
Idrossido di sodio 1310-73-2	-	-	-	Ceiling: 2 mg/m ³	STEL: 1 mg/m ³ TWA: 0.5 mg/m ³
Denominazione chimica	Portogallo	Romania	Slovacchia	Slovenia	Spagna
Idrossido di sodio 1310-73-2	Ceiling: 2 mg/m ³	TWA: 1 mg/m ³ STEL: 3 mg/m ³	TWA: 2 mg/m ³	-	STEL: 2 mg/m ³
Denominazione chimica	Svezia		Svizzera		Regno Unito
Idrossido di sodio 1310-73-2	NGV: 1 mg/m ³ Bindande KGV: 2 mg/m ³		TWA: 2 mg/m ³ STEL: 2 mg/m ³		STEL: 2 mg/m ³

Limiti biologici di esposizione professionale

Questo prodotto, così come fornito, non contiene alcun materiale pericoloso con valori limite biologici fissati dagli organi di regolamentazione specifici della regione.

Livello Derivato Senza Effetto (DNEL)	Lungo termine.
Inalazione	1 mg/m ³
Predicted No Effect Concentration (PNEC, Concentrazione Prevedibile Priva di Effetti)	Nessuna informazione disponibile.

8.2. Controlli dell'esposizione

Controlli tecnici	Nessuna informazione disponibile.
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Dispositivi di protezione individuale

Protezioni per occhi/volto	Schermo per il viso. Utilizzare protezioni per occhi in conformità alla normativa EN 166, concepite per la protezione contro le nebbie di spruzzatura.
Protezione delle mani	Usare guanti adatti. Guanti impermeabili. I guanti devono essere conformi allo standard EN 374.
Protezione pelle e corpo	Usare indumenti protettivi adatti. Indumenti a maniche lunghe. Grembiule resistente agli agenti chimici. (EN 340).
Protezione respiratoria	Quando i lavoratori sono esposti a concentrazioni superiori al limite di esposizione devono utilizzare respiratori certificati idonei. (EN 136, EN 140, EN 141, EN 143, EN 149, EN 405).
Raccomandazioni generiche sull'igiene professionale	Evitare il contatto con la pelle, gli occhi o l'abbigliamento. Usare guanti adatti e proteggersi gli occhi/la faccia. Non mangiare, né bere, né fumare durante l'uso. Togliersi di dosso e lavare gli indumenti e i guanti contaminati, incluse le parti interne, prima di indossarli nuovamente. Gli indumenti da lavoro contaminati non devono essere portati fuori dal luogo di lavoro. Si consiglia una pulizia regolare delle apparecchiature, dell'area di lavoro e degli indumenti. Lavarsi le mani prima delle pause e subito dopo aver manipolato il prodotto.
Controlli dell'esposizione ambientale	Nessuna informazione disponibile.

SEZIONE 9: Proprietà fisiche e chimiche

9.1. Informazioni sulle proprietà fisiche e chimiche fondamentali

Stato fisico	Stato Solido	
Aspetto	pellet	
Colore	Bianco	
Odore	Inodore.	
Soglia olfattiva	Non applicabile	
Proprietà	Valori	Note • Metodo
Punto di fusione / punto di congelamento	318 °C	
Punto/intervallo di ebollizione	1388 °C	
Infiammabilità (solidi, gas)		Non applicabile
Limite di infiammabilità in aria		Non applicabile
Limite di infiammabilità superiore:		
Limite di infiammabilità inferiore		
Punto di infiammabilità		Non applicabile
Temperatura di autoaccensione		Non applicabile
Temperatura di decomposizione		Nessuna informazione disponibile
pH	14	50 g/L
pH (come soluzione acquosa)		Nessuna informazione disponibile
Viscosità cinematica		Non applicabile
Viscosità dinamica		Non applicabile

Idrosolubilità	Solubile in acqua	
La solubilità/le solubilità		Nessuna informazione disponibile
Coefficiente di ripartizione		Nessuna informazione disponibile
Tensione di vapore		Non applicabile
Densità relativa	2.1	
Peso specifico apparente		
Densità del liquido		
Densità di vapore		Nessuna informazione disponibile
Caratteristiche delle particelle		Nessuna informazione disponibile
Dimensioni delle particelle		
Ripartizione delle particelle per dimensione		

9.2. Altre informazioni

Peso molecolare 39.9971

9.2.1. Informazioni sulle classe di pericolo

Non applicabile

Proprietà esplosive Non esplosivo

Proprietà ossidanti Non applicabile

9.2.2. Altre caratteristiche correlate alla sicurezza

Nessuna informazione disponibile

SEZIONE 10: Stabilità e reattività**10.1. Reattività**

Reattività Nessuna informazione disponibile.

Note Corrosivo per i metalli.

10.2. Stabilità chimica

Stabilità Stabile in condizioni normali.

Dati esplosione

Sensibilità all'impatto meccanico Nessuno.

Sensibilità alla scarica statica Nessuno.

10.3. Possibilità di reazioni pericolose

Possibilità di reazioni pericolose Reagisce con molti composti. Reagisce con l'acqua.

10.4. Condizioni da evitare

Condizioni da evitare Esposizione all'aria o all'umidità per periodi prolungati. formazione di polvere.

10.5. Materiali incompatibili

Materiali incompatibili Acidi forti. Agenti ossidanti forti. Alkali. Metalli.

10.6. Prodotti di decomposizione pericolosi

Prodotti di Decomposizione Pericolosi: La decomposizione termica può comportare il rilascio di gas e vapori tossici e irritanti.

SEZIONE 11: Informazioni tossicologiche**11.1. Informazioni sulle classi di pericolo secondo la definizione del Regolamento (CE) n. 1272/2008****Informazioni sulle vie probabili di esposizione**

Informazioni sul prodotto

Inalazione	Non sono disponibili dati specifici per la sostanza o miscela. Corrosivo per inalazione. (basata sui componenti). L'inalazione di fumi/gas corrosivi può provocare tosse, soffocamento, mal di testa, vertigini e debolezza per molte ore. L'edema polmonare può verificarsi con tensione nel torace, respirazione affannosa, pelle bluastra, pressione sanguigna più bassa e frequenza cardiaca più alta. Le sostanze corrosive inalate possono portare ad edema tossico dei polmoni. L'edema polmonare può essere fatale.
Contatto con gli occhi	Non sono disponibili dati specifici per la sostanza o miscela. Provoca ustioni. (basata sui componenti). Corrosivo per gli occhi e può provocare gravi danni, cecità inclusa. Provoca gravi lesioni oculari. Può provocare danni irreversibili agli occhi.
Contatto con la pelle	Non sono disponibili dati specifici per la sostanza o miscela. Può provocare irritazione. Può essere assorbito per via cutanea in quantitativi dannosi. Nocivo per contatto con la pelle. (basata sui componenti).
Ingestione	Non sono disponibili dati specifici per la sostanza o miscela. Provoca ustioni. (basata sui componenti). L'ingestione causa ustioni del tubo digerente e delle vie respiratorie superiori. Può provocare grave dolore da ustione nella bocca e nello stomaco con vomito e diarrea di sangue scuro. La pressione sanguigna può scendere. Intorno alla bocca si possono notare delle macchie marroncine o giallastre. L'ingrossamento della gola può provocare respirazione affannosa e soffocamento. Può causare danni ai polmoni se ingerito. Può essere letale in caso di ingestione e di penetrazione nelle vie respiratorie.

Sintomi connessi alle caratteristiche fisiche, chimiche e tossicologiche

Sintomi Arrossamento. Bruciore. Può provocare cecità. Tosse e/o respiro sibilante.

Misure numeriche di tossicità**Tossicità acuta**

Denominazione chimica	LD50 orale	LD50 dermico	LC50 inalazione
Idrossido di sodio	= 325 mg/kg (Rat)	= 1350 mg/kg (Rabbit)	-

Effetti immediati, ritardati e cronici derivanti da esposizioni a breve e a lungo termine

Corrosione/irritazione della pelle	Provoca gravi ustioni.
Lesioni oculari gravi/irritazione oculare	Classificazione basata su dati disponibili per ingrediente. Provoca ustioni. Rischio di gravi lesioni oculari.
Sensibilizzazione cutanea o delle vie respiratorie	Nessuno noto.
Mutagenicità sulle cellule germinali	Nessuna informazione disponibile.
Cancerogenicità	Nessuno noto.
Tossicità per la riproduzione	Nessuno noto.

STOT - esposizione singola Nessuna informazione disponibile.

STOT - esposizione ripetuta Nessuno in condizioni di utilizzo normale.

Pericolo in caso di aspirazione Non applicabile.

11.2. Informazioni su altri pericoli

11.2.1. Proprietà di interferente endocrino

Proprietà di interferente endocrino Nessuna informazione disponibile.

11.2.2. Altre informazioni

Altri effetti avversi Nessuna informazione disponibile.

SEZIONE 12: Informazioni ecologiche

12.1. Tossicità

Ecotossicità Nocivo per gli organismi acquatici con effetti di lunga durata.

Denominazione chimica	Piante acquatiche/alghe	Pesci	Tossicità per i microrganismi	Crostacei
Idrossido di sodio	-	LC50: =45.4mg/L (96h, Oncorhynchus mykiss)	-	-

12.2. Persistenza e degradabilità

Persistenza e degradabilità Sale inorganico.

12.3. Potenziale di bioaccumulo

Bioaccumulo: Nessuno noto.

12.4. Mobilità nel suolo

Mobilità nel suolo Nessuna informazione disponibile.

12.5. Risultati della valutazione PBT e vPvB

Valutazione PBT e vPvB Il prodotto non contiene alcuna sostanza classificata come PBT o vPvB.

Denominazione chimica	Valutazione PBT e vPvB
Idrossido di sodio	La sostanza non è un PBT / vPvB La valutazione PBT non è applicabile

12.6. Proprietà di interferente endocrino

Proprietà di interferente endocrino Nessuna informazione disponibile.

12.7. Altri effetti avversi

Nessuna informazione disponibile.

SEZIONE 13: Considerazioni sullo smaltimento

13.1. Metodi di trattamento dei rifiuti

Rifiuti derivanti da residui/prodotti inutilizzati	Smaltire in conformità alle normative locali. Smaltire i rifiuti in conformità alla legislazione ambientale.
Imballaggio contaminato	Non riutilizzare i contenitori vuoti.
Codici rifiuti/denominazioni rifiuti secondo EWC / AVV	I codici rifiuti devono essere assegnati dall'utente in base all'applicazione per cui il prodotto è stato impiegato.

SEZIONE 14: Informazioni sul trasporto**IATA**

14.1 Numero UN o numero ID	UN1823
14.2 Designazione ufficiale di trasporto	Sodium Hydroxide, Solid
14.3 Classi di pericolo connesso al 8 trasporto	
14.4 Gruppo d'imballaggio	II
14.5 Rischio ambientale	Non applicabile
14.6 Precauzioni speciali per gli utilizzatori	
Disposizioni Particolari	Nessuno

IMDG

14.1 Numero UN o numero ID	UN1823
14.2 Designazione ufficiale di trasporto	Sodium Hydroxide, Solid
14.3 Classi di pericolo connesso al 8 trasporto	
14.4 Gruppo d'imballaggio	II
14.5 Rischio ambientale	Non applicabile
14.6 Precauzioni speciali per gli utilizzatori	
Disposizioni Particolari	Nessuno
N. EmS	F-A, S-B
14.7 Trasporto marittimo alla rinfusa secondo gli strumenti IMO	Nessuna informazione disponibile

RID

14.1 N. ID/ONU	UN1823
14.2 Designazione ufficiale di trasporto	Sodium Hydroxide, Solid
14.3 Classi di pericolo connesso al 8 trasporto	
14.4 Gruppo d'imballaggio	II
14.5 Rischio ambientale	Non applicabile
14.6 Precauzioni speciali per gli utilizzatori	
Disposizioni Particolari	Nessuno

ADR

14.1 Numero UN o numero ID	UN1823
14.2 Designazione ufficiale di trasporto	Sodium Hydroxide, Solid
14.3 Classi di pericolo connesso al 8 trasporto	
14.4 Gruppo d'imballaggio	II
14.5 Rischio ambientale	Non applicabile
14.6 Precauzioni speciali per gli utilizzatori	
Disposizioni Particolari	Nessuno

SEZIONE 15: Informazioni sulla regolamentazione

15.1. Disposizioni legislative e regolamentari su salute, sicurezza e ambiente specifiche per la sostanza o la miscela**Disposizioni nazionali****Germania**

Classe di pericolo per l'acqua (WGK) leggermente pericoloso per l'acqua (WGK 1)

Italia

-D.lgs. 81/2008 (Testo unico in materia di tutela della salute e della sicurezza nei luoghi di lavoro) e successive modifiche e Direttiva 2009/161/UE - valutazione rischio chimico ai sensi del titolo IX
 -Decreto legislativo 3 aprile 2006, n. 152 (Norme in materia ambientale)
 -"Direttiva Seveso III" – Decreto Legislativo 26 giugno 2015, n°105 (Attuazione della direttiva 2012/18/UE relativa al controllo del pericolo di incidenti rilevanti connessi con sostanze pericolose)

Unione Europea

Prendere nota della Direttiva 98/24/CE sulla protezione della salute e della sicurezza dei lavoratori dai rischi derivanti da agenti chimici durante il lavoro.

Autorizzazioni e/o limitazioni sull'uso:

Questo prodotto non contiene sostanze soggette ad autorizzazione (Regolamento (CE) n. 1907/2006 (REACH), Allegato XIV)

Questo prodotto non contiene sostanze soggette a limitazione (Regolamento (CE) n. 1907/2006 (REACH), Allegato XVII)

Denominazione chimica	Sostanza limitata, in conformità alla normativa REACH Allegato XVII	Sostanza soggetta ad autorizzazione, in conformità alla normativa REACH Allegato XIV
Idrossido di sodio - 1310-73-2	75.	-

Inquinanti organici persistenti

Non applicabile

Regolamento (CE) 1005/2009 sulle sostanze che riducono lo strato di ozono (ODS)

Non applicabile

Inventari Internazionali

TSCA	Conforme
DSL/NDL	Conforme
EINECS/ELINCS	Conforme
ENCS	Conforme
IECSC	Conforme
KECL	Conforme
PICCS	Conforme
AICS	Conforme

Legenda:

TSCA - Sezione 8(b) United States Toxic Substances Control Act (Decreto Statunitense per il Controllo delle Sostanze Tossiche), Inventario

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List (Lista delle Sostanze non Nazionali/delle Sostanze Nazionali Canadesi)

EINECS/ELINCS - Inventario Europeo delle Sostanze Chimiche Esistenti/Lista Europea delle Sostanze Chimiche Notificate

ENCS - Japan Existing and New Chemical Substances (Sostanze Chimiche Nuove ed Esistenti in Giappone)

IECSC - China Inventory of Existing Chemical Substances (Inventario Cinese delle Sostanze Chimiche Esistenti)

KECL - Korean Existing and Evaluated Chemical Substances (Sostanze Chimiche Esistenti e Valutate in Corea)

PICCS - Philippines Inventory of Chemicals and Chemical Substances (Inventario delle Sostanze Chimiche delle Filippine)

AICS - Inventario Australiano delle Sostanze Chimiche (Australian Inventory of Chemical Substances)

15.2. Valutazione della sicurezza chimica

Relazione sulla Sicurezza Chimica Nessuno

SEZIONE 16: Altre informazioni

Spiegazione o legenda delle abbreviazioni e degli acronimi utilizzata nella scheda di dati di sicurezza

Testo completo delle frasi H a cui si fa riferimento riportato nella sezione 3

H314 - Provoca gravi ustioni cutanee e gravi lesioni oculari

Legenda

SVHC: Sostanze estremamente preoccupanti per l'autorizzazione:

Legenda Sezione 8: CONTROLLO DELL'ESPOSIZIONE/PROTEZIONE INDIVIDUALE

TWA	TWA (media temporale esaminata)	STEL	STEL (Limite di Esposizione a Breve Termine)
Massimali	Valore limite massimo	*	Indicazioni per la pelle
+	Sensibilizzatori		

Principali riferimenti bibliografici e fonti dei dati utilizzati per la stesura della scheda di dati di sicurezza

Agenzia per le sostanze tossiche e registro malattie (Agency for Toxic Substances and Disease Registry, ATSDR)
 Database ChemView dell'Environmental Protection Agency (Agenzia per la protezione dell'ambiente) degli Stati Uniti
 Autorità europea per la sicurezza alimentare (EFSA)
 Agenzia europea per le sostanze chimiche (ECHA) Comitato per la valutazione del rischio (ECHA_RAC)
 Agenzia europea per le sostanze chimiche (ECHA) (ECHA_API)
 EPA (Environmental Protection Agency)
 Livelli di Esposizione Acuta (AEGL)
 Environmental Protection Agency (Agenzia per la protezione dell'ambiente) degli Stati Uniti - Legge federale su insetticidi, fungicidi e rodenticidi
 Sostanze chimiche ad alto volume di produzione dell'Environmental Protection Agency (Agenzia per la protezione dell'ambiente) degli Stati Uniti
 Giornale della ricerca nel campo dell'alimentazione (Food Research Journal)
 Database delle sostanze pericolose
 Banca dati internazionale di informazione chimica uniforme (IUCLID)
 Classificazione giapponese GHS
 National Industrial Chemicals Notification and Assessment Scheme (NICNAS) dell'Australia
 NIOSH (National Institute for Occupational Safety and Health)
 ChemID Plus della National Library of Medicine (NLM CIP)
 Database PubMed della National Library of Medicine (NLM PUBMED)
 Programma di tossicologia nazionale (NTP)
 Chemical Classification and Information Database (CCID - Banca dati di informazioni e classificazione delle sostanze chimiche) della Nuova Zelanda
 Pubblicazioni su ambiente, salute e sicurezza dell'Organizzazione per la cooperazione e lo sviluppo economico
 Programma sulle sostanze chimiche ad alto volume di produzione dell'Organizzazione per la cooperazione e lo sviluppo economico
 Screening Information Data Set dell'Organizzazione per la cooperazione e lo sviluppo economico
 Organizzazione mondiale della sanità

Data del Rilascio 30-dic-2015

Data di revisione 21-giu-2022

La scheda di dati di sicurezza dei materiali è conforme ai requisiti della Normativa (CE) n. 1907/2006

Dichiarazione di non responsabilità

Ai sensi del Regolamento (CE) N. 1272/2008 del Parlamento Europeo e del Consiglio del 16 dicembre 2008 riguardo a classificazione, etichettatura e imballaggio di sostanze e miscele, che modifica e abroga le Direttive 67/548/CEE e 1999/45/CE, e che modifica il Regolamento (CE) N. 1907/2006, modificato dal regolamento 2015/830/UE. Il presente documento è fornito come risorsa di informazioni in relazione esclusivamente al prodotto o al materiale qui descritto. Le

informazioni qui contenute possono non essere applicabili ad altri prodotti/materiali o processi e possono non essere valide quando il presente prodotto/materiale viene utilizzato insieme a qualsiasi altro prodotto/materiale o processo. Le informazioni fornite nel presente documento sono state messe insieme da Newpark Drilling Fluids LLC o da suoi rappresentanti prendendole da diverse fonti, inclusi produttori, fornitori e altre terze parti, e sono basate sulle informazioni disponibili nella data di preparazione indicata. Poiché le condizioni nelle quali il presente prodotto potrebbe essere utilizzato varieranno e possono non essere sotto il controllo di Newpark Drilling Fluids LLC, non si garantisce che le precauzioni descritte sopra siano sufficienti per tutti ed in tutte le situazioni. L'acquirente si assume ogni responsabilità di utilizzare e maneggiare il prodotto conformemente alle norme federali, statali, provinciali e/o locali. Riguardo al prodotto/materiale descritto nel presente documento, NON SI FORNISCE ALCUNA GARANZIA, ESPLICITA O IMPLICITA, DI COMMERCIALIZZABILITA' IDONEITA' AD UN PARTICOLARE SCOPO O DI ALTRO TIPO.

Fine della Scheda di Dati di Sicurezza

Deoxy™ DEHA

Issuing Date 21-Mar-2019

Revision date 14-Jul-2026

Version 2.6

SECTION 1: Identification of the substance/mixture and of the company/undertaking

0

1.1. Product identifier

Product Code NDF00504

Product Name Deoxy™ DEHA

Unique Formula Identifier (UFI) E9D1-10ER-V00W-2MRW

Pure substance/mixture Mixture

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Antioxidant

Uses advised against None known

1.3. Details of the supplier of the safety data sheet

Supplier

Newpark Drilling Fluids S.r.l.
 Via Salaria 1313/C
 00138 ROMA (Italy)

Newpark Drilling Fluids LLC
 21920 Merchants Way
 Katy, Texas 77449

For further information, please contact

Contact Point Telephone: + 39 06 8856111
 Fax: +39 06 8889363
 Website: www.newpark.com

E-mail address hse-hqit@newpark.com

1.4. Emergency telephone number

Emergency Telephone +44 20 3885 0382 (EMEA); 1-800-424-9300 (International)

Emergency Telephone - §45 - (EC)1272/2008	
Europe	112
Croatia	+385 01 2348 342 (Centar za kontrolu otrovanja, 24 sata); +385 1 7776 920 (CHEMTREC)
Cyprus	1401
France	+ 33 (0)1 45 42 59 59; +33 9 75 18 14 07 (CHEMTREC)
Germany	0800-181-7059 (CHEMTREC)
Hungary	+36 80 201 199 (csak Magyarországról); +36 1 476 6464 (külföldről is); +36 1 808 8425 (CHEMTREC)
Italy	Numeri telefonici dei principali Centri Antiveleni italiani (attivi 24/24 ore): 1. Centro Antiveleni di Pavia: 0382 24444 (CAV CAV Centro Nazionale di Informazione)

	Tossicologica - Pavia); 2. Centro Antiveloni di Milano: 02 66101029 (CAV Ospedale Niguarda Ca' Granda - Milano); 3. Centro Antiveloni di Bergamo: 800 883300 (CAV Azienda Ospedaliera Papa Giovanni XXII - Bergamo); 4. Centro Antiveloni di Firenze: 055 7947819 (CAV Ospedale Careggi - Firenze); 5. Centro Antiveloni di Roma: 06 3054343 (CAV Policlinico Gemelli - Roma); 6. Centro Antiveloni di Roma: 06 49978000 (CAV Policlinico Umberto I - Roma); 7. Centro Antiveloni di Roma: 06 68593726 (CAV "Osp. Pediatrico Bambino Gesù" Dip. Emergenza e Accettazione DEA - Roma); 8. Centro Antiveloni di Napoli: 081 5453333 (CAV Ospedale Cardarelli - Napoli); 9. Centro Antiveloni di Foggia: 800183459 (Az. Osp. Univ. Foggia - Foggia); 10. Centro Antiveloni di Verona: 800011858 (Azienda Ospedaliera Integrata Verona - Verona); +39 02 4555 7031 (CHEMTREC).
Netherlands	+31 (0)88 755 8000 : Uitsluitend bestemd om professionele hulpverleners te informeren bij acute vergiftigingen; +31 85 888 0596 (CHEMTREC)
Romania	+40 21 599 2300; Urgente: 021 112 (24/7); +40 376 300 026 (CHEMTREC)
Spain	+ 34 91 562 04 20 (Servicio de Información Toxicológica); 900 868 538 (CHEMTREC)
Switzerland	145, (+41) 435082011 (CHEMTREC)
United Kingdom	+(44)-870-8200418 (CHEMTREC)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Chronic aquatic toxicity	Category 3 - (H412)
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2.2 Label elements

Hazard statements

H412 - Harmful to aquatic life with long lasting effects

Precautionary Statements - EU (§28, 1272/2008)

P273 - Avoid release to the environment

P501 - Dispose of contents/ container to an approved waste disposal plant

2.3. Other hazards

This mixture does not meet the PBT/vPvB criteria of REACH, annex XIII.

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors.

SECTION 3: Composition/information on ingredients

3.1 Substances

Not applicable

3.2 Mixtures

Chemical name	Weight-%	REACH registration number	EC No (EU Index No)	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
Ethanamine, N-ethyl-N-hydroxy- y- 3710-84-7	10-15	01-2119962470-39-XX XX	223-055-4	Flam. Liq. 3 (H226) Acute Tox. 4 (H312) Acute Tox. 4 (H332) STOT SE 3 (H335) Aquatic Chronic 2 (H411)	-	-	-

Full text of H- and EUH-phrases: see section 16**Acute Toxicity Estimate**

If LD50/LC50 data is not available or does not correspond to the classification category, then the appropriate conversion value from CLP Annex I, Table 3.1.2, is used to calculate the acute toxicity estimate (ATEmix) for classifying a mixture based on its components

Chemical name	Oral LD50 mg/kg	Dermal LD50 mg/kg	Inhalation LC50 - 4 hour - dust/mist - mg/L	Inhalation LC50 - 4 hour - vapor - mg/L	Inhalation LC50 - 4 hour - gas - ppm
Ethanamine, N-ethyl-N-hydroxy-3710-84-7	2190	1300	No data available	No data available	No data available

This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (Regulation (EC) No. 1907/2006 (REACH), Article 59)

SECTION 4: First aid measures**4.1. Description of first aid measures**

Inhalation	Remove to fresh air.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Skin contact	In the case of skin irritation or allergic reactions see a physician. Wash skin with soap and water.
Ingestion	Clean mouth with water and drink afterwards plenty of water.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms	No information available.
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4.3. Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptomatically.
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SECTION 5: Firefighting measures**5.1. Extinguishing media**

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Large Fire	CAUTION: Use of water spray when fighting fire may be inefficient.
Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical	No information available.
Hazardous combustion products	Carbon oxides.

5.3. Advice for firefighters

Special protective equipment and	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.
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precautions for fire-fighters Use personal protection equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation.

For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Take up mechanically, placing in appropriate containers for disposal.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling Ensure adequate ventilation.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed in a dry and well-ventilated place.

Storage class (TRGS 510) Storage class 12

7.3. Specific end use(s)

Risk Management Methods (RMM) The information required is contained in this Safety Data Sheet.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits

Chemical name	European Union	Austria	Belgium	Bulgaria	Croatia
Ethanamine, N-ethyl-N-hydroxy- 3710-84-7	-	-	TWA: 2 ppm TWA: 7.3 mg/m ³	-	-
Chemical name	Ireland	Italy MDLPS	Italy AIDII	Latvia	Lithuania
Ethanamine, N-ethyl-N-hydroxy- 3710-84-7	TWA: 2 ppm STEL: 6 ppm	-	TWA: 2 ppm TWA: 7.3 mg/m ³	-	-

Biological occupational exposure limits

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Derived No Effect Level (DNEL) No information available.
Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Engineering controls No information available.

Personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles). Eye protection must conform to standard EN 166.

Hand protection Impervious gloves. Gloves must conform to standard EN 374.

Skin and body protection Lightweight protective clothing. (EN 340).

Respiratory protection When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. (EN 136, EN 140, EN 141, EN 143, EN 149, EN 405).

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls No information available.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state Liquid
Appearance liquid
Color colorless
Odor Odorless.
Odor threshold No information available

Property	Values	Remarks • Method
Melting point / freezing point		No information available
Boiling point / boiling range	100 °C	
Flammability (solid, gas)		No information available
Flammability Limit in Air		No information available
Upper flammability limit:		
Lower flammability limit:		
Flash point		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
pH	10.5	
pH (as aqueous solution)		No information available
Kinematic viscosity		No information available
Dynamic viscosity		No information available
Water solubility	Soluble in water	
Solubility(ies)		No information available
Partition coefficient		No information available
Vapor pressure		No information available
Relative density	0.99	
Bulk density		
Liquid Density		
Vapor density		No information available
Particle characteristics		No information available
Particle Size		

Particle Size Distribution**9.2. Other information***9.2.1. Information with regard to physical hazard classes*

Not applicable

9.2.2. Other safety characteristics

No information available

SECTION 10: Stability and reactivity**10.1. Reactivity****Reactivity** No information available.**10.2. Chemical stability****Stability** Stable under normal conditions.**Explosion data****Sensitivity to mechanical impact** None.**Sensitivity to static discharge** None.**10.3. Possibility of hazardous reactions****Possibility of hazardous reactions** None under normal processing.**10.4. Conditions to avoid****Conditions to avoid** None known based on information supplied.**10.5. Incompatible materials****Incompatible materials** None known based on information supplied.**10.6. Hazardous decomposition products****Hazardous Decomposition Products** None known based on information supplied.**SECTION 11: Toxicological information****11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008****Information on likely routes of exposure****Product Information****Inhalation** Specific test data for the substance or mixture is not available.**Eye contact** Specific test data for the substance or mixture is not available.**Skin contact** Specific test data for the substance or mixture is not available.**Ingestion** Specific test data for the substance or mixture is not available.**Symptoms related to the physical, chemical and toxicological characteristics****Symptoms** No information available.**Numerical measures of toxicity****Acute toxicity**

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	21,900.00 mg/kg
ATEmix (dermal)	13,000.00 mg/kg
ATEmix (inhalation-vapor)	110.00 mg/l

0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity.

0 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity.

10 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas).

0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor).

10 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist).

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Ethanamine, N-ethyl-N-hydroxy-	= 2190 mg/kg (Rat)	= 1300 mg/kg (Rabbit)	= 11.44 mg/L (Rat) 4 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation No information available.

Serious eye damage/eye irritation No information available.

Respiratory or skin sensitization No information available.

Germ cell mutagenicity No information available.

Carcinogenicity No information available.

Reproductive toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Aspiration hazard No information available.

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Endocrine disrupting properties This product does not contain any known or suspected endocrine disruptors.

11.2.2. Other information

Other adverse effects No information available.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity Harmful to aquatic life with long lasting effects.

Unknown aquatic toxicity Contains 0 % of components with unknown hazards to the aquatic environment.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Ethanamine, N-ethyl-N-hydroxy-	EC50: 101 mg/l (72h, algae) NOEC: 26 mg/l (72h, algae)	LC50: 134 mg/l (96h, Fish)	-	EC50: 8.9 mg/l (48h, daphnia)

12.2. Persistence and degradability

Persistence and degradability No information available.

Component Information

Ethanamine, N-ethyl-N-hydroxy- (3710-84-7)

Method	Exposure time	Value	Results
			Not readily biodegradable

12.3. Bioaccumulative potential

Bioaccumulation There is no data for this product.

Component Information

Chemical name	Partition coefficient
Ethanamine, N-ethyl-N-hydroxy-	0.5

12.4. Mobility in soil

Mobility in soil No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment The product does not contain any substance(s) classified as PBT or vPvB.

Chemical name	PBT and vPvB assessment
Ethanamine, N-ethyl-N-hydroxy-	The substance is not PBT / vPvB

12.6. Endocrine disrupting properties

Endocrine disrupting properties This product does not contain any known or suspected endocrine disruptors.

12.7. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products Dispose of waste in accordance with environmental legislation. Dispose of in accordance with local regulations.

Contaminated packaging Do not reuse empty containers.

Waste codes / waste designations according to EWC / AVV Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14: Transport information

IATA

14.1 UN number or ID number Not regulated

14.2 UN proper shipping name	Not Regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	
Special Provisions	None

IMDG

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not Regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing Group	Not Regulated
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	
Special Provisions	None
14.7 Maritime transport in bulk according to IMO instruments	No information available

RID

14.1 UN/ID no	Not Regulated
14.2 UN proper shipping name	Not Regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing Group	Not Regulated
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	
Special Provisions	None

ADR

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not Regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing Group	Not Regulated
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	
Special Provisions	None

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulations****Germany**

Water hazard class (WGK) slightly hazardous to water (WGK 1)

Italy

-D. LGs. 81/2008 (single text on the protection of health and safety in the workplace) and subsequent amendments and Directive 2009/161/EU-assessment of chemical risk under title IX

-Legislative Decree 3 April 2006, no 152 (environmental standards)

-"Seveso III Directive" – Legislative Decree of 26 June 2015, n° 105 (Implementation of the Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances)

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Authorizations and/or restrictions on use:

This product does not contain substances subject to authorization (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Persistent Organic Pollutants

Not applicable

Ozone-depleting substances (ODS) regulation (EC) 1005/2009

Not applicable

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies
NZIoC	Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

15.2. Chemical safety assessment**Chemical Safety Report**

With reference to the components mentioned in Section 3, the exposure scenario is not attached to this SDS because a chemical risk assessment was performed which is available by consulting the REACH registration on ECHA database.

SECTION 16: Other information**Key or legend to abbreviations and acronyms used in the safety data sheet****Full text of H-Statements referred to under section 3**

H226 - Flammable liquid and vapor
H312 - Harmful in contact with skin
H332 - Harmful if inhaled
H335 - May cause respiratory irritation
H411 - Toxic to aquatic life with long lasting effects

Legend

SVHC: Substances of Very High Concern for Authorization:

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
+	Sensitizers		

Classification procedure	
Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method

Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - vapor	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	Calculation method
Respiratory sensitization	Calculation method
Skin sensitization	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	Calculation method
Reproductive toxicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration hazard	Calculation method
Ozone	Calculation method

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
 U.S. Environmental Protection Agency ChemView Database
 European Food Safety Authority (EFSA)
 European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
 European Chemicals Agency (ECHA) (ECHA_API)
 EPA (Environmental Protection Agency)
 Acute Exposure Guideline Level(s) (AEGl(s))
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
 U.S. Environmental Protection Agency High Production Volume Chemicals
 Food Research Journal
 Hazardous Substance Database
 International Uniform Chemical Information Database (IUCLID)
 Japan GHS Classification
 Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
 NIOSH (National Institute for Occupational Safety and Health)
 National Library of Medicine's ChemID Plus (NLM CIP)
 National Library of Medicine's PubMed database (NLM PUBMED)
 National Toxicology Program (NTP)
 New Zealand's Chemical Classification and Information Database (CCID)
 Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
 Organization for Economic Co-operation and Development High Production Volume Chemicals Program
 Organization for Economic Co-operation and Development Screening Information Data Set
 World Health Organization

Issuing Date 21-Mar-2019

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Reason for revision Sections updated: 1, 15

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End of Safety Data Sheet

Issue Date 05-Oct-2017

Revision Date 11-Oct-2019

Version 1

1. IDENTIFICATION

Product identifier

Product Name EvoCon®

Other means of identification

Product Code NDF00317

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use fluid conditioner

Uses advised against No information available

Details of the supplier of the safety data sheet

Supplier

Newpark Drilling Fluids LLC
21920 Merchants Way
Katy, Texas 77449
Telephone: +1 (800) 444-0682
<http://www.newpark.com>

Emergency telephone number

Emergency Telephone Chemtrec - US +1 (800) 424-9300
Chemtrec - International +1 (703) 527-3887

2. HAZARDS IDENTIFICATION

Classification

Serious eye damage/eye irritation	Category 1 - (H318)
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Label elements

Danger

Hazard statements

Causes serious eye damage



The product contains no substances which at their given concentration, are considered to be hazardous to health.

Appearance liquid

Physical state liquid

Odor Characteristic

Precautionary Statements - Prevention

Wear eye protection/ face protection

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Immediately call a POISON CENTER or doctor

Other Information

Unknown acute toxicity 100 % of the mixture consists of ingredient(s) of unknown toxicity

100 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

100 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Not applicable.

Mixture

Chemical name	CAS No.	Weight-%	Hazardous Material Information Review Act registry number (HMIRA registry #)	Date HMIRA filed and date exemption granted (if applicable)
Poly(oxy-1,2-ethanediyl), alpha-octyl-omega-hydroxy-	27252-75-1	80	-	-

4. FIRST AID MEASURES

Description of first aid measures

General advice

Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.

Inhalation

Remove to fresh air. Get medical attention immediately if symptoms occur.

Eye contact

Get immediate medical advice/attention. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area.

Skin contact

Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical

attention if irritation develops and persists.

Ingestion Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a physician.

Self-protection of the first aider Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

Symptoms Burning sensation.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical No information available.

Hazardous combustion products Carbon oxides.

Explosion data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Special protective equipment for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with skin, eyes or clothing. Use personal protective equipment as required.

Other Information Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labeled containers.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Appropriate engineering controls

Engineering controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Tight sealing safety goggles.

Hand protection Wear suitable gloves.

Skin and body protection Wear suitable protective clothing.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	liquid	Color	yellow
Appearance	liquid	Odor threshold	No information available
Odor	Characteristic		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	5.5 - 7	
Melting point / freezing point		No information available
Boiling point / boiling range		No information available
Flash point	> 100 °C / > 212 °F	
Evaporation rate		No information available
Flammability (solid, gas)		No information available
Flammability Limit in Air		No information available
Upper flammability limit:		
Lower flammability limit:		
Vapor pressure		No information available
Vapor density		No information available
Specific Gravity	1.0-1.1	
Water solubility	Partially soluble	
Solubility in other solvents		No information available

Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Kinematic viscosity	No information available
Dynamic viscosity	No information available
Explosive properties	No information available
Oxidizing properties	No information available
Other Information	
Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available
Liquid Density	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY

Reactivity	No information available.
Chemical stability	Stable under normal conditions.
Possibility of Hazardous Reactions	None under normal processing.
Conditions to avoid	None known based on information supplied.
Incompatible materials	Strong acids. Strong bases. Strong oxidizing agents.
Hazardous Decomposition Products	None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation	Specific test data for the substance or mixture is not available.
Eye contact	Specific test data for the substance or mixture is not available. Severely irritating to eyes. Causes serious eye damage. May cause burns. May cause irreversible damage to eyes.
Skin contact	Specific test data for the substance or mixture is not available. May cause irritation.
Ingestion	Specific test data for the substance or mixture is not available. Ingestion may cause irritation to mucous membranes. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Information on toxicological effects

Symptoms	Redness. Burning. May cause blindness.
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Numerical measures of toxicity

Acute toxicity

Unknown acute toxicity	100 % of the mixture consists of ingredient(s) of unknown toxicity
	100 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
	100 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
	100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
	100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
	100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	MAY CAUSE SKIN IRRITATION.
Serious eye damage/eye irritation	Classification based on data available for ingredients. Causes burns. Risk of serious damage to eyes.
Respiratory or skin sensitization	No information available.
Germ cell mutagenicity	No information available.
Carcinogenicity	No information available.
Reproductive toxicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Aspiration hazard	No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity	The environmental impact of this product has not been fully investigated.
Persistence and degradability	No information available.
Bioaccumulation	No information available.
Other adverse effects	No information available.

13. DISPOSAL CONSIDERATIONS**Waste treatment methods**

Waste from residues/unused products	Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
Contaminated packaging	Do not reuse empty containers.

14. TRANSPORT INFORMATION

<u>DOT</u>	Not Regulated
<u>TDG</u>	Not Regulated
<u>MEX</u>	Not Regulated
<u>IATA</u>	Not Regulated

IMDG

Not Regulated

15. REGULATORY INFORMATIONRegulatory informationInternational Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Does not comply
AICS	Complies
NZIoC	Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

US Federal Regulations**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute health hazard	No
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level

pertaining to releases of this material.

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION

<u>NFPA</u>	Health hazards 3	Flammability 1	Instability 0	Physical and chemical properties -
<u>HMIS</u>	Health hazards 3	Flammability 1	Physical hazards 0	Personal protection X

Issue Date 05-Oct-2017

Revision Date 11-Oct-2019

Revision Note No information available.

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End of Safety Data Sheet

**Flowzan® Biopolymer**

Version 1.12

Revision Date 2018-06-25

SECTION 1: Identification of the substance/mixture and of the company/undertaking**Product information**

Product Name : Flowzan® Biopolymer
Material : 1016765, 1016826, 1016827

Use : Drilling Fluid Additive

Company : Chevron Phillips Chemical Company LP
Drilling Specialties Company LLC
10001 Six Pines Drive
The Woodlands, TX 77380

Local : Chevron Phillips Chemicals International N.V.
Airport Plaza (Stockholm Building)
Leonardo Da Vincilaan 19
1831 Diegem
Belgium

SDS Requests: (800) 852-5530
Technical Information: (832) 813-4862
Responsible Party: Product Safety Group
Email:sds@cpchem.com

Emergency telephone:**Health:**

866.442.9628 (North America)
1.832.813.4984 (International)

Transport:

CHEMTREC 800.424.9300 or 703.527.3887(int'l)
Asia: CHEMWATCH (+612 9186 1132) China: 0532 8388 9090
EUROPE: BIG +32.14.584545 (phone) or +32.14583516 (telefax)
Mexico CHEMTREC 01-800-681-9531 (24 hours)
South America SOS-Cotec Inside Brazil: 0800.111.767 Outside Brazil: +55.19.3467.1600
Argentina: +(54)-1159839431

Responsible Department : Product Safety and Toxicology Group
E-mail address : SDS@CPChem.com

Flowzan® Biopolymer

Version 1.12

Revision Date 2018-06-25

Website : www.CPChem.com

SECTION 2: Hazards identification**Classification of the substance or mixture
REGULATION (EC) No 1272/2008**

Not a hazardous substance or mixture according to Regulation (EC) No 1272/2008.

Label elements**Labeling (REGULATION (EC) No 1272/2008)**

Not a hazardous substance or mixture according to Regulation (EC) No 1272/2008.

SECTION 3: Composition/information on ingredients

Synonyms : None Established

Molecular formula : Mixture

Contains no hazardous ingredients according to GHS. :

Remarks : Contains no hazardous ingredients according to GHS.

SECTION 4: First aid measures

General advice : No hazards which require special first aid measures.

If inhaled : If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician.

In case of skin contact : Wash off with soap and water.

In case of eye contact : Remove contact lenses. Protect unharmed eye. If eye irritation persists, consult a specialist.

If swallowed : Keep respiratory tract clear. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.

SECTION 5: Firefighting measures

Flash point : Not applicable

Autoignition temperature : No data available

Specific hazards during fire fighting : Risks of ignition followed by flame propagation or secondary explosions can be caused by the accumulation of dust, e.g. on floors and ledges.

Flowzan® Biopolymer

Version 1.12

Revision Date 2018-06-25

- | | | |
|--|---|---|
| Special protective equipment for fire-fighters | : | Wear self-contained breathing apparatus for firefighting if necessary. |
| Further information | : | Standard procedure for chemical fires. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| Fire and explosion protection | : | Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Provide appropriate exhaust ventilation at places where dust is formed. |
| Hazardous decomposition products | : | No data available. |

SECTION 6: Accidental release measures

- | | | |
|---------------------------|---|--|
| Personal precautions | : | Avoid dust formation. |
| Environmental precautions | : | If the product contaminates rivers and lakes or drains inform respective authorities. |
| Methods for cleaning up | : | Pick up and arrange disposal without creating dust. Clean up promptly by sweeping or vacuum. Keep in suitable, closed containers for disposal. |
| Additional advice | : | Contaminated surfaces will be extremely slippery. Avoid spillage on floor as the product can become very slippery when wet. Sweep up to prevent slipping hazard. Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Special exposure hazards arising from the substance or mixture itself, combustion products, resulting gases |

SECTION 7: Handling and storage**Handling**

- | | | |
|---|---|---|
| Advice on safe handling | : | For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary, but may not by themselves be sufficient. |
| Advice on protection against fire and explosion | : | Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Provide appropriate exhaust ventilation at places where dust is formed. |

Storage

- | | | |
|---|---|---|
| Requirements for storage areas and containers | : | Electrical installations / working materials must comply with the technological safety standards. |
|---|---|---|

Flowzan® Biopolymer

Version 1.12

Revision Date 2018-06-25

Advice on common storage : No materials to be especially mentioned.

SECTION 8: Exposure controls/personal protection**Ingredients with workplace control parameters****SE**

Beståndsdelar	Grundval	Värde	Kontrollparametrar	Anmärkning
Saturated monocarboxylic acid, calcium salt	SE AFS	NGV	5 mg/m3	2, 43, 42, Totalt damm

- 2 Med inhaled damm menas den dammfraction som definieras i svensk standard SS-EN 481, Arbetsplatsluft - Partikelstorleksfraktioner för mätning av luftburna partiklar, Utgåva 1, 1993, punkt 2.3 och som har en provtagningskaraktäristik enligt punkt 5.1. Med respirabelt damm menas den dammfraction som definieras i svensk standard SS-EN 481, Arbetsplatsluft - Partikelstorleksfraktioner för mätning av luftburna partiklar, Utgåva 1, 1993, punkt 2.11 och som har en provtagningskaraktäristik enligt punkt 5.3. Med totaldamm menas de partiklar (aerosoler) som fastnar på ett filter i den provtagare som beskrivs i Metodserien, Provtagning av totaldamm och respirabelt damm, Metod nr 1010, Arbetarskyddsstyrelsen, numera Arbetsmiljöverket. Filterdiametern är normalt 37 mm, men kan även vara 25 mm. Trots sitt namn provtas inte den totala mängden luftburna partiklar med denna metod.
- 42 Gränsvärdet gäller inte sådana metallstearater som innehåller toxiska metaller, t.ex. bly. I detta fall ska gränsvärdet för bly användas
- 43 Aerosoler av svavelsyra har i studier visats vara cancerframkallande.

PT

Componentes	Bases	Valor	Parâmetros de controlo	Nota
Saturated monocarboxylic acid, calcium salt	PT OEL	VLE-MP	10 mg/m3	(J), A4, irritação do TRS,

- (J) Não inclui estearatos de metais tóxicos
- A4 Agente não classificável como carcinogénico no Homem.
- irritação do trato respiratório superior
- TRS

LT

Komponentai	Pagrindas, bazė	Vertė	Kontrolės parametrai	Pastaba
Saturated monocarboxylic acid, calcium salt	LT OEL	IPRD	5 mg/m3	

IE

Ingredients	Basis	Value	Control parameters	Note
Saturated monocarboxylic acid, calcium salt	IE OEL	OELV - 8 hrs (TWA)	10 mg/m3	

ES

Componentes	Base	Valor	Parámetros de control	Nota
Saturated monocarboxylic acid, calcium salt	ES VLA	VLA-ED	10 mg/m3	

BE

Bestanddelen	Basis	Waarde	Controleparameters	Opmerking
Saturated monocarboxylic acid, calcium salt	BE OEL	TGG 8 hr	10 mg/m3	

Engineering measures

Adequate ventilation to control airborne concentrations below the exposure guidelines/limits. Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

Personal protective equipment

Respiratory protection : Wear a supplied-air NIOSH approved respirator unless ventilation or other engineering controls are adequate to maintain minimal oxygen content of 19.5% by volume under normal atmospheric pressure. Wear a NIOSH approved

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respirator that provides protection when working with this material if exposure to harmful levels of airborne material may occur, such as: Air-Purifying Respirator for Dusts and Mists / P100. Use a positive pressure, air-supplying respirator if there is potential for uncontrolled release, exposure levels are not known, or other circumstances where air-purifying respirators may not provide adequate protection.

- Hand protection : The suitability for a specific workplace should be discussed with the producers of the protective gloves. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
- Eye protection : Eye wash bottle with pure water. Safety glasses.
- Skin and body protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. Wear as appropriate: Protective suit. Safety shoes.
- Hygiene measures : General industrial hygiene practice.

SECTION 9: Physical and chemical properties**Information on basic physical and chemical properties****Appearance**

- Form : Powder
- Physical state : Solid
- Color : Cream to light yellow
- Odor : Slight
- Odor Threshold : No data available

Safety data

- Flash point : Not applicable
- Lower explosion limit : No data available
- Upper explosion limit : No data available
- Oxidizing properties : No
- Autoignition temperature : No data available
- Molecular formula : Mixture
- Molecular weight : Not applicable
- pH : 5,5 - 8,5
- Pour point : No data available

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Boiling point/boiling range	: Not applicable
Vapor pressure	: Not applicable
Relative density	: 1,4 - 1,6
Water solubility	: Completely Soluble
Partition coefficient: n-octanol/water	: No data available
Viscosity, kinematic	: No data available
Relative vapor density	: Not applicable
Evaporation rate	: No data available

SECTION 10: Stability and reactivity

Chemical stability	: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
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Possibility of hazardous reactions

Conditions to avoid	: Generation of Dusts.
Hazardous decomposition products	: No data available
Other data	: No decomposition if stored and applied as directed.

SECTION 11: Toxicological information

Flowzan® Biopolymer Further information	: The product contains no substances classified as hazardous to health in concentrations which should be taken into account.
--	--

SECTION 12: Ecological information**Elimination information (persistence and degradability)**

Biodegradability	: Taking into consideration the properties of several ingredients, the product is estimated to be biodegradable according to OECD classification.
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Ecotoxicology Assessment

Results of PBT assessment	: This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or
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very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Additional ecological
information

: This material is not expected to be harmful to aquatic organisms.

SECTION 13: Disposal considerations

The information in this SDS pertains only to the product as shipped.

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by US EPA under RCRA (40 CFR 261) or other State and local regulations. Measurement of certain physical properties and analysis for regulated components may be necessary to make a correct determination. If this material is classified as a hazardous waste, federal law requires disposal at a licensed hazardous waste disposal facility.

Contaminated packaging

: Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14: Transport information

The shipping descriptions shown here are for bulk shipments only, and may not apply to shipments in non-bulk packages (see regulatory definition).

Consult the appropriate domestic or international mode-specific and quantity-specific Dangerous Goods Regulations for additional shipping description requirements (e.g., technical name or names, etc.) Therefore, the information shown here, may not always agree with the bill of lading shipping description for the material. Flashpoints for the material may vary slightly between the SDS and the bill of lading.

US DOT (UNITED STATES DEPARTMENT OF TRANSPORTATION)

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

ADR (AGREEMENT ON DANGEROUS GOODS BY ROAD (EUROPE))

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

RID (REGULATIONS CONCERNING THE INTERNATIONAL TRANSPORT OF DANGEROUS GOODS (EUROPE))

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

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ADN (EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY INLAND WATERWAYS)

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

SECTION 15: Regulatory information**National legislation**

Major Accident Hazard Legislation : 96/82/EC Update: 2003
Directive 96/82/EC does not apply

Water contaminating class (Germany) : WGK 1 slightly water endangering

Other Registrations

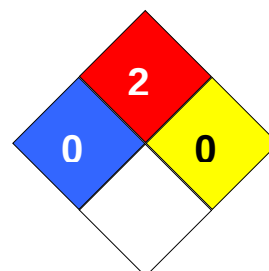
Regulation Registration number
Danish PR number: 1764847

Notification status

Europe REACH : On the inventory, or in compliance with the inventory
United States of America (USA) : On TSCA Inventory
TSCA
Canada DSL : All components of this product are on the Canadian DSL
Australia AICS : On the inventory, or in compliance with the inventory
New Zealand NZIoC : On the inventory, or in compliance with the inventory
Japan ENCS : On the inventory, or in compliance with the inventory
Korea KECI : On the inventory, or in compliance with the inventory
Philippines PICCS : On the inventory, or in compliance with the inventory
China IECSC : On the inventory, or in compliance with the inventory

SECTION 16: Other information

NFPA Classification : Health Hazard: 0
Fire Hazard: 2
Reactivity Hazard: 0



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Revision Date 2018-06-25

Further information

Legacy SDS Number : 463650

Significant changes since the last version are highlighted in the margin. This version replaces all previous versions.

The information in this SDS pertains only to the product as shipped.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Key or legend to abbreviations and acronyms used in the safety data sheet			
ACGIH	American Conference of Government Industrial Hygienists	LD50	Lethal Dose 50%
AICS	Australia, Inventory of Chemical Substances	LOAEL	Lowest Observed Adverse Effect Level
DSL	Canada, Domestic Substances List	NFPA	National Fire Protection Agency
NDSL	Canada, Non-Domestic Substances List	NIOSH	National Institute for Occupational Safety & Health
CNS	Central Nervous System	NTP	National Toxicology Program
CAS	Chemical Abstract Service	NZIoC	New Zealand Inventory of Chemicals
EC50	Effective Concentration	NOAEL	No Observable Adverse Effect Level
EC50	Effective Concentration 50%	NOEC	No Observed Effect Concentration
EGEST	EOSCA Generic Exposure Scenario Tool	OSHA	Occupational Safety & Health Administration
EOSCA	European Oilfield Specialty Chemicals Association	PEL	Permissible Exposure Limit
EINECS	European Inventory of Existing Chemical Substances	PICCS	Philippines Inventory of Commercial Chemical Substances
MAK	Germany Maximum Concentration Values	PRNT	Presumed Not Toxic
GHS	Globally Harmonized System	RCRA	Resource Conservation Recovery Act
>=	Greater Than or Equal To	STEL	Short-term Exposure Limit
IC50	Inhibition Concentration 50%	SARA	Superfund Amendments and Reauthorization Act.
IARC	International Agency for Research on Cancer	TLV	Threshold Limit Value
IECSC	Inventory of Existing Chemical Substances in China	TWA	Time Weighted Average
ENCS	Japan, Inventory of Existing and New Chemical Substances	TSCA	Toxic Substance Control Act
KECI	Korea, Existing Chemical Inventory	UVCB	Unknown or Variable Composition, Complex Reaction Products, and Biological Materials
<=	Less Than or Equal To	WHMIS	Workplace Hazardous Materials Information System
LC50	Lethal Concentration 50%		

Formation Seal

A safety data sheet is not required for this product under Article 31 of REACH

Issuing Date 26-Jan-2018

Revision date 26-Apr-2022

Version 2.5

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product Code NDF00340

Product Name Formation Seal

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use lost circulation material

Uses advised against No information available

1.3. Details of the supplier of the safety data sheet

Supplier

Newpark Drilling Fluids S.p.A.

Via Salaria 1313/C

00138 ROMA (Italy)

For further information, please contact

Contact Point Telephone: + 39 06 8856111

Fax: +39 06 8889363

Website: www.newpark.com

E-mail address hse-hqit@newpark.com

1.4. Emergency telephone number

Emergency Telephone - §45 - (EC)1272/2008	
Europe	112
Croatia	+385 1 7776 920 ; +385 01 2348 342 (Centar za kontrolu otrovanja, 24 sata)
France	+(33)-975181407
Germany	0800-181-7059; +(49)- 69643508409
Hungary	+(36)-18088425
Italy	800-789-767; +(39)-0245557031 Milano 24/24 Ospedale Niguarda Ca'grande Piazza ospedale maggiore 3 +39 0266101029 Roma 24/24 Policlinico Gemelli Largo Agostino Gemelli 8 +39 063054343
Netherlands	+(31)-858880596
Romania	+(40)-37-6300026
Spain	900-868538; +(34)-931768545

Switzerland	145, (+41) 435082011
United Kingdom	+(44)-870-8200418

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

2.2. Label elements

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

Hazard statements

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

2.3. Other hazards

This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

SECTION 3: Composition/information on ingredients

3.1 Substances

Not applicable

3.2 Mixtures

The product contains no substances which at their given concentration, are considered to be hazardous to health

Full text of H- and EUH-phrases: see section 16

Acute Toxicity Estimate

No information available

This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (Regulation (EC) No. 1907/2006 (REACH), Article 59)

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	Remove to fresh air.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Skin contact	Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.
Ingestion	Rinse mouth.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms No information available.

4.3. Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Large Fire CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media Do not scatter spilled material with high pressure water streams.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical No information available.

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation.

For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Take up mechanically, placing in appropriate containers for disposal.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling Ensure adequate ventilation.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep container tightly closed in a dry and well-ventilated place.
Storage class (TRGS 510)	13: Non-combustible solids that cannot be assigned to any other storage classes
7.3. Specific end use(s)	
Identified uses	
Risk Management Methods (RMM)	The information required is contained in this Safety Data Sheet.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits	This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.
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Biological occupational exposure limits

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Derived No Effect Level (DNEL)	No information available.
Predicted No Effect Concentration (PNEC)	No information available.

8.2. Exposure controls

Engineering controls	No information available.
Personal protective equipment	
Eye/face protection	Wear safety glasses with side shields (or goggles). Eye protection must conform to standard EN 166.
Skin and body protection	Wear suitable protective clothing. (EN 340).
Respiratory protection	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required. (EN 136, EN 140, EN 141, EN 143, EN 149, EN 405).
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice.
Environmental exposure controls	No information available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Solid
Appearance	Powder
Color	beige to dark brown
Odor	No information available.
Odor threshold	No information available

Property	Values	Remarks • Method
Melting point / freezing point		No information available
Boiling point / boiling range		No information available

Flammability (solid, gas)	No information available
Flammability Limit in Air	No information available
Upper flammability limit:	
Lower flammability limit:	
Flash point	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
pH	No information available
pH (as aqueous solution)	No information available
Kinematic viscosity	Not applicable
Dynamic viscosity	Not applicable
Water solubility	Insoluble in water
Solubility(ies)	No information available
Partition coefficient	No information available
Vapor pressure	No information available
Relative density	1.25 - 1.35
Bulk density	
Liquid Density	
Vapor density	No information available
Particle characteristics	No information available
Particle Size	
Particle Size Distribution	

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Not applicable

Explosive properties

Not an explosive

Oxidizing properties

Not applicable

9.2.2. Other safety characteristics

No information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity Not reactive under normal conditions.

10.2. Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

10.4. Conditions to avoid

Conditions to avoid None known based on information supplied.

10.5. Incompatible materials

Incompatible materials None known based on information supplied.

10.6. Hazardous decomposition products

Hazardous Decomposition Products None known based on information supplied.

SECTION 11: Toxicological information**11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008****Information on likely routes of exposure****Product Information**

Inhalation	Specific test data for the substance or mixture is not available.
Eye contact	Specific test data for the substance or mixture is not available.
Skin contact	Specific test data for the substance or mixture is not available.
Ingestion	Specific test data for the substance or mixture is not available.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms	No information available.
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Numerical measures of toxicity

No information available

Acute toxicity

100 % of the mixture consists of ingredient(s) of unknown acute oral toxicity.
100 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity.
100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas).
100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor).
100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist).

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	No information available.
Serious eye damage/eye irritation	No information available.
Respiratory or skin sensitization	No information available.
Germ cell mutagenicity	No information available.
Carcinogenicity	No information available.
Reproductive toxicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Aspiration hazard	Not applicable.

11.2. Information on other hazards**11.2.1. Endocrine disrupting properties**

Endocrine disrupting properties No information available.

11.2.2. Other information

Other adverse effects No information available.

SECTION 12: Ecological information**12.1. Toxicity**

Ecotoxicity The environmental impact of this product has not been fully investigated.

Unknown aquatic toxicity Contains 100 % of components with unknown hazards to the aquatic environment.

12.2. Persistence and degradability

Persistence and degradability No information available.

12.3. Bioaccumulative potential

Bioaccumulation No information available.

12.4. Mobility in soil

Mobility in soil No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment The product does not contain any substance(s) classified as PBT or vPvB.

12.6. Endocrine disrupting properties

Endocrine disrupting properties No information available.

12.7. Other adverse effects

No information available.

SECTION 13: Disposal considerations**13.1. Waste treatment methods**

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

Waste codes / waste designations according to EWC / AVV Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14: Transport information**IATA**

14.1 UN number or ID number	Not regulated
14.2 Proper shipping name	Not Regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	None

IMDG

14.1 UN number or ID number	Not regulated
14.2 Proper shipping name	Not Regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing Group	Not Regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	None
14.7 Maritime transport in bulk according to IMO instruments	No information available

RID

14.1 UN/ID no	Not Regulated
14.2 Proper shipping name	Not Regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing Group	Not Regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	None

ADR

14.1 UN number or ID number	Not regulated
14.2 Proper shipping name	Not Regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing Group	Not Regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	None

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Germany

Water hazard class (WGK) slightly hazardous to water (WGK 1)

Italy

-D. LGs. 81/2008 (single text on the protection of health and safety in the workplace) and subsequent amendments and Directive 2009/161/EU-assessment of chemical risk under title IX

-Legislative Decree 3 April 2006, no 152 (environmental standards)

-"Seveso III Directive" – Legislative Decree of 26 June 2015, n° 105 (Implementation of the Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances)

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Authorizations and/or restrictions on use:

This product does not contain substances subject to authorization (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Persistent Organic Pollutants

Not applicable

Ozone-depleting substances (ODS) regulation (EC) 1005/2009

Not applicable

International Inventories

TSCA	Does not comply
DSL/NDL	Does not comply
EINECS/ELINCS	Complies
ENCS	Does not comply
IECSC	Does not comply
KECL	Does not comply
PICCS	Does not comply
AICS	Does not comply
NZIoC	Does not comply

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

15.2. Chemical safety assessment

Chemical Safety Report No information available

SECTION 16: Other information**Key or legend to abbreviations and acronyms used in the safety data sheet****Legend**

SVHC: Substances of Very High Concern for Authorization:

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
+	Sensitizers		

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
 U.S. Environmental Protection Agency ChemView Database
 European Food Safety Authority (EFSA)
 European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
 European Chemicals Agency (ECHA) (ECHA_API)
 EPA (Environmental Protection Agency)
 Acute Exposure Guideline Level(s) (AELG(s))
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
 U.S. Environmental Protection Agency High Production Volume Chemicals
 Food Research Journal

Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
Japan GHS Classification
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
World Health Organization

Issuing Date 26-Jan-2018

Revision date 26-Apr-2022

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

Disclaimer

According to Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006, as amended by Regulation (EU) No. 2015/830. This document is provided as an information resource relating exclusively to the product or material described herein. The information contained herein may not be applicable to other products/ materials or processes and may not be valid when this product/material is used in combination with any other product/material or process. The information provided in this document is compiled by Newpark Drilling Fluids LLC or its representatives from various sources including manufacturers, suppliers and other third-party sources, and is based on the information available as of the indicated date of preparation. As the conditions under which this product could be used will vary and may not be within the control of Newpark Drilling Fluids LLC there is no guarantee that the precautions outlined above will be sufficient for all individuals or situations. The buyer assumes all responsibility for using and handling the product in accordance with federal, state, provincial, or local regulations. For the product/ material described in this document, NO WARRANTY IS MADE, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE.

End of Safety Data Sheet

Magnesium oxide

A safety data sheet is not required for this product under Article 31 of REACH

Issuing Date 30-Apr-2021

Revision date 09-Oct-2023

Version 1.2

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product Code RM315842

Product Name Magnesium oxide

EC No (EU Index No) 215-171-9

Pure substance/mixture Substance

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use No information available

Uses advised against No information available

1.3. Details of the supplier of the safety data sheet

Supplier

Newpark Drilling Fluids S.r.l.

Via Salaria 1313/C

00138 ROMA (Italy)

For further information, please contact

Contact Point Telephone: + 39 06 8856111

Fax: +39 06 8889363

Website: www.newpark.com

E-mail address hse-hqit@newpark.com

1.4. Emergency telephone number

Emergency Telephone - §45 - (EC)1272/2008	
Europe	112
Croatia	+385 1 7776 920 ; +385 01 2348 342 (Centar za kontrolu otrovanja, 24 sata)
Cyprus	1401
France	+(33)-975181407
Germany	0800-181-7059; +(49)- 69643508409
Hungary	+(36)-18088425
Italy	800-789-767; +(39)-0245557031 Milano 24/24 Ospedale Niguarda Ca'grande Piazza ospedale maggiore 3 +39 0266101029 Roma 24/24 Policlinico Gemelli Largo Agostino Gemelli 8

	+39 063054343
Netherlands	+(31)-858880596
Romania	+40213183606, Institutul Național de Sănătate Publică (L-V între 08.00-15.00)
Spain	900-868538; +(34)-931768545
Switzerland	145, (+41) 435082011
United Kingdom	+(44)-870-8200418

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

This substance is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

2.2. Label elements

This substance is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

Hazard statements

This substance is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

EUH210 - Safety data sheet available on request

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.1 Substances

Chemical name	Weight-%	REACH registration number	EC No (EU Index No)	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
Magnesium oxide 1309-48-4	100	See NOTE[5]	215-171-9	No data available	-	-	-

The substance does not require registration according to REACH - Notes

NOTE [5] - This substance is exempted from registration according to the provisions of Article 2(7)(b) and Annex V of REACH

Full text of H- and EUH-phrases: see section 16

Acute Toxicity Estimate

No information available

Chemical name	Oral LD50 mg/kg	Dermal LD50 mg/kg	Inhalation LC50 - 4 hour - dust/mist - mg/L	Inhalation LC50 - 4 hour - vapor - mg/L	Inhalation LC50 - 4 hour - gas - ppm
Magnesium oxide 1309-48-4	3870 3990	No data available	No data available	No data available	No data available

This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (Regulation (EC) No. 1907/2006 (REACH), Article 59)

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	Remove to fresh air.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Skin contact	In the case of skin irritation or allergic reactions see a physician. Wash skin with soap and water.
Ingestion	Rinse mouth.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms No information available.

4.3. Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

SECTION 5: Firefighting measures**5.1. Extinguishing media**

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Large Fire CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media Do not scatter spilled material with high pressure water streams.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical No information available.

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Personal precautions Ensure adequate ventilation.

For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Take up mechanically, placing in appropriate containers for disposal.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling Ensure adequate ventilation.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed in a dry and well-ventilated place.

7.3. Specific end use(s)

Risk Management Methods (RMM) The information required is contained in this Safety Data Sheet.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits

Chemical name	European Union	Austria	Belgium	Bulgaria	Croatia
Magnesium oxide 1309-48-4	-	TWA: 5 mg/m ³ TWA: 10 mg/m ³ STEL 20 mg/m ³ STEL 10 mg/m ³	TWA: 10 mg/m ³	TWA: 10.0 mg/m ³	TWA: 4 mg/m ³ TWA: 10 mg/m ³
Chemical name	Cyprus	Czech Republic	Denmark	Estonia	Finland
Magnesium oxide 1309-48-4	-	TWA: 5 mg/m ³ Ceiling: 10 mg/m ³	TWA: 6 mg/m ³	-	-
Chemical name	France	Germany TRGS	Germany DFG	Greece	Hungary
Magnesium oxide 1309-48-4	TWA: 10 mg/m ³	TWA: 1.25 mg/m ³ TWA: 10 mg/m ³	TWA: 0.3 mg/m ³ TWA: 4 mg/m ³ Peak: 2.4 mg/m ³	TWA: 10 mg/m ³ TWA: 5 mg/m ³	TWA: 6 mg/m ³
Chemical name	Ireland	Italy MDLPS	Italy AIDII	Latvia	Lithuania
Magnesium oxide 1309-48-4	TWA: 4 mg/m ³ TWA: 5 mg/m ³ TWA: 10 mg/m ³ STEL: 10 mg/m ³ STEL: 12 mg/m ³ STEL: 30 mg/m ³	-	TWA: 10 mg/m ³	-	TWA: 4 mg/m ³
Chemical name	Luxembourg	Malta	Netherlands	Norway	Poland
Magnesium oxide 1309-48-4	-	-	-	TWA: 10 mg/m ³ STEL: 20 mg/m ³	TWA: 10 mg/m ³
Chemical name	Portugal	Romania	Slovakia	Slovenia	Spain
Magnesium oxide 1309-48-4	TWA: 10 mg/m ³	TWA: 5 mg/m ³ STEL: 15 mg/m ³	TWA: 10 mg/m ³ TWA: 4 mg/m ³	-	TWA: 10 mg/m ³
Chemical name	Sweden		Switzerland		United Kingdom
Magnesium oxide 1309-48-4	-		TWA: 3 mg/m ³		TWA: 10 mg/m ³ TWA: 4 mg/m ³ STEL: 30 mg/m ³ STEL: 12 mg/m ³

Biological occupational exposure limits

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific

regulatory bodies.

Derived No Effect Level (DNEL) No information available.
Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Engineering controls No information available.

Personal protective equipment

Eye/face protection No special protective equipment required.

Skin and body protection No special protective equipment required.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls No information available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state Solid
Color White
Odor No information available.
Odor threshold No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Melting point / freezing point	2800 °C	
Boiling point / boiling range	3600 °C	
Flammability (solid, gas)		No information available
Flammability Limit in Air		No information available
Upper flammability limit:		
Lower flammability limit:		
Flash point		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
pH		No information available
pH (as aqueous solution)		No information available
Kinematic viscosity		No information available
Dynamic viscosity		No information available
Water solubility		No information available
Solubility(ies)		No information available
Partition coefficient		No information available
Vapor pressure		No information available
Relative density	3.6	
Bulk density		
Liquid Density		
Vapor density		No information available
Particle characteristics		No information available
Particle Size		
Particle Size Distribution		

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Not applicable

9.2.2. Other safety characteristics

No information available

SECTION 10: Stability and reactivity**10.1. Reactivity****Reactivity** No information available.**10.2. Chemical stability****Stability** Stable under normal conditions.**Explosion data****Sensitivity to mechanical impact** None.**Sensitivity to static discharge** None.**10.3. Possibility of hazardous reactions****Possibility of hazardous reactions** None under normal processing.**10.4. Conditions to avoid****Conditions to avoid** Heat, flames and sparks.**10.5. Incompatible materials****Incompatible materials** Acids. Interhalogens. Phosphorus pentachloride. May ignite or explode when heated with aluminum powder.**10.6. Hazardous decomposition products****Hazardous Decomposition Products** May evolve magnesium oxides when heated to decomposition.**SECTION 11: Toxicological information****11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008****Information on likely routes of exposure****Product Information****Inhalation** Specific test data for the substance or mixture is not available.**Eye contact** Specific test data for the substance or mixture is not available.**Skin contact** Specific test data for the substance or mixture is not available.**Ingestion** Specific test data for the substance or mixture is not available.**Symptoms related to the physical, chemical and toxicological characteristics****Symptoms** No information available.**Numerical measures of toxicity****Acute toxicity**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Magnesium oxide	= 3870 mg/kg (Rat) = 3990 mg/kg (Rat)	-	-

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation No information available.

Serious eye damage/eye irritation No information available.

Respiratory or skin sensitization No information available.

Germ cell mutagenicity No information available.

Carcinogenicity No information available.

Reproductive toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Aspiration hazard No information available.

11.2. Information on other hazards**11.2.1. Endocrine disrupting properties**

Endocrine disrupting properties No information available.

11.2.2. Other information

Other adverse effects No information available.

SECTION 12: Ecological information**12.1. Toxicity**

Ecotoxicity The environmental impact of this product has not been fully investigated.

12.2. Persistence and degradability

Persistence and degradability No information available.

12.3. Bioaccumulative potential

Bioaccumulation No information available.

12.4. Mobility in soil

Mobility in soil No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment No information available.

12.6. Endocrine disrupting properties

Endocrine disrupting properties No information available.

12.7. Other adverse effects

No information available.

SECTION 13: Disposal considerations**13.1. Waste treatment methods**

Waste from residues/unused products Dispose of waste in accordance with environmental legislation. Dispose of in accordance with local regulations.

Contaminated packaging Do not reuse empty containers.

Waste codes / waste designations according to EWC / AVV Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14: Transport information**IATA**

14.1 UN number or ID number Not regulated
 14.2 Proper shipping name Not Regulated
 14.3 Transport hazard class(es) Not regulated
 14.4 Packing group Not regulated
 14.5 Environmental hazard Not applicable
 14.6 Special precautions for user
 Special Provisions None

IMDG

14.1 UN number or ID number Not regulated
 14.2 Proper shipping name Not Regulated
 14.3 Transport hazard class(es) Not regulated
 14.4 Packing Group Not Regulated
 14.5 Environmental hazard Not applicable
 14.6 Special precautions for user
 Special Provisions None
 14.7 Maritime transport in bulk according to IMO instruments No information available

RID

14.1 UN/ID no Not Regulated
 14.2 Proper shipping name Not Regulated
 14.3 Transport hazard class(es) Not regulated
 14.4 Packing Group Not Regulated
 14.5 Environmental hazard Not applicable
 14.6 Special precautions for user
 Special Provisions None

ADR

14.1 UN number or ID number	Not regulated
14.2 Proper shipping name	Not Regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing Group	Not Regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	None

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Italy

-D. LGs. 81/2008 (single text on the protection of health and safety in the workplace) and subsequent amendments and Directive 2009/161/EU-assessment of chemical risk under title IX
 -Legislative Decree 3 April 2006, no 152 (environmental standards)
 -"Seveso III Directive" – Legislative Decree of 26 June 2015, n° 105 (Implementation of the Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances)

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Authorizations and/or restrictions on use:

This product does not contain substances subject to authorization (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Persistent Organic Pollutants

Not applicable

Ozone-depleting substances (ODS) regulation (EC) 1005/2009

Not applicable

International Inventories

TSCA	Complies
DSL/NDL	Complies
EINECS/ELINCS	Contact supplier for inventory compliance status
ENCS	Contact supplier for inventory compliance status
IECSC	Contact supplier for inventory compliance status
KECL	Contact supplier for inventory compliance status
PICCS	Contact supplier for inventory compliance status
AICS	Contact supplier for inventory compliance status

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
 DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List
 EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
 ENCS - Japan Existing and New Chemical Substances
 IECSC - China Inventory of Existing Chemical Substances
 KECL - Korean Existing and Evaluated Chemical Substances
 PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

15.2. Chemical safety assessment

Chemical Safety Report

Chemical safety assessments for substances in this mixture were not carried out

SECTION 16: Other information

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend

SVHC: Substances of Very High Concern for Authorization:

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
+	Sensitizers		

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
European Chemicals Agency (ECHA) (ECHA_API)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
Japan GHS Classification
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
World Health Organization

Issuing Date 30-Apr-2021

Revision date 09-Oct-2023

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

Disclaimer

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1999/45/EC, and amending Regulation (EC) No 1907/2006, as amended by Regulation (EC) No. 2020/878.

End of Safety Data Sheet

A safety data sheet is not required for this product under Article 31 of REACH

Revision date 04-Sep-2023

Version 1.2

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1

1.1. Product identifier

Product Code NDF00001

Product Name NewBar™

Pure substance/mixture Substance

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Weighting material

Uses advised against No information available

1.3. Details of the supplier of the safety data sheet

Supplier

Newpark Drilling Fluids S.r.l.

Via Salaria 1313/C

00138 ROMA (Italy)

For further information, please contact

Contact Point Telephone: + 39 06 8856111
 Fax: +39 06 8889363
 Website: www.newpark.com

E-mail address hse-hqit@newpark.com

1.4. Emergency telephone number

Emergency Telephone - §45 - (EC)1272/2008	
Europe	112
Croatia	+385 1 7776 920 ; +385 01 2348 342 (Centar za kontrolu otrovanja, 24 sata)
Cyprus	1401
France	+(33)-975181407
Germany	0800-181-7059; +(49)- 69643508409
Hungary	+(36)-18088425
Italy	800-789-767; +(39)-0245557031 Milano 24/24 Ospedale Niguarda Ca'grande Piazza ospedale maggiore 3 +39 0266101029 Roma 24/24 Policlinico Gemelli Largo Agostino Gemelli 8 +39 063054343

Netherlands	+(31)-858880596
Romania	+40213183606, Institutul Național de Sănătate Publică (L-V între 08.00-15.00)
Spain	900-868538; +(34)-931768545
Switzerland	145, (+41) 435082011
United Kingdom	+(44)-870-8200418

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

This substance is classified as not hazardous according to regulation (EC) 1272/2008 [CLP] This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

2.2. Label elements

This substance is classified as not hazardous according to regulation (EC) 1272/2008 [CLP] This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

Hazard statements

This substance is classified as not hazardous according to regulation (EC) 1272/2008 [CLP] This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

EUH210 - Safety data sheet available on request

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.1 Substances

Not applicable

3.2 Mixtures

Chemical name	Weight-%	REACH registration number	EC No (EU Index No)	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
Barium sulfate 7727-43-7	>87	*	231-784-4	Acute Tox. 4 (H302) Acute Tox. 4 (H332)	-	-	-
Kaolin 1332-58-7	< 5	No data available	310-194-1	No data available	-	-	-
Calcium carbonate 1317-65-3	3-7	EXEMPT	215-279-6	No data available	-	-	-
Quartz 14808-60-7	<3	01-2120770509-45-XX XX	238-878-4	Carc. 1A (H350) STOT RE 2 (H373)	-	-	-

Full text of H- and EUH-phrases: see section 16

Acute Toxicity Estimate

No information available

Chemical name	Oral LD50 mg/kg	Dermal LD50 mg/kg	Inhalation LC50 - 4 hour - dust/mist - mg/L	Inhalation LC50 - 4 hour - vapor - mg/L	Inhalation LC50 - 4 hour - gas - ppm
Barium sulfate 7727-43-7	307000	No data available	No data available	No data available	No data available
Kaolin	5000	5000	No data available	No data available	No data available

Chemical name	Oral LD50 mg/kg	Dermal LD50 mg/kg	Inhalation LC50 - 4 hour - dust/mist - mg/L	Inhalation LC50 - 4 hour - vapor - mg/L	Inhalation LC50 - 4 hour - gas - ppm
1332-58-7					

This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (Regulation (EC) No. 1907/2006 (REACH), Article 59)

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	Remove to fresh air.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Skin contact	In the case of skin irritation or allergic reactions see a physician. Wash skin with soap and water.
Ingestion	Rinse mouth.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms	No information available.
----------	---------------------------

4.3. Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptomatically.
--------------------	------------------------

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Large Fire	CAUTION: Use of water spray when fighting fire may be inefficient.
Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical	No information available.
--	---------------------------

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.
--	--

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Ensure adequate ventilation.
----------------------	------------------------------

For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Take up mechanically, placing in appropriate containers for disposal.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling Ensure adequate ventilation.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed in a dry and well-ventilated place.

7.3. Specific end use(s)

Risk Management Methods (RMM) The information required is contained in this Safety Data Sheet.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits

Chemical name	European Union	Austria	Belgium	Bulgaria	Croatia
Barium sulfate 7727-43-7	-	-	TWA: 5 mg/m ³	TWA: 10.0 mg/m ³	TWA: 10 mg/m ³ TWA: 4 mg/m ³
Kaolin 1332-58-7	-	-	TWA: 2 mg/m ³	TWA: 3.0 mg/m ³ TWA: 6.0 mg/m ³	TWA: 2 mg/m ³
Calcium carbonate 1317-65-3	-	-	TWA: 10 mg/m ³	TWA: 1.0 fiber/cm ³ TWA: 10 mg/m ³	-
Quartz 14808-60-7	TWA: 0.1 mg/m ³	TWA: 0.05 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³
Chemical name	Cyprus	Czech Republic	Denmark	Estonia	Finland
Kaolin 1332-58-7	-	-	TWA: 2 mg/m ³	-	TWA: 2 mg/m ³
Calcium carbonate 1317-65-3	-	TWA: 10.0 mg/m ³	-	TWA: 10 mg/m ³ TWA: 5 mg/m ³	-
Quartz 14808-60-7	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.3 mg/m ³ TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.05 mg/m ³ TWA: 0.1 mg/m ³
Chemical name	France	Germany TRGS	Germany DFG	Greece	Hungary
Barium sulfate 7727-43-7	-	TWA: 1.25 mg/m ³ TWA: 10 mg/m ³	TWA: 4 mg/m ³ TWA: 0.3 mg/m ³	-	-

			Peak: 2.4 mg/m ³		
Kaolin 1332-58-7	TWA: 10 mg/m ³	-	-	-	-
Calcium carbonate 1317-65-3	-	-	-	TWA: 10 mg/m ³ TWA: 5 mg/m ³	TWA: 10 mg/m ³
Quartz 14808-60-7	TWA: 0.1 mg/m ³	-	-	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³
Chemical name	Ireland	Italy MDLPS	Italy AIDII	Latvia	Lithuania
Barium sulfate 7727-43-7	TWA: 5 mg/m ³ STEL: 15 mg/m ³	-	TWA: 5 mg/m ³	-	-
Kaolin 1332-58-7	TWA: 2 mg/m ³	-	TWA: 2 mg/m ³	-	-
Calcium carbonate 1317-65-3	TWA: 10 mg/m ³ TWA: 4 mg/m ³ STEL: 30 mg/m ³ STEL: 12 mg/m ³	-	-	-	-
Quartz 14808-60-7	TWA: 0.1 mg/m ³ STEL: 0.3 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.025 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³
Chemical name	Luxembourg	Malta	Netherlands	Norway	Poland
Barium sulfate 7727-43-7	-	-	-	TWA: 0.5 mg/m ³ STEL: 1.5 mg/m ³	-
Kaolin 1332-58-7	-	-	-	-	TWA: 10.0 mg/m ³
Quartz 14808-60-7	-	-	TWA: 0.075 mg/m ³ TWA: 0.75 mg/m ³	TWA: 0.05 mg/m ³ TWA: 0.1 mg/m ³ TWA: 0.3 mg/m ³ STEL: 0.9 mg/m ³ STEL: 0.15 mg/m ³ STEL: 0.3 mg/m ³	TWA: 0.1 mg/m ³
Chemical name	Portugal	Romania	Slovakia	Slovenia	Spain
Barium sulfate 7727-43-7	TWA: 5 mg/m ³	-	TWA: 4 mg/m ³ TWA: 1.5 mg/m ³	-	TWA: 10 mg/m ³
Kaolin 1332-58-7	TWA: 2 mg/m ³	-	-	-	TWA: 2 mg/m ³
Calcium carbonate 1317-65-3	-	TWA: 10 mg/m ³	-	-	-
Quartz 14808-60-7	TWA: 0.025 mg/m ³ TWA: 0.05 mg/m ³ TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³ STEL: 0.5 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.05 mg/m ³
Chemical name	Sweden		Switzerland		United Kingdom
Barium sulfate 7727-43-7	-		TWA: 3 mg/m ³		TWA: 10 mg/m ³ TWA: 4 mg/m ³ STEL: 30 mg/m ³ STEL: 12 mg/m ³
Kaolin 1332-58-7	-		TWA: 3 mg/m ³		TWA: 2 mg/m ³ STEL: 6 mg/m ³
Calcium carbonate 1317-65-3	-		-		TWA: 10 mg/m ³ TWA: 4 mg/m ³ STEL: 30 mg/m ³ STEL: 12 mg/m ³
Quartz 14808-60-7	NGV: 0.1 mg/m ³		TWA: 0.15 mg/m ³		TWA: 0.1 mg/m ³ STEL: 0.3 mg/m ³

Biological occupational exposure limits

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Chemical name	European Union	Austria	Bulgaria	Croatia	Czech Republic
Quartz 14808-60-7	-	(-)	-	-	-

Derived No Effect Level (DNEL) No information available.

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Engineering controls No information available.

Personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles). Use eye protection according to EN 166, designed to protect against spray mists.

Skin and body protection Wear suitable protective clothing. (EN 340).

Respiratory protection When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. (EN 136, EN 140, EN 141, EN 143, EN 149, EN 405).

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls No information available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Solid
Appearance	Powder
Color	White to beige, red brown
Odor	Odorless.
Odor threshold	No information available

Property	Values	Remarks • Method
Melting point / freezing point	1580 °C	No information available
Boiling point / boiling range		Not applicable
Flammability (solid, gas)		Not applicable
Flammability Limit in Air		
Upper flammability limit:		
Lower flammability limit:		
Flash point		Not applicable
Autoignition temperature		Not applicable
Decomposition temperature		No information available
pH	8 - 10	5% solution
pH (as aqueous solution)		No information available
Kinematic viscosity		Not applicable
Dynamic viscosity		Not applicable
Water solubility	Insoluble in water	
Solubility(ies)		No information available
Partition coefficient		No information available
Vapor pressure		No information available
Relative density	4.2	
Bulk density		
Liquid Density		
Vapor density		No information available
Particle characteristics		No information available
Particle Size		
Particle Size Distribution		

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Not applicable

Explosive properties	Not an explosive
Oxidizing properties	Not applicable

9.2.2. Other safety characteristics
No information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity Not reactive under normal conditions.

10.2. Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

10.4. Conditions to avoid

Conditions to avoid None known based on information supplied.

10.5. Incompatible materials

Incompatible materials Strong acids.

10.6. Hazardous decomposition products

Hazardous Decomposition Products Oxides of sulfur.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Information on likely routes of exposure

Product Information

Inhalation Specific test data for the substance or mixture is not available.

Eye contact Specific test data for the substance or mixture is not available.

Skin contact Specific test data for the substance or mixture is not available.

Ingestion Specific test data for the substance or mixture is not available.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms No information available.

Numerical measures of toxicity

Acute toxicity

The following values are calculated based on chapter 3.1 of the GHS document

3 % of the mixture consists of ingredient(s) of unknown acute oral toxicity.
 3 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity.
 8 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas).
 8 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor).
 8 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist).

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Barium sulfate	= 307000 mg/kg (Rat)	-	-
Kaolin	> 5000 mg/kg (Rat)	> 5000 mg/kg (Rat)	-

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	No information available.
Serious eye damage/eye irritation	Dust contact with the eyes can lead to mechanical irritation.
Respiratory or skin sensitization	No information available.
Germ cell mutagenicity	No information available.
Carcinogenicity	No information available.
Reproductive toxicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Aspiration hazard	Not applicable.

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Endocrine disrupting properties No information available.

11.2.2. Other information

Other adverse effects No information available.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity	The environmental impact of this product has not been fully investigated.
Unknown aquatic toxicity	Contains 0 % of components with unknown hazards to the aquatic environment.

12.2. Persistence and degradability

Persistence and degradability No information available.

12.3. Bioaccumulative potential

Bioaccumulation No information available.

12.4. Mobility in soil

Mobility in soil No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment The product does not contain any substance(s) classified as PBT or vPvB.

Chemical name	PBT and vPvB assessment
Barium sulfate	The substance is not PBT / vPvB PBT assessment does not apply

12.6. Endocrine disrupting properties

Endocrine disrupting properties No information available.

12.7. Other adverse effects

No information available.

SECTION 13: Disposal considerations**13.1. Waste treatment methods**

Waste from residues/unused products Dispose of waste in accordance with environmental legislation. Dispose of in accordance with local regulations.

Contaminated packaging Do not reuse empty containers.

Waste codes / waste designations according to EWC / AVV Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14: Transport information**IATA**

14.1 UN number or ID number Not regulated
14.2 Proper shipping name Not Regulated
14.3 Transport hazard class(es) Not regulated
14.4 Packing group Not regulated
14.5 Environmental hazard Not applicable
14.6 Special precautions for user
Special Provisions None

IMDG

14.1 UN number or ID number Not regulated
14.2 Proper shipping name Not Regulated
14.3 Transport hazard class(es) Not regulated
14.4 Packing Group Not Regulated
14.5 Environmental hazard Not applicable
14.6 Special precautions for user
Special Provisions None
14.7 Maritime transport in bulk No information available

according to IMO instruments

RID

14.1 UN/ID no	Not Regulated
14.2 Proper shipping name	Not Regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing Group	Not Regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	None

ADR

14.1 UN number or ID number	Not regulated
14.2 Proper shipping name	Not Regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing Group	Not Regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	None

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations

France

Occupational Illnesses (R-463-3, France)

Chemical name	French RG number
Quartz 14808-60-7	RG 25

Germany

Water hazard class (WGK) non-hazardous to water (nwg)

Italy

-D. LGs. 81/2008 (single text on the protection of health and safety in the workplace) and subsequent amendments and Directive 2009/161/EU-assessment of chemical risk under title IX

-Legislative Decree 3 April 2006, no 152 (environmental standards)

-"Seveso III Directive" – Legislative Decree of 26 June 2015, n° 105 (Implementation of the Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances)

Chemical name	Netherlands - List of Carcinogens	Netherlands - List of Mutagens	Netherlands - List of Reproductive Toxins
Quartz	Present	-	-

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Authorizations and/or restrictions on use:

This product does not contain substances subject to authorization (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Persistent Organic Pollutants

Not applicable

Ozone-depleting substances (ODS) regulation (EC) 1005/2009

Not applicable

Chemical name	EU - Plant Protection Products (1107/2009/EC)
Calcium carbonate - 1317-65-3	Plant protection agent
Quartz - 14808-60-7	Plant protection agent

International Inventories

TSCA	Complies
DSL/NDL	Complies
EINECS/ELINCS	Complies
ENCS	Does not comply
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies
NZIoC	Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

15.2. Chemical safety assessment

Chemical Safety Report None

SECTION 16: Other information**Key or legend to abbreviations and acronyms used in the safety data sheet****Full text of H-Statements referred to under section 3**

H302 - Harmful if swallowed

H332 - Harmful if inhaled

Legend

SVHC: Substances of Very High Concern for Authorization:

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
+	Sensitizers		

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)

U.S. Environmental Protection Agency ChemView Database

European Food Safety Authority (EFSA)

European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)

European Chemicals Agency (ECHA) (ECHA_API)

EPA (Environmental Protection Agency)

Acute Exposure Guideline Level(s) (AELG(s))

U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
Japan GHS Classification
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
World Health Organization

Revision date 04-Sep-2023

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

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End of Safety Data Sheet

Data del Rilascio 15-nov-2017

Data di revisione 13-ago-2023

Versione 2.2

SEZIONE 1: Identificazione della sostanza/miscela e della società/impresa

1

1.1. Identificatore del prodotto

Codice del Prodotto	NDF00005
Denominazione del Prodotto	NewCarb™
Sinonimi	NewCarb 2-44, NewCarb 5, NewCarb 10, NewCarb 25, NewCarb 50, NewCarb 150, NewCarb 800, NewCarb 1800, NewCarb 2500
Sostanza/miscela pura	Miscela
Contiene Silice cristallina, quarzo	

1.2. Usi identificati pertinenti della sostanza o della miscela e usi sconsigliati

Uso Raccomandato	Intasante
Usi sconsigliati	Nessuna informazione disponibile

1.3. Informazioni sul fornitore della scheda di dati di sicurezza
Fornitore

Newpark Drilling Fluids S.r.l.
 Via Salaria 1313/C
 00138 ROMA (Italy)
Per ulteriori informazioni, contattare

Punto di Contatto	Telephone: + 39 06 8856111 Fax: +39 06 8889363 Website: www.newpark.com
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Indirizzo e-mail	hse-hqit@newpark.com
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1.4. Numero telefonico di emergenza

Numero telefonico di emergenza - §45 - (CE)1272/2008	
Europa	112
Croazia	+385 1 7776 920 ; +385 01 2348 342 (Centar za kontrolu otrovanja, 24 sata)
Cipro	1401
Francia	+(33)-975181407
Germania	0800-181-7059; +(49)- 69643508409
Ungheria	+(36)-18088425
Italia	800-789-767; +(39)-0245557031 Milano 24/24 Ospedale Niguarda Ca'grande Piazza ospedale maggiore 3 +39 0266101029

	Roma 24/24 Policlinico Gemelli Largo Agostino Gemelli 8 +39 063054343
Paesi Bassi	+(31)-858880596
Romania	+40213183606, Institutul Național de Sănătate Publică (L-V între 08.00-15.00)
Spagna	900-868538; +(34)-931768545
Svizzera	145, (+41) 435082011
Regno Unito	+(44)-870-8200418

SEZIONE 2: Identificazione dei pericoli

2.1. Classificazione della sostanza o della miscela

Regolamento (CE) n. 1272/2008

Cancerogenicità	Categoria 1A - (H350)
Tossicità specifica per organi bersaglio (esposizione ripetuta)	Categoria 2 - (H373)

2.2. Elementi dell'etichetta

Contiene Silice cristallina, quarzo



Segnalazione

Pericolo

Indicazioni di pericolo

H350 - Può provocare il cancro

H373 - Può provocare danni agli organi in caso di esposizione prolungata o ripetuta

Consigli di Prudenza - UE (§28, 1272/2008)

P201 - Procurarsi istruzioni specifiche prima dell'uso

P202 - Non manipolare prima di avere letto e compreso tutte le avvertenze

P260 - Non respirare la polvere/i fumi/i gas/la nebbia/i vapori/gli aerosol

P280 - Indossare guanti/indumenti protettivi/Proteggere gli occhi/il viso

P308 + P313 - IN CASO di esposizione o di possibile esposizione, consultare un medico

P501 - Smaltire il prodotto/recipiente in un impianto di smaltimento approvato

Informazioni supplementari

Questo prodotto richiede indicazioni di pericolo avvertibili al tatto se fornito a privati.

2.3. Altri pericoli

Questa sostanza non soddisfa i criteri PBT/vPvB di REACH, allegato XIII.

SEZIONE 3: Composizione/informazioni sugli ingredienti

3.1 Sostanze

Non applicabile

3.2 Miscele

Denominazione chimica	Peso-%	Numero di registrazione REACH	N. CE (N. indice UE)	Classificazione secondo il regolamento (CE) n. 1272/2008 [CLP]	Limite di concentrazione specifico (SCL)	Fattore M	Fattore M (lungo termine)
Calcare 1317-65-3	95-100	EXEMPT	215-279-6	Nessun informazioni disponibili	-	-	-
Silice cristallina, quarzo 14808-60-7	1-5	01-2120770509-45-XX XX	238-878-4	Carc. 1A (H350) STOT RE 2 (H373)	-	-	-

* Esente

Testo completo di frasi H e EUH: vedere Sezione 16

Stima della Tossicità Acuta

Nessuna informazione disponibile

Questo prodotto non contiene sostanze candidate estremamente preoccupanti a una concentrazione $\geq 0,1\%$ (Regolamento (CE) n. 1907/2006 (REACH), Articolo 59)

SEZIONE 4: Misure di primo soccorso

4.1. Descrizione delle misure di primo soccorso

Avvertenza generica	IN CASO di esposizione o di possibile esposizione, consultare un medico. Mostrare questa scheda di dati di sicurezza al medico presente.
Inalazione	Rimuovere all'aria fresca.
Contatto con gli occhi	Sciacquare bene con abbondante acqua per almeno 15 minuti, sollevando le palpebre inferiori e superiori. Consultare un medico.
Contatto con la pelle	Nel caso di irritazione cutanea o reazioni allergiche, rivolgersi ad un medico. Lavare la pelle con acqua e sapone.
Ingestione	Sciacquare la bocca.

4.2. Principali sintomi ed effetti, sia acuti che ritardati

Sintomi	Nessuna informazione disponibile.
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4.3. Indicazione dell'eventuale necessità di consultare immediatamente un medico e di trattamenti speciali

Nota per i medici	Trattare sintomaticamente.
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SEZIONE 5: Misure di lotta antincendio

5.1. Mezzi di estinzione

Mezzi di Estinzione Idonei	Utilizzare misure estinguenti appropriate alle circostanze locali e all'ambiente circostante.
Grande incendio	ATTENZIONE: l'utilizzo di spruzzo d'acqua per l'estinzione degli incendi potrebbe essere inefficace.
Mezzi di estinzione non idonei	Non disperdere il materiale versato con getti d'acqua ad alta pressione.

5.2. Pericoli speciali derivanti dalla sostanza o dalla miscela

Pericoli specifici derivanti dal prodotto chimico	Nessuna informazione disponibile.
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Prodotti di combustione pericolosi Ossidi di carbonio. Ossidi di calcio.

5.3. Raccomandazioni per gli addetti all'estinzione degli incendi

Equipaggiamento di protezione I vigili del fuoco devono indossare un apparecchio autorespiratore e una tuta ermetica speciale e precauzioni per gli addetti all'estinzione degli incendi. Utilizzare dispositivi di protezione individuale all'estinzione di incendi

SEZIONE 6: Misure in caso di rilascio accidentale

6.1. Precauzioni personali, dispositivi di protezione e procedure in caso di emergenza

Precauzioni individuali	Garantire un'aerazione sufficiente. Utilizzare il dispositivo di protezione individuale richiesto. Evacuare il personale verso le aree sicure.
Altre informazioni	Fare riferimento alle misure di protezione elencate nelle sezioni 7 e 8.
Per chi interviene direttamente	Utilizzare una protezione individuale raccomandata nella Sezione 8.

6.2. Precauzioni ambientali

Precauzioni ambientali	Vedere la Sezione 12 per ulteriori Informazioni Ecologiche.
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6.3. Metodi e materiali per il contenimento e per la bonifica

Metodi di contenimento	Impedire ulteriori fuoriuscite o perdite, se è sicuro farlo.
Metodi di bonifica	Prelevare meccanicamente, collocando il prodotto in appositi contenitori per lo smaltimento.
Prevenzione di rischi secondari	Pulire a fondo gli oggetti e le aree contaminate rispettando le norme ambientali.

6.4. Riferimenti ad altre sezioni

Riferimenti ad altre sezioni	Per ulteriori informazioni, cfr. Sezione 8. Per ulteriori informazioni, cfr. Sezione 13.
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SEZIONE 7: Manipolazione e immagazzinamento

7.1. Precauzioni per la manipolazione sicura

Precauzioni per la manipolazione sicura	Maneggiare nel rispetto delle buone norme igieniche e di sicurezza industriali. Evitare il contatto con la pelle, gli occhi o l'abbigliamento. Garantire un'aerazione sufficiente.
Raccomandazioni generiche sull'igiene professionale	Non mangiare, né bere, né fumare durante l'uso. Lavarsi le mani prima delle pause e subito dopo aver manipolato il prodotto.

7.2. Condizioni per lo stoccaggio sicuro, comprese eventuali incompatibilità

Condizioni di immagazzinamento	Conservare il recipiente chiuso e in un luogo ben ventilato e asciutto.
Classe di stoccaggio (TRGS 510)	LGK 6.1C

7.3. Usi finali particolari

Misure di gestione del rischio (RMM) Le informazioni necessarie sono contenute nella presente Scheda dei dati di sicurezza.

SEZIONE 8: Controllo dell'esposizione/protezione individuale

8.1. Parametri di controllo

Limiti di Esposizione

Denominazione chimica	Unione Europea	Austria	Belgio	Bulgaria	Croazia
Calcare 1317-65-3	-	-	TWA: 10 mg/m ³	TWA: 1.0 fiber/cm ³ TWA: 10 mg/m ³	-
Silice cristallina, quarzo 14808-60-7	TWA: 0.1 mg/m ³	TWA: 0.05 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³
Denominazione chimica	Cipro	Repubblica Ceca	Danimarca	Estonia	Finlandia
Calcare 1317-65-3	-	TWA: 10.0 mg/m ³	-	TWA: 10 mg/m ³ TWA: 5 mg/m ³	-
Silice cristallina, quarzo 14808-60-7	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.3 mg/m ³ TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.05 mg/m ³ TWA: 0.1 mg/m ³
Denominazione chimica	Francia	Germania TRGS	Germania DFG	Grecia	Ungheria
Calcare 1317-65-3	-	-	-	TWA: 10 mg/m ³ TWA: 5 mg/m ³	TWA: 10 mg/m ³
Silice cristallina, quarzo 14808-60-7	TWA: 0.1 mg/m ³	-	-	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³
Denominazione chimica	Irlanda	Italia MDLPS	Italia AIDII	Lettonia	Lituania
Calcare 1317-65-3	TWA: 10 mg/m ³ TWA: 4 mg/m ³ STEL: 30 mg/m ³ STEL: 12 mg/m ³	-	-	-	-
Silice cristallina, quarzo 14808-60-7	TWA: 0.1 mg/m ³ STEL: 0.3 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.025 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³
Denominazione chimica	Lussemburgo	Malta	Paesi Bassi	Norvegia	Polonia
Silice cristallina, quarzo 14808-60-7	-	-	TWA: 0.075 mg/m ³ TWA: 0.75 mg/m ³	TWA: 0.05 mg/m ³ TWA: 0.1 mg/m ³ TWA: 0.3 mg/m ³ STEL: 0.9 mg/m ³ STEL: 0.15 mg/m ³ STEL: 0.3 mg/m ³	TWA: 0.1 mg/m ³
Denominazione chimica	Portogallo	Romania	Slovacchia	Slovenia	Spagna
Calcare 1317-65-3	-	TWA: 10 mg/m ³	-	-	-
Silice cristallina, quarzo 14808-60-7	TWA: 0.025 mg/m ³ TWA: 0.05 mg/m ³ TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³ STEL: 0.5 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.05 mg/m ³
Denominazione chimica	Svezia		Svizzera		Regno Unito
Calcare 1317-65-3	-		-		TWA: 10 mg/m ³ TWA: 4 mg/m ³ STEL: 30 mg/m ³ STEL: 12 mg/m ³
Silice cristallina, quarzo 14808-60-7	NGV: 0.1 mg/m ³		TWA: 0.15 mg/m ³		TWA: 0.1 mg/m ³ STEL: 0.3 mg/m ³

Limiti biologici di esposizione professionale

Denominazione chimica	Unione Europea	Austria	Bulgaria	Croazia	Repubblica Ceca
Silice cristallina, quarzo 14808-60-7	-	(-)	-	-	-

Livello derivato senza effetto (DNEL) Nessuna informazione disponibile.**Predicted No Effect Concentration** Nessuna informazione disponibile.**(PNEC, Concentrazione Prevedibile
Priva di Effetti)****8.2. Controlli dell'esposizione****Controlli tecnici**

Nessuna informazione disponibile.

Dispositivi di protezione individuale

Protezioni per occhi/volto	Utilizzare protezioni per occhi in conformità alla normativa EN 166, concepite per la protezione contro le polveri.
Protezione delle mani	Gomma nitrilica. I guanti devono essere conformi allo standard EN 374.
Protezione pelle e corpo	Indumenti a maniche lunghe. (EN 340).
Protezione respiratoria	Quando i lavoratori sono esposti a concentrazioni superiori al limite di esposizione devono utilizzare respiratori certificati idonei. (EN 136, EN 140, EN 141, EN 143, EN 149, EN 405).
Raccomandazioni generiche sull'igiene professionale	Non mangiare, né bere, né fumare durante l'uso. Lavarsi le mani prima delle pause e subito dopo aver manipolato il prodotto.
Controlli dell'esposizione ambientale	Nessuna informazione disponibile.

SEZIONE 9: Proprietà fisiche e chimiche

9.1. Informazioni sulle proprietà fisiche e chimiche fondamentali

Stato fisico	Stato Solido
Aspetto	Polvere a granuli
Colore	Bianco a beige
Odore	Inodore.
Soglia olfattiva	Nessuna informazione disponibile

<u>Proprietà</u>	<u>Valori</u>	<u>Note • Metodo</u>
Punto di fusione / punto di congelamento		Nessuna informazione disponibile
Punto/intervallo di ebollizione		Nessuna informazione disponibile
Infiammabilità (solidi, gas)		Non applicabile
Limite di infiammabilità in aria		Non applicabile
Limite di infiammabilità superiore:		
Limite di infiammabilità inferiore		
Punto di infiammabilità		Nessuna informazione disponibile
Temperatura di autoaccensione		Non applicabile
Temperatura di decomposizione		Nessuna informazione disponibile
pH		Non applicabile
pH (come soluzione acquosa)		Nessuna informazione disponibile
Viscosità cinematica		Non applicabile
Viscosità dinamica		Non applicabile
Idrosolubilità	irrilevante	
La solubilità/le solubilità		Nessuna informazione disponibile
Coefficiente di ripartizione		Nessuna informazione disponibile
Tensione di vapore		Non applicabile
Densità relativa	2.6 - 2.7	
Peso specifico apparente		
Densità del liquido		
Densità di vapore		Nessuna informazione disponibile
Caratteristiche delle particelle		Nessuna informazione disponibile
Dimensioni delle particelle		
Ripartizione delle particelle per dimensione		

9.2. Altre informazioni

9.2.1. Informazioni sulle classe di pericolo
Non applicabile

9.2.2. Altre caratteristiche correlate alla sicurezza
Nessuna informazione disponibile

SEZIONE 10: Stabilità e reattività**10.1. Reattività**

Reattività Non reattivo in condizioni normali.

10.2. Stabilità chimica

Stabilità Stabile in condizioni normali.

Dati esplosione

Sensibilità all'impatto meccanico Nessuno.

Sensibilità alla scarica statica Nessuno.

10.3. Possibilità di reazioni pericolose

Possibilità di reazioni pericolose Nessuno durante la normale trasformazione.

10.4. Condizioni da evitare

Condizioni da evitare Nessuno noto in base alle informazioni fornite.

10.5. Materiali incompatibili

Materiali incompatibili Nessuno noto in base alle informazioni fornite.

10.6. Prodotti di decomposizione pericolosi

Prodotti di Decomposizione Pericolosi: Nessuno noto in base alle informazioni fornite.

SEZIONE 11: Informazioni tossicologiche**11.1. Informazioni sulle classi di pericolo secondo la definizione del Regolamento (CE) n. 1272/2008****Informazioni sulle vie probabili di esposizione****Informazioni sul prodotto**

Inalazione Non sono disponibili dati specifici per la sostanza o mistura.

Contatto con gli occhi Non sono disponibili dati specifici per la sostanza o mistura.

Contatto con la pelle Non sono disponibili dati specifici per la sostanza o mistura.

Ingestione Non sono disponibili dati specifici per la sostanza o mistura.

Sintomi connessi alle caratteristiche fisiche, chimiche e tossicologiche

Sintomi Nessuna informazione disponibile.

Misure numeriche di tossicità

Nessuna informazione disponibile

Tossicità acuta

I seguenti valori sono calcolati in base al capitolo 3.1 del documento GHS

Effetti immediati, ritardati e cronici derivanti da esposizioni a breve e a lungo termine

Corrosione/irritazione della pelle	Nessuna informazione disponibile.
Lesioni oculari gravi/irritazione oculare	Il contatto della polvere con gli occhi può comportare irritazione meccanica.
Sensibilizzazione cutanea o delle vie respiratorie	Nessuna informazione disponibile.
Mutagenicità sulle cellule germinali	Nessuna informazione disponibile.
Cancerogenicità	Contiene una sostanza cancerogena conosciuta o sospetta. Classificazione basata su dati disponibili per ingrediente. Può provocare il cancro.
Tossicità per la riproduzione	Nessuna informazione disponibile.
STOT - esposizione singola	Nessuna informazione disponibile.
STOT - esposizione ripetuta	Può provocare danni agli organi in caso di esposizione prolungata o ripetuta.
Pericolo in caso di aspirazione	Nessuna informazione disponibile.

11.2. Informazioni su altri pericoli**11.2.1. Proprietà di interferente endocrino**

Proprietà di interferente endocrino Nessuna informazione disponibile.

11.2.2. Altre informazioni

Altri effetti avversi Nessuna informazione disponibile.

SEZIONE 12: Informazioni ecologiche**12.1. Tossicità**

Ecotossicità	L'impatto ambientale di questo prodotto non è stato completamente indagato.
Tossicità per l'ambiente acquatico sconosciuta	Contiene 0% di componenti con pericoli non noti per l'ambiente acquatico.

12.2. Persistenza e degradabilità

Persistenza e degradabilità Nessuna informazione disponibile.

12.3. Potenziale di bioaccumulo

Bioaccumulo: Nessuna informazione disponibile.

12.4. Mobilità nel suolo

Mobilità nel suolo Nessuna informazione disponibile.

12.5. Risultati della valutazione PBT e vPvB

Valutazione PBT e vPvB Nessuna informazione disponibile.

12.6. Proprietà di interferente endocrino

Proprietà di interferente endocrino Nessuna informazione disponibile.

12.7. Altri effetti avversi

Nessuna informazione disponibile.

SEZIONE 13: Considerazioni sullo smaltimento

13.1. Metodi di trattamento dei rifiuti

Rifiuti derivanti da residui/prodotti inutilizzati Smaltire i rifiuti in conformità alla legislazione ambientale. Smaltire in conformità alle normative locali.

Imballaggio contaminato Non riutilizzare i contenitori vuoti.

Codici rifiuti/denominazioni rifiuti secondo EWC / AVV I codici rifiuti devono essere assegnati dall'utente in base all'applicazione per cui il prodotto è stato impiegato.

SEZIONE 14: Informazioni sul trasporto

IATA

14.1 Numero UN o numero ID Non regolamentato

14.2 Designazione ufficiale di trasporto Non regolamentato

14.3 Classi di pericolo connesso al trasporto Non regolamentato

14.4 Gruppo d'imballaggio Non regolamentato

14.5 Rischio ambientale Non applicabile

14.6 Precauzioni speciali per gli utilizzatori
Disposizioni Particolari Nessuno

IMDG

14.1 Numero UN o numero ID Non regolamentato

14.2 Designazione ufficiale di trasporto Non regolamentato

14.3 Classi di pericolo connesso al trasporto Non regolamentato

14.4 Gruppo d'imballaggio Non regolamentato

14.5 Rischio ambientale Non applicabile

14.6 Precauzioni speciali per gli utilizzatori
Disposizioni Particolari Nessuno
14.7 Trasporto marittimo alla rinfusa secondo gli strumenti IMO Nessuna informazione disponibile

RID

14.1 N. ID/ONU Non regolamentato

14.2 Designazione ufficiale di trasporto Non regolamentato

14.3 Classi di pericolo connesso al trasporto Non regolamentato

14.4 Gruppo d'imballaggio Non regolamentato

14.5 Rischio ambientale Non applicabile

14.6 Precauzioni speciali per gli utilizzatori

Disposizioni Particolari	Nessuno
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ADR

14.1 Numero UN o numero ID	Non regolamentato
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14.2 Designazione ufficiale di trasporto	Non regolamentato
---	-------------------

14.3 Classi di pericolo connesso al trasporto	Non regolamentato
--	-------------------

14.4 Gruppo d'imballaggio	Non regolamentato
----------------------------------	-------------------

14.5 Rischio ambientale	Non applicabile
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14.6 Precauzioni speciali per gli utilizzatori

Disposizioni Particolari	Nessuno
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SEZIONE 15: Informazioni sulla regolamentazione**15.1. Disposizioni legislative e regolamentari su salute, sicurezza e ambiente specifiche per la sostanza o la miscela****Disposizioni nazionali****Francia****Malattie Professionali (R-463-3, Francia)**

Denominazione chimica	Numero RG francese
Silice cristallina, quarzo 14808-60-7	RG 25

Italia

-D.lgs. 81/2008 (Testo unico in materia di tutela della salute e della sicurezza nei luoghi di lavoro) e successive modifiche e Direttiva 2009/161/UE - valutazione rischio chimico ai sensi del titolo IX

-Decreto legislativo 3 aprile 2006, n. 152 (Norme in materia ambientale)

-"Direttiva Seveso III" – Decreto Legislativo 26 giugno 2015, n°105 (Attuazione della direttiva 2012/18/UE relativa al controllo del pericolo di incidenti rilevanti connessi con sostanze pericolose)

Paesi Bassi

Denominazione chimica	Paesi Bassi - Elenco dei cancerogeni	Paesi Bassi - Elenco dei mutageni	Paesi Bassi - Elenco delle tossine riproduttive
Silice cristallina, quarzo	Present	-	-

Unione Europea

Prendere nota della Direttiva 98/24/CE sulla protezione della salute e della sicurezza dei lavoratori dai rischi derivanti da agenti chimici durante il lavoro.

Autorizzazioni e/o limitazioni sull'uso:

Questo prodotto non contiene sostanze soggette ad autorizzazione (Regolamento (CE) n. 1907/2006 (REACH), Allegato XIV)

Questo prodotto non contiene sostanze soggette a limitazione (Regolamento (CE) n. 1907/2006 (REACH), Allegato XVII)

Inquinanti organici persistenti

Non applicabile

Regolamento (CE) 1005/2009 sulle sostanze che riducono lo strato di ozono (ODS)

Non applicabile

UE - Prodotti fitosanitari (1107/2009/CE)

Denominazione chimica	UE - Prodotti fitosanitari (1107/2009/CE)
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Calcare - 1317-65-3	Antiparassitario
Silice cristallina, quarzo - 14808-60-7	Antiparassitario

Inventari Internazionali

TSCA	Conforme
DSL/NDSL	Conforme
EINECS/ELINCS	Conforme
ENCS	Conforme
IECSC	Conforme
KECL	Conforme
PICCS	Conforme
AICS	Conforme
NZIoC	Conforme

Legenda:

TSCA - Sezione 8(b) United States Toxic Substances Control Act (Decreto Statunitense per il Controllo delle Sostanze Tossiche), Inventario

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List (Lista delle Sostanze non Nazionali/delle Sostanze Nazionali Canadesi)

EINECS/ELINCS - Inventario Europeo delle Sostanze Chimiche Esistenti/Lista Europea delle Sostanze Chimiche Notificate

ENCS - Japan Existing and New Chemical Substances (Sostanze Chimiche Nuove ed Esistenti in Giappone)

IECSC - China Inventory of Existing Chemical Substances (Inventario Cinese delle Sostanze Chimiche Esistenti)

KECL - Korean Existing and Evaluated Chemical Substances (Sostanze Chimiche Esistenti e Valutate in Corea)

PICCS - Philippines Inventory of Chemicals and Chemical Substances (Inventario delle Sostanze Chimiche delle Filippine)

AICS - Inventario Australiano delle Sostanze Chimiche (Australian Inventory of Chemical Substances)

15.2. Valutazione della sicurezza chimica

Relazione sulla Sicurezza Chimica Nessuno

SEZIONE 16: Altre informazioni**Spiegazione o legenda delle abbreviazioni e degli acronimi utilizzata nella scheda di dati di sicurezza****Testo completo delle frasi H a cui si fa riferimento riportato nella sezione 3**

H350 - Può provocare il cancro

H373 - Può provocare danni agli organi in caso di esposizione prolungata o ripetuta

Legenda

SVHC: Sostanze estremamente preoccupanti per l'autorizzazione:

Legenda Sezione 8: CONTROLLO DELL'ESPOSIZIONE/PROTEZIONE INDIVIDUALE

TWA	TWA (media temporale esaminata)	STEL	STEL (Limite di Esposizione a Breve Termine)
Massimali	Valore limite massimo	*	Indicazioni per la pelle
+	Sensibilizzatori		

Procedura di classificazione	
Classificazione secondo il regolamento (CE) n. 1272/2008 [CLP]	Metodo Utilizzato
Tossicità acuta orale	Metodo di calcolo
Tossicità acuta per via cutanea	Metodo di calcolo
Tossicità acuta per inalazione - gas	Metodo di calcolo
Tossicità acuta per inalazione - vapore	Metodo di calcolo
Tossicità acuta per inalazione - polvere/nebbia	Metodo di calcolo
Corrosione/irritazione della pelle	Metodo di calcolo
Lesioni oculari gravi/irritazione oculare	Metodo di calcolo
Sensibilizzazione delle vie respiratorie	Metodo di calcolo
Sensibilizzazione della pelle	Metodo di calcolo

Mutagenicità	Metodo di calcolo
Cancerogenicità	Metodo di calcolo
Tossicità per la riproduzione	Metodo di calcolo
STOT - esposizione singola	Metodo di calcolo
STOT - esposizione ripetuta	Metodo di calcolo
Tossicità acquatica acuta	Metodo di calcolo
Tossicità cronica per l'ambiente acquatico	Metodo di calcolo
Pericolo in caso di aspirazione	Metodo di calcolo
Ozono	Metodo di calcolo

Principali riferimenti bibliografici e fonti dei dati utilizzati per la stesura della scheda di dati di sicurezza

Agenzia per le sostanze tossiche e registro malattie (Agency for Toxic Substances and Disease Registry, ATSDR)
 Database ChemView dell'Environmental Protection Agency (Agenzia per la protezione dell'ambiente) degli Stati Uniti
 Autorità europea per la sicurezza alimentare (EFSA)
 Agenzia europea per le sostanze chimiche (ECHA) Comitato per la valutazione del rischio (ECHA_RAC)
 Agenzia europea per le sostanze chimiche (ECHA) (ECHA_API)
 EPA (Environmental Protection Agency)
 Livelli di Esposizione Acuta (AEGL)
 Environmental Protection Agency (Agenzia per la protezione dell'ambiente) degli Stati Uniti - Legge federale su insetticidi, fungicidi e rodenticidi
 Sostanze chimiche ad alto volume di produzione dell'Environmental Protection Agency (Agenzia per la protezione dell'ambiente) degli Stati Uniti
 Giornale della ricerca nel campo dell'alimentazione (Food Research Journal)
 Database delle sostanze pericolose
 Banca dati internazionale di informazione chimica uniforme (IUCLID)
 Classificazione giapponese GHS
 National Industrial Chemicals Notification and Assessment Scheme (NICNAS) dell'Australia
 NIOSH (National Institute for Occupational Safety and Health)
 ChemID Plus della National Library of Medicine (NLM CIP)
 Database PubMed della National Library of Medicine (NLM PUBMED)
 Programma di tossicologia nazionale (NTP)
 Chemical Classification and Information Database (CCID - Banca dati di informazioni e classificazione delle sostanze chimiche) della Nuova Zelanda
 Pubblicazioni su ambiente, salute e sicurezza dell'Organizzazione per la cooperazione e lo sviluppo economico
 Programma sulle sostanze chimiche ad alto volume di produzione dell'Organizzazione per la cooperazione e lo sviluppo economico
 Screening Information Data Set dell'Organizzazione per la cooperazione e lo sviluppo economico
 Organizzazione mondiale della sanità

Data del Rilascio 15-nov-2017

Data di revisione 13-ago-2023

Scheda di Dati di Sicurezza ai sensi del Regolamento (CE) n. 1907/2006 (REACH)

Dichiarazione di non responsabilità

Il presente documento è fornito come risorsa di informazioni in relazione esclusivamente al prodotto o al materiale qui descritto. Le informazioni qui contenute possono non essere applicabili ad altri prodotti/materiali o processi e possono non essere valide quando il presente prodotto/materiale viene utilizzato insieme a qualsiasi altro prodotto/materiale o processo. Le informazioni fornite nel presente documento sono state messe insieme da Newpark Drilling Fluids LLC o da suoi rappresentanti prendendole da diverse fonti, inclusi produttori, fornitori e altre terze parti, e sono basate sulle informazioni disponibili nella data di preparazione indicata. Poiché le condizioni nelle quali il presente prodotto potrebbe essere utilizzato varieranno e possono non essere sotto il controllo di Newpark Drilling Fluids LLC, non si garantisce che le precauzioni descritte sopra siano sufficienti per tutti ed in tutte le situazioni. L'acquirente si assume ogni responsabilità di utilizzare e maneggiare il prodotto conformemente alle norme federali, statali, provinciali e/o locali. Riguardo al prodotto/materiale descritto nel presente documento, NON SI FORNISCE ALCUNA GARANZIA, ESPLICITA O IMPLICITA, DI COMMERCIALITÀ, IDONEITÀ AD UN PARTICOLARE SCOPO O DI ALTRO TIPO. Ai sensi del Regolamento (CE) N. 1272/2008 del Parlamento Europeo e del Consiglio del 16 dicembre 2008 riguardo a classificazione, etichettatura e imballaggio di sostanze e miscele, che modifica e abroga le Direttive 67/548/CEE e 1999/45/CE, e che modifica il Regolamento (CE) N. 1907/2006, modificato dal regolamento (CE) N. 2020/878.

Fine della Scheda di Dati di Sicurezza

NewCarb™ Flake

A safety data sheet is not required for this product under Article 31 of REACH

Issuing Date 30-Nov-2022

Revision date 09-Oct-2023

Version 1.1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1

1.1. Product identifier

Product Code NDF00955

Product Name NewCarb™ Flake

Synonyms NewCarb™ Flake 200, NewCarb™ Flake 800, NewCarb™ Flake 2000

Pure substance/mixture Mixture

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use bridging agent

Uses advised against No information available

1.3. Details of the supplier of the safety data sheet

Supplier

Newpark Drilling Fluids S.r.l.
 Via Salaria 1313/C
 00138 ROMA (Italy)
 For further information, please contact

Contact Point Telephone: + 39 06 8856111
 Fax: +39 06 8889363
 Website: www.newpark.com

E-mail address hse-hqit@newpark.com

1.4. Emergency telephone number

Emergency Telephone - §45 - (EC)1272/2008	
Europe	112
Croatia	+385 1 7776 920 ; +385 01 2348 342 (Centar za kontrolu otrovanja, 24 sata)
Cyprus	1401
France	+(33)-975181407
Germany	0800-181-7059; +(49)- 69643508409
Hungary	+(36)-18088425
Italy	800-789-767; +(39)-0245557031 Milano 24/24 Ospedale Niguarda Ca'grande Piazza ospedale maggiore 3 +39 0266101029 Roma 24/24 Policlinico Gemelli

	Largo Agostino Gemelli 8 +39 063054343
Netherlands	+(31)-858880596
Romania	+40213183606, Institutul Național de Sănătate Publică (L-V între 08.00-15.00)
Spain	900-868538; +(34)-931768545
Switzerland	145, (+41) 435082011
United Kingdom	+(44)-870-8200418

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

2.2. Label elements

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

Hazard statements

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

2.3. Other hazards

This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

SECTION 3: Composition/information on ingredients

3.1 Substances

Not applicable

3.2 Mixtures

Chemical name	Weight-%	REACH registration number	EC No (EU Index No)	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
Calcium carbonate 1317-65-3	95-100	EXEMPT	215-279-6	No data available	-	-	-
Quartz 14808-60-7	1-5	01-2120770509-45-XX XX	238-878-4	Carc. 1A (H350) STOT RE 2 (H373)	-	-	-

* Exempt

Full text of H- and EUH-phrases: see section 16

Acute Toxicity Estimate

No information available

This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (Regulation (EC) No. 1907/2006 (REACH), Article 59)

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	Remove to fresh air.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Skin contact	In the case of skin irritation or allergic reactions see a physician. Wash skin with soap and water.
Ingestion	Rinse mouth.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms	No information available.
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4.3. Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptomatically.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
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Large Fire	CAUTION: Use of water spray when fighting fire may be inefficient.
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Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.
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5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical	No information available.
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Hazardous combustion products	Carbon oxides. Calcium oxides.
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5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.
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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Ensure adequate ventilation.
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For emergency responders	Use personal protection recommended in Section 8.
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6.2. Environmental precautions

Environmental precautions	See Section 12 for additional Ecological Information.
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6.3. Methods and material for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so.
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Methods for cleaning up	Take up mechanically, placing in appropriate containers for disposal.
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Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling Ensure adequate ventilation.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed in a dry and well-ventilated place.

7.3. Specific end use(s)

Risk Management Methods (RMM) The information required is contained in this Safety Data Sheet.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits

Chemical name	European Union	Austria	Belgium	Bulgaria	Croatia
Calcium carbonate 1317-65-3	-	-	TWA: 10 mg/m ³	TWA: 1.0 fiber/cm ³ TWA: 10 mg/m ³	-
Quartz 14808-60-7	TWA: 0.1 mg/m ³	TWA: 0.05 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³
Chemical name	Cyprus	Czech Republic	Denmark	Estonia	Finland
Calcium carbonate 1317-65-3	-	TWA: 10.0 mg/m ³	-	TWA: 10 mg/m ³ TWA: 5 mg/m ³	-
Quartz 14808-60-7	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.3 mg/m ³ TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.05 mg/m ³ TWA: 0.1 mg/m ³
Chemical name	France	Germany TRGS	Germany DFG	Greece	Hungary
Calcium carbonate 1317-65-3	-	-	-	TWA: 10 mg/m ³ TWA: 5 mg/m ³	TWA: 10 mg/m ³
Quartz 14808-60-7	TWA: 0.1 mg/m ³	-	-	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³
Chemical name	Ireland	Italy MDLPS	Italy AIDII	Latvia	Lithuania
Calcium carbonate 1317-65-3	TWA: 10 mg/m ³ TWA: 4 mg/m ³ STEL: 30 mg/m ³ STEL: 12 mg/m ³	-	-	-	-
Quartz 14808-60-7	TWA: 0.1 mg/m ³ STEL: 0.3 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.025 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³
Chemical name	Luxembourg	Malta	Netherlands	Norway	Poland
Quartz 14808-60-7	-	-	TWA: 0.075 mg/m ³ TWA: 0.75 mg/m ³	TWA: 0.05 mg/m ³ TWA: 0.1 mg/m ³ TWA: 0.3 mg/m ³ STEL: 0.9 mg/m ³ STEL: 0.15 mg/m ³ STEL: 0.3 mg/m ³	TWA: 0.1 mg/m ³
Chemical name	Portugal	Romania	Slovakia	Slovenia	Spain

Calcium carbonate 1317-65-3	-	TWA: 10 mg/m ³	-	-	-
Quartz 14808-60-7	TWA: 0.025 mg/m ³ TWA: 0.05 mg/m ³ TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³ STEL: 0.5 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.05 mg/m ³
Chemical name	Sweden	Switzerland	United Kingdom		
Calcium carbonate 1317-65-3	-	-	TWA: 10 mg/m ³ TWA: 4 mg/m ³ STEL: 30 mg/m ³ STEL: 12 mg/m ³		
Quartz 14808-60-7	NGV: 0.1 mg/m ³	TWA: 0.15 mg/m ³	TWA: 0.1 mg/m ³ STEL: 0.3 mg/m ³		

Biological occupational exposure limits

Chemical name	European Union	Austria	Bulgaria	Croatia	Czech Republic
Quartz 14808-60-7	-	(-)	-	-	-

Derived No Effect Level (DNEL) No information available.**Predicted No Effect Concentration (PNEC)** No information available.**8.2. Exposure controls****Engineering controls** No information available.**Personal protective equipment****Eye/face protection** Wear safety glasses with side shields (or goggles). Use eye protection according to EN 166, designed to protect against powders and dusts.**Skin and body protection** Wear suitable protective clothing. (EN 340).**Respiratory protection** When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. (EN 136, EN 140, EN 141, EN 143, EN 149, EN 405).**General hygiene considerations** Handle in accordance with good industrial hygiene and safety practice.**Environmental exposure controls** No information available.**SECTION 9: Physical and chemical properties****9.1. Information on basic physical and chemical properties**

Physical state	Solid
Appearance	Flakes
Color	White to beige
Odor	Odorless.
Odor threshold	No information available

Property	Values	Remarks • Method
Melting point / freezing point		No information available
Boiling point / boiling range		No information available
Flammability (solid, gas)		Not applicable
Flammability Limit in Air		Not applicable
Upper flammability limit:		
Lower flammability limit:		
Flash point		No information available

Autoignition temperature		Not applicable
Decomposition temperature		No information available
pH		Not applicable
pH (as aqueous solution)		No information available
Kinematic viscosity		Not applicable
Dynamic viscosity		Not applicable
Water solubility	negligible	
Solubility(ies)		No information available
Partition coefficient		No information available
Vapor pressure		Not applicable
Relative density	2.6 - 2.7	
Bulk density		
Liquid Density		
Vapor density		No information available
Particle characteristics		No information available
Particle Size		
Particle Size Distribution		

9.2. Other information

9.2.1. Information with regard to physical hazard classes
Not applicable

9.2.2. Other safety characteristics
No information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity Not reactive under normal conditions.

10.2. Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

10.4. Conditions to avoid

Conditions to avoid None known based on information supplied.

10.5. Incompatible materials

Incompatible materials Strong acids. Strong bases.

10.6. Hazardous decomposition products

Hazardous Decomposition Products None known based on information supplied.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Information on likely routes of exposure

Product Information

Inhalation	Specific test data for the substance or mixture is not available.
Eye contact	Specific test data for the substance or mixture is not available.
Skin contact	Specific test data for the substance or mixture is not available.
Ingestion	Specific test data for the substance or mixture is not available.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms No information available.

Numerical measures of toxicity

No information available

Acute toxicity

The following values are calculated based on chapter 3.1 of the GHS document

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	No information available.
Serious eye damage/eye irritation	Dust contact with the eyes can lead to mechanical irritation.
Respiratory or skin sensitization	None known.
Germ cell mutagenicity	None known.
Carcinogenicity	None known.
Reproductive toxicity	No information available.
STOT - single exposure	None known.
STOT - repeated exposure	None known.
Aspiration hazard	Not applicable.

11.2. Information on other hazards**11.2.1. Endocrine disrupting properties**

Endocrine disrupting properties No information available.

11.2.2. Other information

Other adverse effects No information available.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity	The environmental impact of this product has not been fully investigated.
Unknown aquatic toxicity	Contains 0 % of components with unknown hazards to the aquatic environment.

12.2. Persistence and degradability

Persistence and degradability	No information available.
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12.3. Bioaccumulative potential

Bioaccumulation	No information available.
-----------------	---------------------------

12.4. Mobility in soil

Mobility in soil	No information available.
------------------	---------------------------

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment	The product does not contain any substance(s) classified as PBT or vPvB.
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12.6. Endocrine disrupting properties

Endocrine disrupting properties	No information available.
---------------------------------	---------------------------

12.7. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products	Dispose of waste in accordance with environmental legislation. Dispose of in accordance with local regulations.
Contaminated packaging	Do not reuse empty containers.
Waste codes / waste designations according to EWC / AVV	Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14: Transport information

IATA

14.1 UN number or ID number	Not regulated
14.2 Proper shipping name	Not Regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	None

IMDG

14.1 UN number or ID number	Not regulated
14.2 Proper shipping name	Not Regulated

14.3 Transport hazard class(es)	Not regulated
14.4 Packing Group	Not Regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	None
14.7 Maritime transport in bulk according to IMO instruments	No information available

RID

14.1 UN/ID no	Not Regulated
14.2 Proper shipping name	Not Regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing Group	Not Regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	None

ADR

14.1 UN number or ID number	Not regulated
14.2 Proper shipping name	Not Regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing Group	Not Regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	None

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulations****France****Occupational Illnesses (R-463-3, France)**

Chemical name	French RG number
Quartz 14808-60-7	RG 25

Italy

-D. LGs. 81/2008 (single text on the protection of health and safety in the workplace) and subsequent amendments and Directive 2009/161/EU-assessment of chemical risk under title IX
 -Legislative Decree 3 April 2006, no 152 (environmental standards)
 -"Seveso III Directive" – Legislative Decree of 26 June 2015, n° 105 (Implementation of the Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances)

Netherlands

Chemical name	Netherlands - List of Carcinogens	Netherlands - List of Mutagens	Netherlands - List of Reproductive Toxins
Quartz	Present	-	-

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Authorizations and/or restrictions on use:

This product does not contain substances subject to authorization (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This

product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Persistent Organic Pollutants

Not applicable

Ozone-depleting substances (ODS) regulation (EC) 1005/2009

Not applicable

EU - Plant Protection Products (1107/2009/EC)

Chemical name	EU - Plant Protection Products (1107/2009/EC)
Calcium carbonate - 1317-65-3	Plant protection agent
Quartz - 14808-60-7	Plant protection agent

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies
NZIoC	Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

15.2. Chemical safety assessment

Chemical Safety Report None

SECTION 16: Other information**Key or legend to abbreviations and acronyms used in the safety data sheet****Legend**

SVHC: Substances of Very High Concern for Authorization:

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
+	Sensitizers		

Classification procedure	
Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - vapor	Calculation method

Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	Calculation method
Respiratory sensitization	Calculation method
Skin sensitization	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	Calculation method
Reproductive toxicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration hazard	Calculation method
Ozone	Calculation method

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
 U.S. Environmental Protection Agency ChemView Database
 European Food Safety Authority (EFSA)
 European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
 European Chemicals Agency (ECHA) (ECHA_API)
 EPA (Environmental Protection Agency)
 Acute Exposure Guideline Level(s) (AEGL(s))
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
 U.S. Environmental Protection Agency High Production Volume Chemicals
 Food Research Journal
 Hazardous Substance Database
 International Uniform Chemical Information Database (IUCLID)
 Japan GHS Classification
 Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
 NIOSH (National Institute for Occupational Safety and Health)
 National Library of Medicine's ChemID Plus (NLM CIP)
 National Library of Medicine's PubMed database (NLM PUBMED)
 National Toxicology Program (NTP)
 New Zealand's Chemical Classification and Information Database (CCID)
 Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
 Organization for Economic Co-operation and Development High Production Volume Chemicals Program
 Organization for Economic Co-operation and Development Screening Information Data Set
 World Health Organization

Issuing Date 30-Nov-2022

Revision date 09-Oct-2023

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)**Disclaimer**

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End of Safety Data Sheet

A safety data sheet is not required for this product under Article 31 of REACH

Revision date 08-Aug-2023

Version 2

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product Code NDF00015

Product Name NewEdge™

Synonyms AVALIG NE

Pure substance/mixture Substance

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use filtration control agent

Uses advised against No information available

1.3. Details of the supplier of the safety data sheet

Supplier

Newpark Drilling Fluids S.r.l.

Via Salaria 1313/C

00138 ROMA (Italy)

For further information, please contact

Contact Point Telephone: + 39 06 8856111
 Fax: +39 06 8889363
 Website: www.newpark.com

E-mail address hse-hqit@newpark.com

1.4. Emergency telephone number

Emergency Telephone - §45 - (EC)1272/2008	
Europe	112
Croatia	+385 1 7776 920 ; +385 01 2348 342 (Centar za kontrolu otrovanja, 24 sata)
Cyprus	1401
France	+(33)-975181407
Germany	0800-181-7059; +(49)- 69643508409
Hungary	+(36)-18088425
Italy	800-789-767; +(39)-0245557031 Milano 24/24 Ospedale Niguarda Ca'grande Piazza ospedale maggiore 3 +39 0266101029 Roma 24/24 Policlinico Gemelli Largo Agostino Gemelli 8

	+39 063054343
Netherlands	+(31)-858880596
Romania	+40213183606, Institutul Național de Sănătate Publică (L-V între 08.00-15.00)
Spain	900-868538; +(34)-931768545
Switzerland	145, (+41) 435082011
United Kingdom	+(44)-870-8200418

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

This substance is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

2.2. Label elements

This substance is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

Hazard statements

This substance is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.1 Substances

Chemical name	Weight-%	REACH registration number	EC No (EU Index No)	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
Coal, Brown 129521-66-0	100	No data available	-	No data available	-	-	-

Full text of H- and EUH-phrases: see section 16

Acute Toxicity Estimate

No information available

This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (Regulation (EC) No. 1907/2006 (REACH), Article 59)

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	Remove to fresh air.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Skin contact	In the case of skin irritation or allergic reactions see a physician. Wash skin with soap and water.
Ingestion	Rinse mouth.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms No information available.

4.3. Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

SECTION 5: Firefighting measures**5.1. Extinguishing media**

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Large Fire CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media Do not scatter spilled material with high pressure water streams.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical No information available.

Hazardous combustion products Carbon oxides.

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Personal precautions Ensure adequate ventilation.

For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Take up mechanically, placing in appropriate containers for disposal.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

Advice on safe handling Ensure adequate ventilation.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed in a dry and well-ventilated place.

7.3. Specific end use(s)

Risk Management Methods (RMM) The information required is contained in this Safety Data Sheet.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits

Chemical name	European Union	Austria	Belgium	Bulgaria	Croatia
Coal, Brown 129521-66-0	-	-	-	TWA: 10.0 mg/m ³ TWA: 4.0 mg/m ³	-

Biological occupational exposure limits

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Derived No Effect Level (DNEL) No information available.

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Engineering controls No information available.

Personal protective equipment

Eye/face protection Use eye protection according to EN 166, designed to protect against spray mists.

Skin and body protection (EN 340). Long sleeved clothing.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required. (EN 136, EN 140, EN 141, EN 143, EN 149, EN 405).

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls No information available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state Solid
Appearance Powder
Color dark brown
Odor Odorless.

Odor threshold No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Melting point / freezing point		Not applicable
Boiling point / boiling range		Not applicable
Flammability (solid, gas)		No data available
Flammability Limit in Air		No data available
Upper flammability limit:		
Lower flammability limit:		
Flash point		No data available
Autoignition temperature		No data available
Decomposition temperature		No data available
pH	3.2 - 4.0	1% solution
pH (as aqueous solution)		No information available
Kinematic viscosity		Not applicable
Dynamic viscosity		Not applicable
Water solubility	32 % @ 20°C	
Solubility(ies)		No data available
Partition coefficient		No data available
Vapor pressure		No data available
Relative density	0.83	
Bulk density		
Liquid Density		
Vapor density		No data available
Particle characteristics		No information available
Particle Size		
Particle Size Distribution		

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Not applicable

Oxidizing properties Not applicable

9.2.2. Other safety characteristics

No information available No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity Not reactive under normal conditions.

10.2. Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

10.4. Conditions to avoid

Conditions to avoid None known based on information supplied.

10.5. Incompatible materials

Incompatible materials None known based on information supplied.

10.6. Hazardous decomposition products

Hazardous Decomposition Products None known based on information supplied.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Information on likely routes of exposure

Product Information

Inhalation	Specific test data for the substance or mixture is not available.
Eye contact	Specific test data for the substance or mixture is not available.
Skin contact	Specific test data for the substance or mixture is not available.
Ingestion	Specific test data for the substance or mixture is not available.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms No information available.

Numerical measures of toxicity

No information available

Acute toxicity

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	None known.
Serious eye damage/eye irritation	None known.
Respiratory or skin sensitization	No information available.
Germ cell mutagenicity	No information available.
Carcinogenicity	No information available.
Reproductive toxicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Aspiration hazard	No information available.

11.2. Information on other hazards**11.2.1. Endocrine disrupting properties**

Endocrine disrupting properties No information available.

11.2.2. Other information

Other adverse effects No information available.

SECTION 12: Ecological information**12.1. Toxicity**

Ecotoxicity The environmental impact of this product has not been fully investigated.

12.2. Persistence and degradability

Persistence and degradability No information available.

12.3. Bioaccumulative potential

Bioaccumulation No information available.

12.4. Mobility in soil

Mobility in soil No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment The product does not contain any substance(s) classified as PBT or vPvB.

12.6. Endocrine disrupting properties

Endocrine disrupting properties No information available.

12.7. Other adverse effects

No information available.

SECTION 13: Disposal considerations**13.1. Waste treatment methods**

Waste from residues/unused products Dispose of waste in accordance with environmental legislation. Dispose of in accordance with local regulations.

Contaminated packaging Do not reuse empty containers.

Waste codes / waste designations according to EWC / AVV Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14: Transport information**IATA**

14.1 UN number or ID number Not regulated

14.2 Proper shipping name Not Regulated

14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	None

IMDG

14.1 UN number or ID number	Not regulated
14.2 Proper shipping name	Not Regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing Group	Not Regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	None
14.7 Maritime transport in bulk according to IMO instruments	No information available

RID

14.1 UN/ID no	Not Regulated
14.2 Proper shipping name	Not Regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing Group	Not Regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	None

ADR

14.1 UN number or ID number	Not regulated
14.2 Proper shipping name	Not Regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing Group	Not Regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	None

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations

Germany

Water hazard class (WGK) non-hazardous to water (nwg)

Italy

-D. LGs. 81/2008 (single text on the protection of health and safety in the workplace) and subsequent amendments and Directive 2009/161/EU-assessment of chemical risk under title IX
 -Legislative Decree 3 April 2006, no 152 (environmental standards)
 -"Seveso III Directive" – Legislative Decree of 26 June 2015, n° 105 (Implementation of the Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances)

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Authorizations and/or restrictions on use:

This product does not contain substances subject to authorization (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Persistent Organic Pollutants

Not applicable

Ozone-depleting substances (ODS) regulation (EC) 1005/2009

Not applicable

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Does not comply
IECSC	Does not comply
KECL	Does not comply
PICCS	Does not comply
AICS	Complies
NZIoC	Does not comply

Legend:**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances**ENCS** - Japan Existing and New Chemical Substances**IECSC** - China Inventory of Existing Chemical Substances**KECL** - Korean Existing and Evaluated Chemical Substances**PICCS** - Philippines Inventory of Chemicals and Chemical Substances**AICS** - Australian Inventory of Chemical Substances**15.2. Chemical safety assessment****Chemical Safety Report** None**SECTION 16: Other information****Key or legend to abbreviations and acronyms used in the safety data sheet****Legend**

SVHC: Substances of Very High Concern for Authorization:

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
+	Sensitizers		

Classification procedure	
Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - vapor	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	Calculation method
Respiratory sensitization	Calculation method
Skin sensitization	Calculation method

Mutagenicity	Calculation method
Carcinogenicity	Calculation method
Reproductive toxicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration hazard	Calculation method
Ozone	Calculation method

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
 U.S. Environmental Protection Agency ChemView Database
 European Food Safety Authority (EFSA)
 European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
 European Chemicals Agency (ECHA) (ECHA_API)
 EPA (Environmental Protection Agency)
 Acute Exposure Guideline Level(s) (AEL(s))
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
 U.S. Environmental Protection Agency High Production Volume Chemicals
 Food Research Journal
 Hazardous Substance Database
 International Uniform Chemical Information Database (IUCLID)
 Japan GHS Classification
 Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
 NIOSH (National Institute for Occupational Safety and Health)
 National Library of Medicine's ChemID Plus (NLM CIP)
 National Library of Medicine's PubMed database (NLM PUBMED)
 National Toxicology Program (NTP)
 New Zealand's Chemical Classification and Information Database (CCID)
 Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
 Organization for Economic Co-operation and Development High Production Volume Chemicals Program
 Organization for Economic Co-operation and Development Screening Information Data Set
 World Health Organization

Revision date 08-Aug-2023

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)**Disclaimer**

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End of Safety Data Sheet

Issue Date 02-Aug-2017

Revision Date 25-Nov-2020

Version 2
EN

Section 1: IDENTIFICATION: PRODUCT IDENTIFIER AND CHEMICAL IDENTITY

1

Product identifier

Product Name NewPac™ LV

Product Code NDF00012

Other means of identification

Synonyms RHEOPAC LV

Recommended use of the chemical and restrictions on use

Recommended Use filtration control agent

Uses advised against No information available

Details of manufacturer or importer

Supplier

Newpark Drilling Fluids (Australia) LTD
11 Alacrity Place
Henderson, WA, 6166
Australia

For further information, please contact

Contact Point Telephone: +61 8 9410 8200
Fax: +61 8 9410 8299
Website: www.newpark.com

Emergency telephone number

Emergency telephone number +(61)-290372994 (Australia); +(64)-98010034 (New Zealand)

Section 2: HAZARD(S) IDENTIFICATION

GHS - Classification

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Label elements

Hazard statements

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Other hazards**General Hazards**

This substance does not meet the PBT/vPvB criteria of REACH, annex XIII
May form combustible dust concentrations in air

Section 3: COMPOSITION AND INFORMATION ON INGREDIENTS, IN ACCORDANCE WITH SCHEDULE 8**Substance**

Not applicable

Mixture

Chemical name	CAS No	Weight-%
Non-hazardous ingredients	-	100

Additional information

The product contains no substances which at their given concentration, are considered to be hazardous to health

Section 4: FIRST AID MEASURES**Description of first aid measures**

Emergency telephone number	Poisons Information Center, Australia: 13 11 26 Poisons Information Center, New Zealand: 0800 764 766
Inhalation	Remove to fresh air.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Skin contact	Wash skin with soap and water.
Ingestion	Clean mouth with water and drink afterwards plenty of water.

Most important symptoms and effects, both acute and delayed

Symptoms	No information available.
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Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptomatically.
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Section 5: FIREFIGHTING MEASURES**Suitable Extinguishing Media**

Suitable extinguishing media	Dry chemical, CO2, water spray or regular foam.
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Unsuitable extinguishing media	No information available.
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Specific hazards arising from the chemical

Thermal decomposition can lead to release of irritating and toxic gases and vapors. Do not allow run-off from fire-fighting to enter drains or water courses.

Hazardous combustion products	Carbon oxides. Sodium oxides.
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Special protective actions for fire-fighters

Special protective equipment for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

Hazchem code Not Listed.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation.

For emergency responders Use personal protection recommended in Section 8.

Environmental precautions

Environmental precautions See Section 12 for additional Ecological Information. Do not flush into surface water or sanitary sewer system. Prevent product from entering drains.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labeled containers.

Precautions to prevent secondary hazards

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

Section 7: HANDLING AND STORAGE, INCLUDING HOW THE CHEMICAL MAY BE SAFELY USED

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid generation of dust. Wash thoroughly after handling. Wash contaminated clothing before reuse.

General hygiene considerations Do not eat, drink or smoke when using this product. Wash hands before breaks and after work.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible materials Strong oxidizing agents

Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Control parameters

Exposure Limits This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Biological occupational exposure limits Not applicable

Appropriate engineering controls

Engineering controls Showers

Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection	Wear safety glasses with side shields (or goggles).
Skin and body protection	Wear suitable protective clothing.
Respiratory protection	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required. In case of inadequate ventilation wear respiratory protection.
Environmental exposure controls	Do not allow into any sewer, on the ground or into any body of water.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Solid	Odor	Odorless.
Appearance	Powder	Odor threshold	No information available
Color	White to Pale yellow		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	6.0 - 8.5	0.5% solution
Melting point / freezing point		No information available
Boiling point / boiling range		No information available
Flash point		No information available
Evaporation rate		No information available
Flammability (solid, gas)		No information available
Flammability Limit in Air		No information available
Upper flammability limit:		No data available
Lower flammability limit:		No data available
Vapor pressure		No data available
Vapor density		No data available
Relative density	1.6	
Water solubility	Soluble in water	
Solubility(ies)		No information available
Partition coefficient		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
Kinematic viscosity		Not applicable
Dynamic viscosity		Not applicable
Explosive properties	Fine dust dispersed in air, in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard	
Oxidizing properties	Not applicable	

Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available
Liquid Density	No information available
Bulk density	No information available
Particle Size	No information available
Particle Size Distribution	No information available

Section 10: STABILITY AND REACTIVITY

Reactivity

Reactivity	Stable under normal conditions.
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Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Possibility of Hazardous Reactions

Possibility of hazardous reactions None under normal processing.

Conditions to avoid

Conditions to avoid dust formation.

Incompatible materials

Incompatible materials Strong oxidizing agents.

Hazardous Decomposition Products

Hazardous Decomposition Products None known based on information supplied.

Section 11: TOXICOLOGICAL INFORMATION**Acute toxicity****Information on likely routes of exposure****Product Information**

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Inhalation Specific test data for the substance or mixture is not available.

Eye contact Specific test data for the substance or mixture is not available.

Skin contact Specific test data for the substance or mixture is not available.

Ingestion Specific test data for the substance or mixture is not available

Symptoms No information available.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral) 13,636.40 mg/kg

Unknown acute toxicity 0.6 % of the mixture consists of ingredient(s) of unknown toxicity

0.6 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

0.6 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

0.6 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

0.6 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

0.6 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

See section 16 for terms and abbreviations

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	No information available.
Serious eye damage/eye irritation	No information available.
Respiratory or skin sensitization	No information available.
Germ cell mutagenicity	No information available.
Carcinogenicity	No information available.
Reproductive toxicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Aspiration hazard	Not applicable.

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity

Unknown aquatic toxicity	0.6 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.
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Persistence and degradability

Persistence and degradability	No information available.
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Bioaccumulative potential

Bioaccumulation	No information available.
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Mobility

Mobility in soil	No information available.
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Mobility	No information available.
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Other adverse effects

Other adverse effects	No information available.
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Section 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused products	Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
Contaminated packaging	Do not reuse empty containers.

Section 14: TRANSPORT INFORMATION

ADG	Not Regulated
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IATA Not Regulated

IMDG Not Regulated

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No information available

Section 15: REGULATORY INFORMATION

Regulatory information

National regulations

Australia

See section 8 for national exposure control parameters

Standard for Uniform Scheduling of Medicines and Poisons (SUSMP)

No poisons schedule number allocated

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies
NZIoC	Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

Brunei Poison List Not applicable.

Section 16: ANY OTHER RELEVANT INFORMATION

Issue Date 02-Aug-2017

Revision Date 25-Nov-2020

Revision Note

No information available.

Key or legend to abbreviations and acronyms used in the safety data sheet**Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
C	Carcinogen		

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End of Safety Data Sheet

A safety data sheet is not required for this product under Article 31 of REACH

Issuing Date 12-Feb-2018

Revision date 15-Aug-2023

Version 1.1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product Code NDF00011

Product Name NewPac™ R

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use filtration control agent

Uses advised against No information available

1.3. Details of the supplier of the safety data sheet

Supplier

Newpark Drilling Fluids S.r.l.

Via Salaria 1313/C

00138 ROMA (Italy)

For further information, please contact

Contact Point Telephone: + 39 06 8856111
 Fax: +39 06 8889363
 Website: www.newpark.com

E-mail address hse-hqit@newpark.com

1.4. Emergency telephone number

Emergency Telephone - §45 - (EC)1272/2008	
Europe	112
Croatia	+385 1 7776 920 ; +385 01 2348 342 (Centar za kontrolu otrovanja, 24 sata)
Cyprus	1401
France	+(33)-975181407
Germany	0800-181-7059; +(49)- 69643508409
Hungary	+(36)-18088425
Italy	800-789-767; +(39)-0245557031 Milano 24/24 Ospedale Niguarda Ca'grande Piazza ospedale maggiore 3 +39 0266101029 Roma 24/24 Policlinico Gemelli Largo Agostino Gemelli 8 +39 063054343
Netherlands	+(31)-858880596
Romania	+40213183606, Institutul Național de Sănătate Publică (L-V între 08.00-15.00)

Spain	900-868538; +(34)-931768545
Switzerland	145, (+41) 435082011
United Kingdom	+(44)-870-8200418

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

This substance is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

2.2. Label elements

This substance is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

Hazard statements

This substance is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

2.3. Other hazards

May form combustible dust concentrations in air.

This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

SECTION 3: Composition/information on ingredients

3.1 Substances

Not applicable

3.2 Mixtures

The product contains no substances which at their given concentration, are considered to be hazardous to health

Full text of H- and EUH-phrases: see section 16

Acute Toxicity Estimate

No information available

This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (Regulation (EC) No. 1907/2006 (REACH), Article 59)

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	Remove to fresh air.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Skin contact	In the case of skin irritation or allergic reactions see a physician. Wash skin with soap and water.
Ingestion	Rinse mouth.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms No information available.

4.3. Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

SECTION 5: Firefighting measures**5.1. Extinguishing media**

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Large Fire CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media Do not scatter spilled material with high pressure water streams.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical Avoid generation of dust. Fine dust dispersed in air may ignite.

Hazardous combustion products Carbon oxides. Sodium oxides.

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Personal precautions Ensure adequate ventilation.

For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Take up mechanically, placing in appropriate containers for disposal.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

Advice on safe handling	Ensure adequate ventilation. Avoid generation of dust. Fine dust dispersed in air, in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep container tightly closed in a dry and well-ventilated place.
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7.3. Specific end use(s)

Risk Management Methods (RMM)	The information required is contained in this Safety Data Sheet.
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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits	This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.
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Biological occupational exposure limits

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Derived No Effect Level (DNEL)	No information available.
Predicted No Effect Concentration (PNEC)	No information available.

8.2. Exposure controls

Engineering controls	No information available.
Personal protective equipment	
Eye/face protection	Wear safety glasses with side shields (or goggles). Use eye protection according to EN 166, designed to protect against spray mists.
Hand protection	Nitrile rubber. Gloves must conform to standard EN 374.
Skin and body protection	Long sleeved clothing. (EN 340).
Respiratory protection	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required. (EN 136, EN 140, EN 141, EN 143, EN 149, EN 405).
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice.
Environmental exposure controls	Do not allow into any sewer, on the ground or into any body of water. Avoid creating dust. Do not flush into surface water or sanitary sewer system.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Solid
Appearance	Powder

Color	White to Pale yellow
Odor	Odorless;
Odor threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Melting point / freezing point		No information available
Boiling point / boiling range		No information available
Flammability (solid, gas)		No information available
Flammability Limit in Air		No information available
Upper flammability limit:		
Lower flammability limit:		
Flash point		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
pH		No information available
pH (as aqueous solution)		No information available
Kinematic viscosity		Not applicable
Dynamic viscosity		Not applicable
Water solubility	Soluble in water	
Solubility(ies)		No information available
Partition coefficient		No information available
Vapor pressure		No information available
Relative density	1.6	
Bulk density		
Liquid Density		
Vapor density		No information available
Particle characteristics		No information available
Particle Size		
Particle Size Distribution		

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Not applicable

Explosive properties Fine dust dispersed in air, in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard

9.2.2. Other safety characteristics

No information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity Not reactive under normal conditions.

10.2. Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

10.4. Conditions to avoid

Conditions to avoid dust formation.

10.5. Incompatible materials

Incompatible materials Strong oxidizing agents.

10.6. Hazardous decomposition products

Hazardous Decomposition Products None known based on information supplied.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Information on likely routes of exposure

Product Information

Inhalation	May cause irritation.
Eye contact	May cause irritation.
Skin contact	May cause irritation.
Ingestion	Specific test data for the substance or mixture is not available.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms No information available.

Numerical measures of toxicity

Acute toxicity

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral) 12,272.70 mg/kg

- 0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity.
- 100 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity.
- 100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas).
- 100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor).
- 100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist).

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation No information available.

Serious eye damage/eye irritation No information available.

Respiratory or skin sensitization No information available.

Germ cell mutagenicity No information available.

Carcinogenicity No information available.

Reproductive toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Aspiration hazard Not applicable.

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Endocrine disrupting properties No information available.

11.2.2. Other information

Other adverse effects No information available.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity

Unknown aquatic toxicity Contains 0 % of components with unknown hazards to the aquatic environment.

12.2. Persistence and degradability

Persistence and degradability No information available.

12.3. Bioaccumulative potential

Bioaccumulation No information available.

12.4. Mobility in soil

Mobility in soil No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment The product does not contain any substance(s) classified as PBT or vPvB.

12.6. Endocrine disrupting properties

Endocrine disrupting properties No information available.

12.7. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products Dispose of waste in accordance with environmental legislation. Dispose of in accordance with local regulations.

Contaminated packaging Do not reuse empty containers.

Waste codes / waste designations according to EWC / AVV Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14: Transport information

IATA

14.1 UN number or ID number	Not regulated
14.2 Proper shipping name	Not Regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	None

IMDG

14.1 UN number or ID number	Not regulated
14.2 Proper shipping name	Not Regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing Group	Not Regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	None
14.7 Maritime transport in bulk according to IMO instruments	No information available

RID

14.1 UN/ID no	Not Regulated
14.2 Proper shipping name	Not Regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing Group	Not Regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	None

ADR

14.1 UN number or ID number	Not regulated
14.2 Proper shipping name	Not Regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing Group	Not Regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	None

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Germany

Water hazard class (WGK) slightly hazardous to water (WGK 1)

Italy

-D. LGs. 81/2008 (single text on the protection of health and safety in the workplace) and subsequent amendments and Directive 2009/161/EU-assessment of chemical risk under title IX

-Legislative Decree 3 April 2006, no 152 (environmental standards)

-"Seveso III Directive" – Legislative Decree of 26 June 2015, n° 105 (Implementation of the Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances)

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Authorizations and/or restrictions on use:

This product does not contain substances subject to authorization (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Persistent Organic Pollutants

Not applicable

Ozone-depleting substances (ODS) regulation (EC) 1005/2009

Not applicable

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies
NZIoC	Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

15.2. Chemical safety assessment

Chemical Safety Report None

SECTION 16: Other information**Key or legend to abbreviations and acronyms used in the safety data sheet****Legend**

SVHC: Substances of Very High Concern for Authorization:

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
+	Sensitizers		

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
European Chemicals Agency (ECHA) (ECHA_API)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGl(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
Japan GHS Classification
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
World Health Organization

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Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

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End of Safety Data Sheet

NewPlug™ (F,M,C)

A safety data sheet is not required for this product under Article 31 of REACH

Issuing Date 19-May-2023

Revision date 15-Aug-2023

Version 1.1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1

1.1. Product identifier

Product Code NDF00024

Product Name NewPlug™ (F,M,C)

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use lost circulation material

Uses advised against No information available

1.3. Details of the supplier of the safety data sheet

Supplier

Newpark Drilling Fluids S.r.l.

Via Salaria 1313/C

00138 ROMA (Italy)

For further information, please contact

Contact Point Telephone: + 39 06 8856111
 Fax: +39 06 8889363
 Website: www.newpark.com

E-mail address hse-hqit@newpark.com

1.4. Emergency telephone number

Emergency Telephone - §45 - (EC)1272/2008	
Europe	112
Croatia	+385 1 7776 920 ; +385 01 2348 342 (Centar za kontrolu otrovanja, 24 sata)
Cyprus	1401
France	+(33)-975181407
Germany	0800-181-7059; +(49)- 69643508409
Hungary	+(36)-18088425
Italy	800-789-767; +(39)-0245557031 Milano 24/24 Ospedale Niguarda Ca'grande Piazza ospedale maggiore 3 +39 0266101029
	Roma 24/24 Policlinico Gemelli Largo Agostino Gemelli 8 +39 063054343
Netherlands	+(31)-858880596

Romania	+40213183606, Institutul National de Sănătate Publică (L-V între 08.00-15.00)
Spain	900-868538; +(34)-931768545
Switzerland	145, (+41) 435082011
United Kingdom	+(44)-870-8200418

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

2.2. Label elements

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

Hazard statements

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

EUH210 - Safety data sheet available on request

2.3. Other hazards

May form combustible dust concentrations in air.

This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

SECTION 3: Composition/information on ingredients

3.1 Substances

The product contains no substances which at their given concentration, are considered to be hazardous to health

Chemical name	Weight-%	REACH registration number	EC No (EU Index No)	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
Cellulose	90 - 100%	No data available	Listed	No data available	-	-	-

Full text of H- and EUH-phrases: see section 16

Acute Toxicity Estimate

No information available

Chemical name	Oral LD50 mg/kg	Dermal LD50 mg/kg	Inhalation LC50 - 4 hour - dust/mist - mg/L	Inhalation LC50 - 4 hour - vapor - mg/L	Inhalation LC50 - 4 hour - gas - ppm
Cellulose	5000	2000	5.8	No data available	No data available

This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (Regulation (EC) No. 1907/2006 (REACH), Article 59)

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	Remove to fresh air.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Skin contact	In the case of skin irritation or allergic reactions see a physician. Wash skin with soap and water.
Ingestion	Rinse mouth.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms No information available.

4.3. Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Large Fire CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media Do not scatter spilled material with high pressure water streams.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical No information available.

Hazardous combustion products Carbon oxides.

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation.

For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Take up mechanically, placing in appropriate containers for disposal.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

Advice on safe handling Ensure adequate ventilation.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed in a dry and well-ventilated place.

7.3. Specific end use(s)

Risk Management Methods (RMM) The information required is contained in this Safety Data Sheet.

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Exposure Limits**

Chemical name	European Union	Austria	Belgium	Bulgaria	Croatia
Cellulose	-	-	TWA: 10 mg/m³ TWA: 0.5 mg/m³	-	TWA: 10 mg/m³ TWA: 4 mg/m³ STEL: 20 mg/m³
Chemical name	Cyprus	Czech Republic	Denmark	Estonia	Finland
Cellulose	-	-	TWA: 1 mg/m³	TWA: 10 mg/m³ TWA: 2 mg/m³	-
Chemical name	France	Germany TRGS	Germany DFG	Greece	Hungary
Cellulose	TWA: 10 mg/m³ TWA: 1 mg/m³	-	-	TWA: 5 mg/m³	TWA: 3 mg/m³
Chemical name	Ireland	Italy MDLPS	Italy AIDII	Latvia	Lithuania
Cellulose	TWA: 10 mg/m³ STEL: 30 mg/m³	-	TWA: 10 mg/m³	TWA: 2 mg/m³ TWA: 6 mg/m³	-
Chemical name	Luxembourg	Malta	Netherlands	Norway	Poland
Cellulose	-	-	-	-	TWA: 3 mg/m³
Chemical name	Portugal	Romania	Slovakia	Slovenia	Spain
Cellulose	TWA: 10 mg/m³	TWA: 10 mg/m³	-	-	TWA: 10 mg/m³
Chemical name	Sweden		Switzerland		United Kingdom
Cellulose	NGV: 2 mg/m³		S+ TWA: 3 mg/m³ TWA: 2 mg/m³		TWA: 10 mg/m³ TWA: 4 mg/m³ STEL: 20 mg/m³ STEL: 12 mg/m³

Biological occupational exposure limits

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Derived No Effect Level (DNEL) No information available.

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Engineering controls Eyewash stations.

Personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles). Eye protection must conform to standard EN 166.

Hand protection Nitrile rubber. Gloves must conform to standard EN 374.

Skin and body protection Long sleeved clothing. (EN 340).

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls No information available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state Solid
Appearance granules
Color Light brown to dark brown
Odor Odorless.
Odor threshold No information available

Property	Values	Remarks • Method
Melting point / freezing point		No information available
Boiling point / boiling range		No information available
Flammability (solid, gas)		No information available
Flammability Limit in Air		No information available
Upper flammability limit:		
Lower flammability limit:		
Flash point		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
pH		No information available
pH (as aqueous solution)		No information available
Kinematic viscosity		No information available
Dynamic viscosity		No information available
Water solubility	Insoluble in water	
Solubility(ies)		No information available
Partition coefficient		No information available
Vapor pressure		No information available
Relative density	1.4	
Bulk density		
Liquid Density	1.4	
Vapor density		No information available
Particle characteristics		No information available
Particle Size		
Particle Size Distribution		

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Not applicable

9.2.2. Other safety characteristics

No information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity Not reactive under normal conditions.

10.2. Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

10.4. Conditions to avoid

Conditions to avoid None known based on information supplied.

10.5. Incompatible materials

Incompatible materials None known based on information supplied.

10.6. Hazardous decomposition products

Hazardous Decomposition Products Carbon oxides.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Information on likely routes of exposure

Product Information

Inhalation Specific test data for the substance or mixture is not available.

Eye contact Dust contact with the eyes can lead to mechanical irritation.

Skin contact Specific test data for the substance or mixture is not available.

Ingestion Specific test data for the substance or mixture is not available.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms No information available.

Numerical measures of toxicity

Acute toxicity

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Cellulose	> 5 g/kg (Rat)	> 2000 mg/kg (Rabbit)	> 5800 mg/m ³ (Rat) 4 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation No information available.

Serious eye damage/eye irritation No information available.

Respiratory or skin sensitization No information available.

Germ cell mutagenicity No information available.

Carcinogenicity No information available.

Reproductive toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Aspiration hazard No information available.

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Endocrine disrupting properties This product does not contain any known or suspected endocrine disruptors.

11.2.2. Other information

Other adverse effects No information available.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity The environmental impact of this product has not been fully investigated.

12.2. Persistence and degradability

Persistence and degradability No information available.

12.3. Bioaccumulative potential

Bioaccumulation No information available.

12.4. Mobility in soil

Mobility in soil No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment No information available.

12.6. Endocrine disrupting properties

Endocrine disrupting properties This product does not contain any known or suspected endocrine disruptors.

12.7. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products Dispose of waste in accordance with environmental legislation. Dispose of in accordance with local regulations.

Contaminated packaging Do not reuse empty containers.

Waste codes / waste designations according to EWC / AVV Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14: Transport information

IATA

14.1 UN number or ID number Not regulated
 14.2 Proper shipping name Not Regulated
 14.3 Transport hazard class(es) Not regulated
 14.4 Packing group Not regulated
 14.5 Environmental hazard Not applicable
 14.6 Special precautions for user
 Special Provisions None

IMDG

14.1 UN number or ID number Not regulated
 14.2 Proper shipping name Not Regulated
 14.3 Transport hazard class(es) Not regulated
 14.4 Packing Group Not Regulated
 14.5 Environmental hazard Not applicable
 14.6 Special precautions for user
 Special Provisions None
 14.7 Maritime transport in bulk according to IMO instruments No information available

RID

14.1 UN/ID no Not Regulated
 14.2 Proper shipping name Not Regulated
 14.3 Transport hazard class(es) Not regulated
 14.4 Packing Group Not Regulated
 14.5 Environmental hazard Not applicable
 14.6 Special precautions for user
 Special Provisions None

ADR

14.1 UN number or ID number Not regulated
 14.2 Proper shipping name Not Regulated

14.3 Transport hazard class(es)	Not regulated
14.4 Packing Group	Not Regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	None

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations

France

Occupational Illnesses (R-463-3, France)

Chemical name	French RG number
Cellulose	RG 66

Italy

-D. LGs. 81/2008 (single text on the protection of health and safety in the workplace) and subsequent amendments and Directive 2009/161/EU-assessment of chemical risk under title IX

-Legislative Decree 3 April 2006, no 152 (environmental standards)

-"Seveso III Directive" – Legislative Decree of 26 June 2015, n° 105 (Implementation of the Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances)

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Authorizations and/or restrictions on use:

This product does not contain substances subject to authorization (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Persistent Organic Pollutants

Not applicable

Ozone-depleting substances (ODS) regulation (EC) 1005/2009

Not applicable

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Does not comply
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies
NZIoC	Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

15.2. Chemical safety assessment

Chemical Safety Report No information available

SECTION 16: Other information

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend

SVHC: Substances of Very High Concern for Authorization:

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
+	Sensitizers		

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
European Chemicals Agency (ECHA) (ECHA_API)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGl(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
Japan GHS Classification
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
World Health Organization

Issuing Date 19-May-2023

Revision date 15-Aug-2023

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

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control of Newpark Drilling Fluids LLC there is no guarantee that the precautions outlined above will be sufficient for all individuals or situations. The buyer assumes all responsibility for using and handling the product in accordance with federal, state, provincial, or local regulations. For the product/ material described in this document, **NO WARRANTY IS MADE, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE.** According to Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006, as amended by Regulation (EC) No. 2020/878.

End of Safety Data Sheet

NewSeal™ 25

A safety data sheet is not required for this product under Article 31 of REACH

Issuing Date 05-Dec-2022

Revision date 09-Oct-2023

Version 1.1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product Code NDF00963

Product Name NewSeal™ 25

Chemical Name Natural Graphite

Synonyms Avagraph

Pure substance/mixture
Formula C

Molecular weight 12.01

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Lubricant

Uses advised against No information available

1.3. Details of the supplier of the safety data sheet

Supplier

Newpark Drilling Fluids S.r.l.
 Via Salaria 1313/C
 00138 ROMA (Italy)
 For further information, please contact

Contact Point Telephone: + 39 06 8856111
 Fax: +39 06 8889363
 Website: www.newpark.com

E-mail address hse-hqit@newpark.com

1.4. Emergency telephone number

Emergency Telephone - §45 - (EC)1272/2008	
Europe	112
Croatia	+385 1 7776 920 ; +385 01 2348 342 (Centar za kontrolu otrovanja, 24 sata)
Cyprus	1401
France	+(33)-975181407
Germany	0800-181-7059; +(49)- 69643508409
Hungary	+(36)-18088425
Italy	800-789-767; +(39)-0245557031 Milano 24/24 Ospedale Niguarda Ca'grande

	Piazza ospedale maggiore 3 +39 0266101029 Roma 24/24 Policlinico Gemelli Largo Agostino Gemelli 8 +39 063054343
Netherlands	+(31)-858880596
Romania	+40213183606, Institutul Național de Sănătate Publică (L-V între 08.00-15.00)
Spain	900-868538; +(34)-931768545
Switzerland	145, (+41) 435082011
United Kingdom	+(44)-870-8200418

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

This substance is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

2.2. Label elements

This substance is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

Hazard statements

This substance is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

2.3. Other hazards

This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

SECTION 3: Composition/information on ingredients

3.1 Substances

Chemical name	Weight-%	REACH registration number	EC No (EU Index No)	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
Graphite 7782-42-5	90-100	01-2119486977-12-xxx x	231-955-3	No data available	-	-	-

Full text of H- and EUH-phrases: see section 16

Acute Toxicity Estimate

No information available

This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (Regulation (EC) No. 1907/2006 (REACH), Article 59)

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation

Remove to fresh air.

Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Skin contact	In the case of skin irritation or allergic reactions see a physician. Wash skin with soap and water.
Ingestion	Clean mouth with water and drink afterwards plenty of water.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms	No information available.
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4.3. Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptomatically.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Large Fire	CAUTION: Use of water spray when fighting fire may be inefficient.
Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical	No information available.
Hazardous combustion products	Carbon oxides.

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.
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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Ensure adequate ventilation. Avoid generation of dust.
For emergency responders	Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions	See Section 12 for additional Ecological Information.
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6.3. Methods and material for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so.
Methods for cleaning up	Take up mechanically, placing in appropriate containers for disposal.
Prevention of secondary hazards	Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid generation of dust. Wash thoroughly after handling.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed in a dry and well-ventilated place.

Storage class (TRGS 510) Storage class 13

7.3. Specific end use(s)

Risk Management Methods (RMM) The information required is contained in this Safety Data Sheet.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits

Chemical name	European Union	Austria	Belgium	Bulgaria	Croatia
Graphite 7782-42-5	-	TWA: 5 mg/m ³ STEL 10 mg/m ³	TWA: 2 mg/m ³	TWA: 5.0 mg/m ³	TWA: 4 mg/m ³ TWA: 10 mg/m ³
Chemical name	Cyprus	Czech Republic	Denmark	Estonia	Finland
Graphite 7782-42-5	-	TWA: 2.0 mg/m ³	TWA: 2.5 mg/m ³	TWA: 5 mg/m ³	TWA: 2 mg/m ³
Chemical name	France	Germany TRGS	Germany DFG	Greece	Hungary
Graphite 7782-42-5	TWA: 2 mg/m ³	TWA: 1.25 mg/m ³ TWA: 10 mg/m ³	TWA: 0.3 mg/m ³ TWA: 4 mg/m ³ Peak: 2.4 mg/m ³	TWA: 10 mg/m ³ TWA: 5 mg/m ³	TWA: 5 mg/m ³
Chemical name	Ireland	Italy MDLPS	Italy AIDII	Latvia	Lithuania
Graphite 7782-42-5	TWA: 2 mg/m ³ STEL: 6 mg/m ³	-	TWA: 2 mg/m ³	TWA: 2 mg/m ³	TWA: 5 mg/m ³
Chemical name	Luxembourg	Malta	Netherlands	Norway	Poland
Graphite 7782-42-5	-	-	-	TWA: 5 mg/m ³ TWA: 2 mg/m ³ TWA: 10 mg/m ³ TWA: 4 mg/m ³ STEL: 10 mg/m ³ STEL: 4 mg/m ³ STEL: 20 mg/m ³ STEL: 8 mg/m ³	TWA: 4.0 mg/m ³ TWA: 1.0 mg/m ³
Chemical name	Portugal	Romania	Slovakia	Slovenia	Spain
Graphite 7782-42-5	TWA: 2 mg/m ³	TWA: 2 mg/m ³	-	-	TWA: 2 mg/m ³
Chemical name	Sweden		Switzerland		United Kingdom
Graphite 7782-42-5	-		TWA: 3 mg/m ³		TWA: 10 mg/m ³ TWA: 4 mg/m ³ STEL: 30 mg/m ³ STEL: 12 mg/m ³

Biological occupational exposure limits

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Derived No Effect Level (DNEL)	No information available.
Predicted No Effect Concentration (PNEC)	No information available.

8.2. Exposure controls

Engineering controls	No information available.
Personal protective equipment	
Eye/face protection	Wear safety glasses with side shields (or goggles). Eye protection must conform to standard EN 166.
Hand protection	Wear suitable gloves. Gloves must conform to standard EN 374.
Skin and body protection	Wear suitable protective clothing. (EN 340).
Respiratory protection	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. (EN 136, EN 140, EN 141, EN 143, EN 149, EN 405).
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice.
Environmental exposure controls	No information available.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state	Solid
Appearance	Powder
Color	light gray
Odor	Odorless.
Odor threshold	No information available

Property	Values	Remarks • Method
Melting point / freezing point	> 3000 °C	No information available
Boiling point / boiling range		No information available
Flammability (solid, gas)		Not applicable
Flammability Limit in Air		
Upper flammability limit:		
Lower flammability limit:		
Flash point		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
pH		Not applicable
pH (as aqueous solution)		No information available
Kinematic viscosity		Not applicable
Dynamic viscosity		Not applicable
Water solubility	Insoluble in water	
Solubility(ies)		No information available
Partition coefficient		No information available
Vapor pressure		No information available
Relative density	1.9-2.3	
Bulk density		
Liquid Density		
Vapor density		No information available
Particle characteristics		No information available

Particle Size
Particle Size Distribution

9.2. Other information

Molecular weight 12.01

9.2.1. Information with regard to physical hazard classes
Not applicable

9.2.2. Other safety characteristics
No information available Not applicable

SECTION 10: Stability and reactivity**10.1. Reactivity**

Reactivity Not reactive under normal conditions.

10.2. Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

10.4. Conditions to avoid

Conditions to avoid dust formation. Incompatible materials.

10.5. Incompatible materials

Incompatible materials Strong oxidizing agents.

10.6. Hazardous decomposition products

Hazardous Decomposition Products None known based on information supplied.

SECTION 11: Toxicological information**11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008****Information on likely routes of exposure****Product Information**

Inhalation Specific test data for the substance or mixture is not available.

Eye contact Specific test data for the substance or mixture is not available.

Skin contact Specific test data for the substance or mixture is not available.

Ingestion Specific test data for the substance or mixture is not available.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms No information available.

Numerical measures of toxicity

Acute toxicity**Component Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Graphite	-	-	> 2000 mg/m ³ (Rat) 4 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	No information available.
Serious eye damage/eye irritation	Dust contact with the eyes can lead to mechanical irritation.
Respiratory or skin sensitization	No information available.
Germ cell mutagenicity	No information available.
Carcinogenicity	No information available.
Reproductive toxicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Aspiration hazard	Not applicable.

11.2. Information on other hazards**11.2.1. Endocrine disrupting properties**

Endocrine disrupting properties	No information available.
--	---------------------------

11.2.2. Other information

Other adverse effects	No information available.
------------------------------	---------------------------

SECTION 12: Ecological information**12.1. Toxicity**

Ecotoxicity	Harmful to aquatic life with long lasting effects.
--------------------	--

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Graphite	-	LC50: >100mg/L (96h, Danio rerio)	-	-

12.2. Persistence and degradability

Persistence and degradability No information available.

12.3. Bioaccumulative potential

Bioaccumulation No information available.

12.4. Mobility in soil

Mobility in soil No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment The product does not contain any substance(s) classified as PBT or vPvB.

Chemical name	PBT and vPvB assessment
Graphite	The substance is not PBT / vPvB PBT assessment does not apply

12.6. Endocrine disrupting properties

Endocrine disrupting properties No information available.

12.7. Other adverse effects

No information available.

SECTION 13: Disposal considerations**13.1. Waste treatment methods**

Waste from residues/unused products Dispose of waste in accordance with environmental legislation. Dispose of in accordance with local regulations.

Contaminated packaging Do not reuse empty containers.

Waste codes / waste designations according to EWC / AVV Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14: Transport information**IATA**

14.1 UN number or ID number Not regulated

14.2 Proper shipping name Not Regulated

14.3 Transport hazard class(es) Not regulated

14.4 Packing group Not regulated

14.5 Environmental hazard Not applicable

14.6 Special precautions for user

Special Provisions None

IMDG

14.1 UN number or ID number Not regulated

14.2 Proper shipping name Not Regulated

14.3 Transport hazard class(es) Not regulated

14.4 Packing Group Not Regulated

14.5 Environmental hazard Not applicable

14.6 Special precautions for user

Special Provisions None

14.7 Maritime transport in bulk No information available

according to IMO instruments

RID

14.1 UN/ID no	Not Regulated
14.2 Proper shipping name	Not Regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing Group	Not Regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	None

ADR

14.1 UN number or ID number	Not regulated
14.2 Proper shipping name	Not Regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing Group	Not Regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	None

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations

France

Occupational Illnesses (R-463-3, France)

Chemical name	French RG number
Graphite	RG 16
7782-42-5	RG 25

Germany

Water hazard class (WGK) non-hazardous to water (nwg)

Italy

-D. LGs. 81/2008 (single text on the protection of health and safety in the workplace) and subsequent amendments and Directive 2009/161/EU-assessment of chemical risk under title IX

-Legislative Decree 3 April 2006, no 152 (environmental standards)

-"Seveso III Directive" – Legislative Decree of 26 June 2015, n° 105 (Implementation of the Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances)

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Authorizations and/or restrictions on use:

This product does not contain substances subject to authorization (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Persistent Organic Pollutants

Not applicable

Ozone-depleting substances (ODS) regulation (EC) 1005/2009

Not applicable

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Contact supplier for inventory compliance status
ENCS	Contact supplier for inventory compliance status
IECSC	Contact supplier for inventory compliance status
KECL	Contact supplier for inventory compliance status
PICCS	Contact supplier for inventory compliance status
AICS	Contact supplier for inventory compliance status

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

15.2. Chemical safety assessment

Chemical Safety Report A Chemical Safety Assessment is not required for this substance

SECTION 16: Other information**Key or legend to abbreviations and acronyms used in the safety data sheet****Legend**

SVHC: Substances of Very High Concern for Authorization:

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
+	Sensitizers		

Classification procedure	
Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - vapor	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	Calculation method
Respiratory sensitization	Calculation method
Skin sensitization	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	Calculation method
Reproductive toxicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration hazard	Calculation method
Ozone	Calculation method

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
European Chemicals Agency (ECHA) (ECHA_API)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGl(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
Japan GHS Classification
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
World Health Organization

Issuing Date 05-Dec-2022

Revision date 09-Oct-2023

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)**Disclaimer**

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End of Safety Data Sheet

NoFoam™ NS

A safety data sheet is not required for this product under Article 31 of REACH

Issuing Date 21-Apr-2023

Revision date 08-Aug-2023

Version 1.1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1

1.1. Product identifier

Product Code NDF01004

Product Name NoFoam™ NS

Pure substance/mixture Mixture

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Defoamer

Uses advised against No information available

1.3. Details of the supplier of the safety data sheet

Supplier

Newpark Drilling Fluids S.r.l.

Via Salaria 1313/C

00138 ROMA (Italy)

For further information, please contact

Contact Point Telephone: + 39 06 8856111
 Fax: +39 06 8889363
 Website: www.newpark.com

E-mail address hse-hqit@newpark.com

1.4. Emergency telephone number

Emergency Telephone - §45 - (EC)1272/2008	
Europe	112
Croatia	+385 1 7776 920 ; +385 01 2348 342 (Centar za kontrolu otrovanja, 24 sata)
Cyprus	1401
France	+(33)-975181407
Germany	0800-181-7059; +(49)- 69643508409
Hungary	+(36)-18088425
Italy	800-789-767; +(39)-0245557031 Milano 24/24 Ospedale Niguarda Ca'grande Piazza ospedale maggiore 3 +39 0266101029 Roma 24/24 Policlinico Gemelli Largo Agostino Gemelli 8 +39 063054343

Netherlands	+(31)-858880596
Romania	+40213183606, Institutul Național de Sănătate Publică (L-V între 08.00-15.00)
Spain	900-868538; +(34)-931768545
Switzerland	145, (+41) 435082011
United Kingdom	+(44)-870-8200418

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

2.2. Label elements

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

Hazard statements

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

2.3. Other hazards

This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors.

SECTION 3: Composition/information on ingredients

3.1 Substances

Not applicable

3.2 Mixtures

The product contains no substances which at their given concentration, are considered to be hazardous to health

Full text of H- and EUH-phrases: see section 16

Acute Toxicity Estimate

No information available

This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (Regulation (EC) No. 1907/2006 (REACH), Article 59)

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	Remove to fresh air.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Skin contact	In the case of skin irritation or allergic reactions see a physician. Wash skin with soap and water.

Ingestion	Rinse mouth.
-----------	--------------

4.2. Most important symptoms and effects, both acute and delayed

Symptoms	No information available.
----------	---------------------------

4.3. Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptomatically.
--------------------	------------------------

SECTION 5: Firefighting measures**5.1. Extinguishing media**

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
------------------------------	---

Large Fire	CAUTION: Use of water spray when fighting fire may be inefficient.
------------	--

Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.
--------------------------------	---

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical	No information available.
--	---------------------------

Hazardous combustion products	Carbon oxides.
-------------------------------	----------------

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.
--	--

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Personal precautions	Ensure adequate ventilation.
----------------------	------------------------------

For emergency responders	Use personal protection recommended in Section 8.
--------------------------	---

6.2. Environmental precautions

Environmental precautions	See Section 12 for additional Ecological Information.
---------------------------	---

6.3. Methods and material for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so.
-------------------------	---

Methods for cleaning up	Take up mechanically, placing in appropriate containers for disposal.
-------------------------	---

Prevention of secondary hazards	Clean contaminated objects and areas thoroughly observing environmental regulations.
---------------------------------	--

6.4. Reference to other sections

Reference to other sections	See section 8 for more information. See section 13 for more information.
-----------------------------	--

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling	Ensure adequate ventilation.
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep container tightly closed in a dry and well-ventilated place.
Storage class (TRGS 510)	Storage class 10

7.3. Specific end use(s)

Risk Management Methods (RMM)	The information required is contained in this Safety Data Sheet.
--------------------------------------	--

SECTION 8: Exposure controls/personal protection**8.1. Control parameters**

Exposure Limits	This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.
------------------------	---

Biological occupational exposure limits

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Derived No Effect Level (DNEL)	No information available.
Predicted No Effect Concentration (PNEC)	No information available.

8.2. Exposure controls

Engineering controls	No information available.
Personal protective equipment	
Eye/face protection	Use eye protection according to EN 166, designed to protect against spray mists.
Hand protection	Nitrile rubber. Gloves must conform to standard EN 374.
Skin and body protection	(EN 340). Long sleeved clothing.
Respiratory protection	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required. (EN 136, EN 140, EN 141, EN 143, EN 149, EN 405).
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice.
Environmental exposure controls	No information available.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state	Liquid
Appearance	liquid

Color	clear
Odor	Slight.
Odor threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Melting point / freezing point		No data available
Boiling point / boiling range		No data available
Flammability (solid, gas)		Not applicable
Flammability Limit in Air		No information available
Upper flammability limit:		
Lower flammability limit:		
Flash point	> 100 °C	
Autoignition temperature		No data available
Decomposition temperature		No data available
pH		No data available
pH (as aqueous solution)		No information available
Kinematic viscosity		No data available
Dynamic viscosity		No data available
Water solubility	Insoluble in water	
Solubility(ies)		No data available
Partition coefficient		No data available
Vapor pressure		No data available
Relative density	0.95-0.97	
Bulk density		
Liquid Density	0.95-0.97	
Vapor density		No data available
Particle characteristics		No information available
Particle Size		
Particle Size Distribution		

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Not applicable

Explosive properties Not an explosive

Oxidizing properties Not applicable

9.2.2. Other safety characteristics

No information available No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity Not reactive under normal conditions.

10.2. Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

10.4. Conditions to avoid

Conditions to avoid None known based on information supplied.

10.5. Incompatible materials

Incompatible materials None known based on information supplied.

10.6. Hazardous decomposition products

Hazardous Decomposition Products None known based on information supplied.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Information on likely routes of exposure

Product Information

Inhalation	Specific test data for the substance or mixture is not available.
Eye contact	Specific test data for the substance or mixture is not available.
Skin contact	Specific test data for the substance or mixture is not available.
Ingestion	Specific test data for the substance or mixture is not available.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms No information available.

Numerical measures of toxicity

Acute toxicity

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral) 10,000.00 mg/kg

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	No information available.
Serious eye damage/eye irritation	No information available.
Respiratory or skin sensitization	No information available.
Germ cell mutagenicity	No information available.
Carcinogenicity	No information available.
Reproductive toxicity	No information available.
STOT - single exposure	No information available.

STOT - repeated exposure	No information available.
--------------------------	---------------------------

Aspiration hazard	No information available.
-------------------	---------------------------

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Endocrine disrupting properties	This product does not contain any known or suspected endocrine disruptors.
---------------------------------	--

11.2.2. Other information

Other adverse effects	No information available.
-----------------------	---------------------------

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity

Unknown aquatic toxicity	Contains 0 % of components with unknown hazards to the aquatic environment.
--------------------------	---

12.2. Persistence and degradability

Persistence and degradability	No information available.
-------------------------------	---------------------------

12.3. Bioaccumulative potential

Bioaccumulation	No information available.
-----------------	---------------------------

12.4. Mobility in soil

Mobility in soil	No information available.
------------------	---------------------------

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment	No information available.
-------------------------	---------------------------

12.6. Endocrine disrupting properties

Endocrine disrupting properties	This product does not contain any known or suspected endocrine disruptors.
---------------------------------	--

12.7. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products	Dispose of waste in accordance with environmental legislation. Dispose of in accordance with local regulations.
-------------------------------------	---

Contaminated packaging	Do not reuse empty containers.
------------------------	--------------------------------

Waste codes / waste designations according to EWC / AVV	Waste codes should be assigned by the user based on the application for which the product was used.
---	---

SECTION 14: Transport information

IATA

14.1 UN number or ID number	Not regulated
14.2 Proper shipping name	Not Regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	None

IMDG

14.1 UN number or ID number	Not regulated
14.2 Proper shipping name	Not Regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing Group	Not Regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	None
14.7 Maritime transport in bulk according to IMO instruments	No information available

RID

14.1 UN/ID no	Not Regulated
14.2 Proper shipping name	Not Regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing Group	Not Regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	None

ADR

14.1 UN number or ID number	Not regulated
14.2 Proper shipping name	Not Regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing Group	Not Regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	None

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations

Germany

Italy

-D. LGs. 81/2008 (single text on the protection of health and safety in the workplace) and subsequent amendments and Directive 2009/161/EU-assessment of chemical risk under title IX
 -Legislative Decree 3 April 2006, no 152 (environmental standards)
 -"Seveso III Directive" – Legislative Decree of 26 June 2015, n° 105 (Implementation of the Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances)

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Authorizations and/or restrictions on use:

This product does not contain substances subject to authorization (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Persistent Organic Pollutants

Not applicable

Ozone-depleting substances (ODS) regulation (EC) 1005/2009

Not applicable

International Inventories

TSCA	Complies
DSL/NDL	Complies
EINECS/ELINCS	Complies
ENCS	Does not comply
IECSC	Complies
KECL	Complies
PICCS	Does not comply
AICS	Complies
NZIoC	Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
 DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List
 EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
 ENCS - Japan Existing and New Chemical Substances
 IECSC - China Inventory of Existing Chemical Substances
 KECL - Korean Existing and Evaluated Chemical Substances
 PICCS - Philippines Inventory of Chemicals and Chemical Substances
 AICS - Australian Inventory of Chemical Substances

15.2. Chemical safety assessment

Chemical Safety Report For this substance a chemical safety assessment has not been carried out

SECTION 16: Other information

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend

SVHC: Substances of Very High Concern for Authorization:

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
+	Sensitizers		

Classification procedure	
Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method

Acute inhalation toxicity - vapor	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	Calculation method
Respiratory sensitization	Calculation method
Skin sensitization	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	Calculation method
Reproductive toxicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration hazard	Calculation method
Ozone	Calculation method

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
European Chemicals Agency (ECHA) (ECHA_API)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
Japan GHS Classification
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
World Health Organization

Issuing Date 21-Apr-2023

Revision date 08-Aug-2023

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)**Disclaimer**

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End of Safety Data Sheet

Cloruro di Potassio (Potassium Chloride)

Per questo prodotto non è richiesta una SDS in accordo con l'Articolo 31 del REACH

Data del Rilascio 15-ott-2015

Data di revisione 09-ago-2023

Versione 2.3

SEZIONE 1: Identificazione della sostanza/miscela e della società/impresa**1.1. Identificatore del prodotto**

Codice del Prodotto	NDF00122
Denominazione del Prodotto	Cloruro di Potassio (Potassium Chloride)
N. CE (N. indice UE)	231-211-8
N. CAS	7447-40-7
Sostanza/miscela pura	Sostanza
Peso molecolare	74.55

1.2. Usi identificati pertinenti della sostanza o della miscela e usi sconsigliati

Uso Raccomandato	inibitore di argille
Usi sconsigliati	Nessuno noto

1.3. Informazioni sul fornitore della scheda di dati di sicurezza**Fornitore**

Newpark Drilling Fluids S.r.l.

Via Salaria 1313/C

00138 ROMA (Italy)

Per ulteriori informazioni, contattare

Punto di Contatto	Telephone: + 39 06 8856111 Fax: +39 06 8889363 Website: www.newpark.com
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Indirizzo e-mail	hse-hqit@newpark.com
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1.4. Numero telefonico di emergenza

Numero telefonico di emergenza - §45 - (CE)1272/2008	
Europa	112
Croazia	+385 1 7776 920 ; +385 01 2348 342 (Centar za kontrolu otrovanja, 24 sata)
Cipro	1401
Francia	+(33)-975181407
Germania	0800-181-7059; +(49)- 69643508409
Ungheria	+(36)-18088425
Italia	800-789-767; +(39)-0245557031 Milano 24/24 Ospedale Niguarda Ca'grande Piazza ospedale maggiore 3 +39 0266101029

	Roma 24/24 Policlinico Gemelli Largo Agostino Gemelli 8 +39 063054343
Paesi Bassi	+(31)-858880596
Romania	+40213183606, Institutul Național de Sănătate Publică (L-V între 08.00-15.00)
Spagna	900-868538; +(34)-931768545
Svizzera	145, (+41) 435082011
Regno Unito	+(44)-870-8200418

SEZIONE 2: Identificazione dei pericoli

2.1. Classificazione della sostanza o della miscela

Regolamento (CE) n. 1272/2008

Questa sostanza è classificata come non pericolosa ai sensi del regolamento (CE) n. 1272/2008 [CLP]

2.2. Elementi dell'etichetta

Questa sostanza è classificata come non pericolosa ai sensi del regolamento (CE) n. 1272/2008 [CLP]

Indicazioni di pericolo

Questa sostanza è classificata come non pericolosa ai sensi del regolamento (CE) n. 1272/2008 [CLP]

2.3. Altri pericoli

Questa sostanza non soddisfa i criteri PBT/vPvB di REACH, allegato XIII.

SEZIONE 3: Composizione/informazioni sugli ingredienti

3.1 Sostanze

Denominazione chimica	Peso-%	Numero di registrazione REACH	N. CE (N. indice UE)	Classificazione secondo il regolamento (CE) n. 1272/2008 [CLP]	Limite di concentrazione specifico (SCL)	Fattore M	Fattore M (lungo termine)
Cloruro di potassio 7447-40-7	100	01-2119539416-36-XX XX	231-211-8	Nessun informazioni disponibili	-	-	-

Testo completo di frasi H e EUH: vedere Sezione 16

Stima della Tossicità Acuta

Nessuna informazione disponibile

Denominazione chimica	LD50 orale mg/kg	LD50 dermico mg/kg	LC50 inalazione - 4 ore - polvere/nebbia - mg/l	Inalazione LC50 - 4 ore - vapore - mg/l	Inalazione LC50 - 4 ore - gas - ppm
Cloruro di potassio 7447-40-7	2600	Nessun informazioni disponibili	Nessun informazioni disponibili	Nessun informazioni disponibili	Nessun informazioni disponibili

Questo prodotto non contiene sostanze candidate estremamente preoccupanti a una concentrazione $\geq 0,1\%$ (Regolamento (CE) n. 1907/2006 (REACH), Articolo 59)

SEZIONE 4: Misure di primo soccorso**4.1. Descrizione delle misure di primo soccorso**

Inalazione	Rimuovere all'aria fresca.
Contatto con gli occhi	Sciacquare bene con abbondante acqua per almeno 15 minuti, sollevando le palpebre inferiori e superiori. Consultare un medico.
Contatto con la pelle	Nel caso di irritazione cutanea o reazioni allergiche, rivolgersi ad un medico. Lavare la pelle con acqua e sapone.
Ingestione	Sciacquare la bocca.

4.2. Principali sintomi ed effetti, sia acuti che ritardati

Sintomi	Nessuna informazione disponibile.
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4.3. Indicazione dell'eventuale necessità di consultare immediatamente un medico e di trattamenti speciali

Nota per i medici	Trattare sintomaticamente.
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SEZIONE 5: Misure di lotta antincendio**5.1. Mezzi di estinzione**

Mezzi di Estinzione Idonei	Utilizzare misure estinguenti appropriate alle circostanze locali e all'ambiente circostante.
Grande incendio	ATTENZIONE: l'utilizzo di spruzzo d'acqua per l'estinzione degli incendi potrebbe essere inefficace.
Mezzi di estinzione non idonei	Non disperdere il materiale versato con getti d'acqua ad alta pressione.

5.2. Pericoli speciali derivanti dalla sostanza o dalla miscela

Pericoli specifici derivanti dal prodotto chimico	Nessuna informazione disponibile.
Prodotti di combustione pericolosi	Ossidi di potassio. Cloruro di idrogeno.

5.3. Raccomandazioni per gli addetti all'estinzione degli incendi

Equipaggiamento di protezione speciale e precauzioni per gli addetti all'estinzione di incendi I vigili del fuoco devono indossare un apparecchio autorespiratore e una tuta ermetica. Utilizzare dispositivi di protezione individuale.

SEZIONE 6: Misure in caso di rilascio accidentale**6.1. Precauzioni personali, dispositivi di protezione e procedure in caso di emergenza**

Precauzioni individuali	Garantire un'aerazione sufficiente.
Per chi interviene direttamente	Utilizzare una protezione individuale raccomandata nella Sezione 8.

6.2. Precauzioni ambientali

Precauzioni ambientali	Vedere la Sezione 12 per ulteriori Informazioni Ecologiche.
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6.3. Metodi e materiali per il contenimento e per la bonifica

Metodi di contenimento	Impedire ulteriori fuoriuscite o perdite, se è sicuro farlo.
Metodi di bonifica	Prelevare meccanicamente, collocando il prodotto in appositi contenitori per lo smaltimento.
Prevenzione di rischi secondari	Pulire a fondo gli oggetti e le aree contaminate rispettando le norme ambientali.

6.4. Riferimenti ad altre sezioni

Riferimenti ad altre sezioni	Per ulteriori informazioni, cfr. Sezione 8. Per ulteriori informazioni, cfr. Sezione 13.
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SEZIONE 7: Manipolazione e immagazzinamento**7.1. Precauzioni per la manipolazione sicura**

Precauzioni per la manipolazione sicura	Garantire un'aerazione sufficiente.
Raccomandazioni generiche sull'igiene professionale	Maneggiare nel rispetto delle buone norme igieniche e di sicurezza industriali.

7.2. Condizioni per lo stoccaggio sicuro, comprese eventuali incompatibilità

Condizioni di immagazzinamento	Conservare il recipiente chiuso e in un luogo ben ventilato e asciutto.
Classe di stoccaggio (TRGS 510)	LGK 13

7.3. Usi finali particolari

Misure di gestione del rischio (RMM) Le informazioni necessarie sono contenute nella presente Scheda dei dati di sicurezza.

SEZIONE 8: Controllo dell'esposizione/protezione individuale**8.1. Parametri di controllo**

Limiti di Esposizione Questo prodotto, così come viene consegnato, non contiene materiali pericolosi con limiti di esposizione professionali stabiliti dalle autorità di regolamentazione specifiche locali.

Denominazione chimica	Unione Europea	Austria	Belgio	Bulgaria	Croazia
Cloruro di potassio 7447-40-7	-	-	-	TWA: 5.0 mg/m ³	-
Denominazione chimica	Irlanda	Italia MDLPS	Italia AIDII	Lettonia	Lituania
Cloruro di potassio 7447-40-7	-	-	-	TWA: 5 mg/m ³	TWA: 5 mg/m ³

Limiti biologici di esposizione professionale

Questo prodotto, così come fornito, non contiene alcun materiale pericoloso con valori limite biologici fissati dagli organi di regolamentazione specifici della regione.

Livello derivato senza effetto (DNEL) Nessuna informazione disponibile.

Predicted No Effect Concentration Nessuna informazione disponibile.

(PNEC, Concentrazione Prevedibile

Priva di Effetti)

Acqua dolce	100 µg/L
Acqua marina	100 µg/L
Impatto sul Trattamento delle	10 mg/L
Acque di scarico	

8.2. Controlli dell'esposizione

Controlli tecnici	Nessuna informazione disponibile.
Dispositivi di protezione individuale	
Protezioni per occhi/volto	Indossare occhiali di protezione con schermi laterali (o occhiali).
Protezione delle mani	Usare guanti adatti.
Protezione pelle e corpo	Usare indumenti protettivi adatti.
Protezione respiratoria	Non serve attrezzatura protettiva in condizioni di impiego normali. Se si superano i limiti di esposizione o se si presenta un'irritazione, potrebbe essere necessario ventilare o evacuare.
Raccomandazioni generiche sull'igiene professionale	Maneggiare nel rispetto delle buone norme igieniche e di sicurezza industriali.
Controlli dell'esposizione ambientale	Impedire che il prodotto penetri negli scarichi.

SEZIONE 9: Proprietà fisiche e chimiche**9.1. Informazioni sulle proprietà fisiche e chimiche fondamentali**

Stato fisico	Stato Solido	
Aspetto	cristallino	
Colore	Bianco	
Odore	Inodore.	
Soglia olfattiva	Nessuna informazione disponibile	
Proprietà	Valori	Note • Metodo
Punto di fusione / punto di congelamento	770 °C	
Punto/intervallo di ebollizione	1500 °C	
Infiammabilità (solidi, gas)		Non applicabile
Limite di infiammabilità in aria		Non applicabile
Limite di infiammabilità superiore:		
Limite di infiammabilità inferiore		
Punto di infiammabilità		Non applicabile
Temperatura di autoaccensione		Non applicabile
Temperatura di decomposizione		Nessuna informazione disponibile
pH		Nessuna informazione disponibile
pH (come soluzione acquosa)		Nessuna informazione disponibile
Viscosità cinematica		Non applicabile
Viscosità dinamica		Non applicabile
Idrosolubilità	300 g/L @ 20 °C	
La solubilità/le solubilità		Nessuna informazione disponibile
Coefficiente di ripartizione		Nessuna informazione disponibile
Tensione di vapore		Nessuna informazione disponibile
Densità relativa	1.98	
Peso specifico apparente		
Densità del liquido	1.98 g/cm3	
Densità di vapore		Nessuna informazione disponibile
Caratteristiche delle particelle		Nessuna informazione disponibile
Dimensioni delle particelle		
Ripartizione delle particelle per dimensione		

9.2. Altre informazioni

Peso molecolare	74.55
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9.2.1. Informazioni sulle classe di pericolo

Non applicabile

Proprietà esplosive	Non esplosivo
Proprietà ossidanti	Non applicabile

9.2.2. Altre caratteristiche correlate alla sicurezza

Nessuna informazione disponibile

SEZIONE 10: Stabilità e reattività**10.1. Reattività**

Reattività	Non reattivo in condizioni normali.
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10.2. Stabilità chimica

Stabilità	Stabile in condizioni normali.
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Dati esplosione

Sensibilità all'impatto meccanico	Nessuno.
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Sensibilità alla scarica statica	Nessuno.
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10.3. Possibilità di reazioni pericolose

Possibilità di reazioni pericolose	Nessuno durante la normale trasformazione.
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10.4. Condizioni da evitare

Condizioni da evitare	Materiali incompatibili. formazione di polvere.
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10.5. Materiali incompatibili

Materiali incompatibili	Agenti ossidanti forti. Acidi forti.
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10.6. Prodotti di decomposizione pericolosi

Prodotti di Decomposizione Pericolosi:	Nessuno noto in base alle informazioni fornite.
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SEZIONE 11: Informazioni tossicologiche**11.1. Informazioni sulle classi di pericolo secondo la definizione del Regolamento (CE) n. 1272/2008****Informazioni sulle vie probabili di esposizione**

Informazioni sul prodotto	Il prodotto non presenta un pericolo di tossicità acuta, in base alla informazioni fornite
Inalazione	Non sono disponibili dati specifici per la sostanza o mistura.
Contatto con gli occhi	Non sono disponibili dati specifici per la sostanza o mistura.
Contatto con la pelle	Non sono disponibili dati specifici per la sostanza o mistura.
Ingestione	Non sono disponibili dati specifici per la sostanza o mistura.

Sintomi connessi alle caratteristiche fisiche, chimiche e tossicologiche

Sintomi	Nessuna informazione disponibile.
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Misure numeriche di tossicità

Nessuna informazione disponibile

Tossicità acuta

I seguenti valori sono calcolati in base al capitolo 3.1 del documento GHS

STAmix (orale) 2,600.00 mg/kg

0 % della miscela consiste in componenti la cui tossicità acuta per via orale non è nota.

0 % della miscela consiste in componenti la cui tossicità acuta per via cutanea non è nota.

0 % della miscela consiste in componenti la cui tossicità acuta per inalazione (gas) non è nota.

0 % della miscela consiste in componenti la cui tossicità acuta per inalazione (vapori) non è nota.

0 % della miscela consiste in componenti la cui tossicità acuta per inalazione (polvere/nebbia) non è nota.

Denominazione chimica	LD50 orale	LD50 dermico	LC50 inalazione
Cloruro di potassio	= 2600 mg/kg (Rat)	-	-

Effetti immediati, ritardati e cronici derivanti da esposizioni a breve e a lungo termine

Corrosione/irritazione della pelle Nessuno noto.

Lesioni oculari gravi/irritazione oculare Nessuno noto.

Sensibilizzazione cutanea o delle vie respiratorie Nessuno noto.

Mutagenicità sulle cellule germinali Nessuno noto.

Cancerogenicità Nessuno noto.

Tossicità per la riproduzione Nessuno noto.

STOT - esposizione singola Nessuno noto.

STOT - esposizione ripetuta Nessuno noto.

Pericolo in caso di aspirazione Non applicabile.

11.2. Informazioni su altri pericoli**11.2.1. Proprietà di interferente endocrino**

Proprietà di interferente endocrino Nessuna informazione disponibile.

11.2.2. Altre informazioni

Altri effetti avversi Nessuna informazione disponibile.

SEZIONE 12: Informazioni ecologiche**12.1. Tossicità**

Ecotossicità L'impatto ambientale di questo prodotto non è stato completamente indagato.

Tossicità per l'ambiente acquatico sconosciuta Contiene 0% di componenti con pericoli non noti per l'ambiente acquatico.

Denominazione chimica	Piante acquatiche/alghe	Pesci	Tossicità per i microrganismi	Crostacei
Cloruro di potassio	EC50: =2500mg/L (72h, Desmodesmus subspicatus)	LC50: 750 - 1020mg/L (96h, Pimephales promelas) LC50: =1060mg/L (96h, Lepomis macrochirus)	-	EC50: =825mg/L (48h, Daphnia magna) EC50: =83mg/L (48h, Daphnia magna)

12.2. Persistenza e degradabilità

Persistenza e degradabilità Non facilmente biodegradabile.

12.3. Potenziale di bioaccumulo

Bioaccumulo: Nessuno noto.

12.4. Mobilità nel suolo

Mobilità nel suolo Nessuna informazione disponibile.

12.5. Risultati della valutazione PBT e vPvB

Valutazione PBT e vPvB Il prodotto non contiene alcuna sostanza classificata come PBT o vPvB.

Denominazione chimica	Valutazione PBT e vPvB
Cloruro di potassio	La sostanza non è un PBT / vPvB La valutazione PBT non è applicabile

12.6. Proprietà di interferente endocrino

Proprietà di interferente endocrino Nessuna informazione disponibile.

12.7. Altri effetti avversi

Nessuna informazione disponibile.

SEZIONE 13: Considerazioni sullo smaltimento

13.1. Metodi di trattamento dei rifiuti

Rifiuti derivanti da residui/prodotti inutilizzati Smaltire i rifiuti in conformità alla legislazione ambientale. Smaltire in conformità alle normative locali.

Imballaggio contaminato Non riutilizzare i contenitori vuoti.

Codici rifiuti/denominazioni rifiuti secondo EWC / AVV I codici rifiuti devono essere assegnati dall'utente in base all'applicazione per cui il prodotto è stato impiegato.

SEZIONE 14: Informazioni sul trasporto

IATA

14.1 Numero UN o numero ID Non regolamentato

14.2 Designazione ufficiale di trasporto Non regolamentato

14.3 Classi di pericolo connesso al Non regolamentato

trasporto

14.4 Gruppo d'imballaggio	Non regolamentato
14.5 Rischio ambientale	Non applicabile
14.6 Precauzioni speciali per gli utilizzatori	
Disposizioni Particolari	Nessuno

IMDG

14.1 Numero UN o numero ID	Non regolamentato
14.2 Designazione ufficiale di trasporto	Non regolamentato
14.3 Classi di pericolo connesso al trasporto	Non regolamentato
14.4 Gruppo d'imballaggio	Non regolamentato
14.5 Rischio ambientale	Non applicabile
14.6 Precauzioni speciali per gli utilizzatori	
Disposizioni Particolari	Nessuno
14.7 Trasporto marittimo alla rinfusa secondo gli strumenti IMO	Nessuna informazione disponibile

RID

14.1 N. ID/ONU	Non regolamentato
14.2 Designazione ufficiale di trasporto	Non regolamentato
14.3 Classi di pericolo connesso al trasporto	Non regolamentato
14.4 Gruppo d'imballaggio	Non regolamentato
14.5 Rischio ambientale	Non applicabile
14.6 Precauzioni speciali per gli utilizzatori	
Disposizioni Particolari	Nessuno

ADR

14.1 Numero UN o numero ID	Non regolamentato
14.2 Designazione ufficiale di trasporto	Non regolamentato
14.3 Classi di pericolo connesso al trasporto	Non regolamentato
14.4 Gruppo d'imballaggio	Non regolamentato
14.5 Rischio ambientale	Non applicabile
14.6 Precauzioni speciali per gli utilizzatori	
Disposizioni Particolari	Nessuno

SEZIONE 15: Informazioni sulla regolamentazione**15.1. Disposizioni legislative e regolamentari su salute, sicurezza e ambiente specifiche per la sostanza o la miscela****Francia****Malattie Professionali (R-463-3, Francia)**

Denominazione chimica	Numero RG francese
Cloruro di potassio 7447-40-7	RG 67

Germania

Classe di pericolo per l'acqua (WGK) leggermente pericoloso per l'acqua (WGK 1)

Italia

-D.lgs. 81/2008 (Testo unico in materia di tutela della salute e della sicurezza nei luoghi di lavoro) e successive modifiche e Direttiva 2009/161/UE - valutazione rischio chimico ai sensi del titolo IX
 -Decreto legislativo 3 aprile 2006, n. 152 (Norme in materia ambientale)
 -"Direttiva Seveso III" – Decreto Legislativo 26 giugno 2015, n°105 (Attuazione della direttiva 2012/18/UE relativa al controllo del pericolo di incidenti rilevanti connessi con sostanze pericolose)

Unione Europea

Prendere nota della Direttiva 98/24/CE sulla protezione della salute e della sicurezza dei lavoratori dai rischi derivanti da agenti chimici durante il lavoro.

Autorizzazioni e/o limitazioni sull'uso:

Questo prodotto non contiene sostanze soggette ad autorizzazione (Regolamento (CE) n. 1907/2006 (REACH), Allegato XIV)

Questo prodotto non contiene sostanze soggette a limitazione (Regolamento (CE) n. 1907/2006 (REACH), Allegato XVII)

Inquinanti organici persistenti

Non applicabile

Regolamento (CE) 1005/2009 sulle sostanze che riducono lo strato di ozono (ODS)

Non applicabile

Inventari Internazionali

TSCA	Conforme
DSL/NDL	Conforme
EINECS/ELINCS	Conforme
ENCS	Conforme
IECSC	Conforme
KECL	Conforme
PICCS	Conforme
AICS	Conforme
NZIoC	Conforme

Legenda:

TSCA - Sezione 8(b) United States Toxic Substances Control Act (Decreto Statunitense per il Controllo delle Sostanze Tossiche), Inventario

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List (Lista delle Sostanze non Nazionali/delle Sostanze Nazionali Canadesi)

EINECS/ELINCS - Inventario Europeo delle Sostanze Chimiche Esistenti/Lista Europea delle Sostanze Chimiche Notificate

ENCS - Japan Existing and New Chemical Substances (Sostanze Chimiche Nuove ed Esistenti in Giappone)

IECSC - China Inventory of Existing Chemical Substances (Inventario Cinese delle Sostanze Chimiche Esistenti)

KECL - Korean Existing and Evaluated Chemical Substances (Sostanze Chimiche Esistenti e Valutate in Corea)

PICCS - Philippines Inventory of Chemicals and Chemical Substances (Inventario delle Sostanze Chimiche delle Filippine)

AICS - Inventario Australiano delle Sostanze Chimiche (Australian Inventory of Chemical Substances)

15.2. Valutazione della sicurezza chimica

Relazione sulla Sicurezza Chimica Con riferimento ai componenti citati nella Sezione 3, lo scenario di esposizione non è allegato alla presente Scheda di Sicurezza in quanto è stata effettuata una valutazione del rischio chimico disponibile consultando la registrazione REACH nel database ECHA.

SEZIONE 16: Altre informazioni**Spiegazione o legenda delle abbreviazioni e degli acronimi utilizzata nella scheda di dati di sicurezza****Testo completo delle frasi H a cui si fa riferimento riportato nella sezione 3**

H412 - Nocivo per gli organismi acquatici con effetti di lunga durata

Legenda

SVHC: Sostanze estremamente preoccupanti per l'autorizzazione:

Legenda Sezione 8: CONTROLLO DELL'ESPOSIZIONE/PROTEZIONE INDIVIDUALE

TWA	TWA (media temporale esaminata)	STEL	STEL (Limite di Esposizione a Breve Termine)
Massimali	Valore limite massimo	*	Indicazioni per la pelle
+	Sensibilizzatori		

Principali riferimenti bibliografici e fonti dei dati utilizzati per la stesura della scheda di dati di sicurezza

Agenzia per le sostanze tossiche e registro malattie (Agency for Toxic Substances and Disease Registry, ATSDR)
 Database ChemView dell'Environmental Protection Agency (Agenzia per la protezione dell'ambiente) degli Stati Uniti
 Autorità europea per la sicurezza alimentare (EFSA)
 Agenzia europea per le sostanze chimiche (ECHA) Comitato per la valutazione del rischio (ECHA_RAC)
 Agenzia europea per le sostanze chimiche (ECHA) (ECHA_API)
 EPA (Environmental Protection Agency)
 Livelli di Esposizione Acuta (AEGL)
 Environmental Protection Agency (Agenzia per la protezione dell'ambiente) degli Stati Uniti - Legge federale su insetticidi, fungicidi e rodenticidi
 Sostanze chimiche ad alto volume di produzione dell'Environmental Protection Agency (Agenzia per la protezione dell'ambiente) degli Stati Uniti
 Giornale della ricerca nel campo dell'alimentazione (Food Research Journal)
 Database delle sostanze pericolose
 Banca dati internazionale di informazione chimica uniforme (IUCLID)
 Classificazione giapponese GHS
 National Industrial Chemicals Notification and Assessment Scheme (NICNAS) dell'Australia
 NIOSH (National Institute for Occupational Safety and Health)
 ChemID Plus della National Library of Medicine (NLM CIP)
 Database PubMed della National Library of Medicine (NLM PUBMED)
 Programma di tossicologia nazionale (NTP)
 Chemical Classification and Information Database (CCID - Banca dati di informazioni e classificazione delle sostanze chimiche) della Nuova Zelanda
 Pubblicazioni su ambiente, salute e sicurezza dell'Organizzazione per la cooperazione e lo sviluppo economico
 Programma sulle sostanze chimiche ad alto volume di produzione dell'Organizzazione per la cooperazione e lo sviluppo economico
 Screening Information Data Set dell'Organizzazione per la cooperazione e lo sviluppo economico
 Organizzazione mondiale della sanità

Data del Rilascio 15-ott-2015

Data di revisione 09-ago-2023

Scheda di Dati di Sicurezza ai sensi del Regolamento (CE) n. 1907/2006 (REACH)**Dichiarazione di non responsabilità**

Il presente documento è fornito come risorsa di informazioni in relazione esclusivamente al prodotto o al materiale qui descritto. Le informazioni qui contenute possono non essere applicabili ad altri prodotti/materiali o processi e possono non essere valide quando il presente prodotto/materiale viene utilizzato insieme a qualsiasi altro prodotto/materiale o processo. Le informazioni fornite nel presente documento sono state messe insieme da Newpark Drilling Fluids LLC o da suoi rappresentanti prendendole da diverse fonti, inclusi produttori, fornitori e altre terze parti, e sono basate sulle informazioni disponibili nella data di preparazione indicata. Poiché le condizioni nelle quali il presente prodotto potrebbe essere utilizzato varieranno e possono non essere sotto il controllo di Newpark Drilling Fluids LLC, non si garantisce che le precauzioni descritte sopra siano sufficienti per tutti ed in tutte le situazioni. L'acquirente si assume ogni responsabilità di utilizzare e maneggiare il prodotto conformemente alle norme federali, statali, provinciali e/o locali. Riguardo al prodotto/materiale descritto nel presente documento, **NON SI FORNISCE ALCUNA GARANZIA, ESPLICITA O IMPLICITA, DI COMMERCIALIZZABILITÀ, IDONEITÀ AD UN PARTICOLARE SCOPO O DI ALTRO TIPO.** Ai sensi del Regolamento (CE) N. 1272/2008 del Parlamento Europeo e del Consiglio del 16 dicembre 2008 riguardo a classificazione, etichettatura e imballaggio di sostanze e miscele, che modifica e abroga le Direttive 67/548/CEE e 1999/45/CE, e che modifica il Regolamento (CE) N. 1907/2006, modificato dal regolamento (CE) N. 2020/878.

Fine della Scheda di Dati di Sicurezza

Sodium carbonate

Data di revisione 25-mar-2021

Versione 2

SEZIONE 1: Identificazione della sostanza/miscela e della società/impresa

1.1. Identificatore del prodotto

Codice del Prodotto RM1003158
Denominazione del Prodotto Sodium carbonate
N. CE (N. indice UE) 207-838-8

1.2. Usi identificati pertinenti della sostanza o della miscela e usi sconsigliati

Uso Raccomandato Nessuna informazione disponibile
Usi sconsigliati Nessuna informazione disponibile

1.3. Informazioni sul fornitore della scheda di dati di sicurezza

Fornitore

Newpark Drilling Fluids S.r.l.
 Via Salaria 1313/C
 00138 ROMA (Italy)
 Per ulteriori informazioni, contattare

Punto di Contatto Telephone: + 39 06 8856111
 Fax: +39 06 8889363
 Website: www.newpark.com

Indirizzo e-mail hse-hqit@newpark.com

1.4. Numero telefonico di emergenza

Numero telefonico di emergenza - §45 - (CE)1272/2008	
Europa	112
Croazia	+385 1 7776 920 ; +385 01 2348 342 (Centar za kontrolu otrovanja, 24 sata)
Cipro	1401
Francia	+(33)-975181407
Germania	0800-181-7059; +(49)- 69643508409
Ungheria	+(36)-18088425
Italia	800-789-767; +(39)-0245557031 Milano 24/24 Ospedale Niguarda Ca'grande Piazza ospedale maggiore 3 +39 0266101029 Roma 24/24 Policlinico Gemelli Largo Agostino Gemelli 8 +39 063054343
Paesi Bassi	+(31)-858880596

Romania	+40213183606, Institutul Național de Sănătate Publică (L-V între 08.00-15.00)
Spagna	900-868538; +(34)-931768545
Svizzera	145, (+41) 435082011
Regno Unito	+(44)-870-8200418

SEZIONE 2: Identificazione dei pericoli

2.1. Classificazione della sostanza o della miscela

Regolamento (CE) n. 1272/2008

2.2. Elementi dell'etichetta

Indicazioni di pericolo

2.3. Altri pericoli

Nessuna informazione disponibile.

SEZIONE 3: Composizione/informazioni sugli ingredienti

3.1 Sostanze

Denominazione chimica	Peso-%	Numero di registrazione REACH	N. CE (N. indice UE)	Classificazione secondo il regolamento (CE) n. 1272/2008 [CLP]	Limite di concentrazione specifico (SCL)	Fattore M	Fattore M (lungo termine)
sodio carbonato 497-19-8	100	01-2119485498-19-XX XX	207-838-8	Eye Irrit. 2 (H319)	-	-	-

Testo completo di frasi H e EUH: vedere Sezione 16

Stima della Tossicità Acuta

Nessuna informazione disponibile

Denominazione chimica	LD50 orale mg/kg	LD50 dermico mg/kg	LC50 inalazione - 4 ore - polvere/nebbia - mg/l	Inalazione LC50 - 4 ore - vapore - mg/l	Inalazione LC50 - 4 ore - gas - ppm
sodio carbonato 497-19-8	4090	2000	1.15	Nessun informazioni disponibili	Nessun informazioni disponibili

Questo prodotto non contiene sostanze candidate estremamente preoccupanti a una concentrazione $\geq 0,1\%$ (Regolamento (CE) n. 1907/2006 (REACH), Articolo 59)

SEZIONE 4: Misure di primo soccorso

4.1. Descrizione delle misure di primo soccorso

Inalazione

Rimuovere all'aria fresca.

Contatto con gli occhi

Sciacquare bene con abbondante acqua per almeno 15 minuti, sollevando le palpebre inferiori e superiori. Consultare un medico.

Contatto con la pelle

Nel caso di irritazione cutanea o reazioni allergiche, rivolgersi ad un medico. Lavare la pelle con acqua e sapone.

Ingestione Sciacquare la bocca.

4.2. Principali sintomi ed effetti, sia acuti che ritardati

Sintomi Nessuna informazione disponibile.

4.3. Indicazione dell'eventuale necessità di consultare immediatamente un medico e di trattamenti speciali

Nota per i medici Trattare sintomaticamente.

SEZIONE 5: Misure di lotta antincendio

5.1. Mezzi di estinzione

Mezzi di Estinzione Idonei Utilizzare misure estinguenti appropriate alle circostanze locali e all'ambiente circostante.

Grande incendio ATTENZIONE: l'utilizzo di spruzzo d'acqua per l'estinzione degli incendi potrebbe essere inefficace.

Mezzi di estinzione non idonei Non disperdere il materiale versato con getti d'acqua ad alta pressione.

5.2. Pericoli speciali derivanti dalla sostanza o dalla miscela

Pericoli specifici derivanti dal prodotto chimico Nessuna informazione disponibile.

5.3. Raccomandazioni per gli addetti all'estinzione degli incendi

Equipaggiamento di protezione I vigili del fuoco devono indossare un apparecchio autorespiratore e una tuta ermetica speciale e precauzioni per gli addetti all'estinzione degli incendi. Utilizzare dispositivi di protezione individuale.

SEZIONE 6: Misure in caso di rilascio accidentale

6.1. Precauzioni personali, dispositivi di protezione e procedure in caso di emergenza

Precauzioni individuali Garantire un'aerazione sufficiente.

Per chi interviene direttamente Utilizzare una protezione individuale raccomandata nella Sezione 8.

6.2. Precauzioni ambientali

Precauzioni ambientali Vedere la Sezione 12 per ulteriori Informazioni Ecologiche.

6.3. Metodi e materiali per il contenimento e per la bonifica

Metodi di contenimento Impedire ulteriori fuoriuscite o perdite, se è sicuro farlo.

Metodi di bonifica Prelevare meccanicamente, collocando il prodotto in appositi contenitori per lo smaltimento.

Prevenzione di rischi secondari Pulire a fondo gli oggetti e le aree contaminate rispettando le norme ambientali.

6.4. Riferimenti ad altre sezioni

Riferimenti ad altre sezioni Per ulteriori informazioni, cfr. Sezione 8. Per ulteriori informazioni, cfr. Sezione 13.

SEZIONE 7: Manipolazione e immagazzinamento

7.1. Precauzioni per la manipolazione sicura

Precauzioni per la manipolazione sicura Garantire un'aerazione sufficiente.

Raccomandazioni generiche sull'igiene professionale Maneggiare nel rispetto delle buone norme igieniche e di sicurezza industriali.

7.2. Condizioni per lo stoccaggio sicuro, comprese eventuali incompatibilità

Condizioni di immagazzinamento Conservare il recipiente chiuso e in un luogo ben ventilato e asciutto.

7.3. Usi finali particolari

Misure di gestione del rischio (RMM) Le informazioni necessarie sono contenute nella presente Scheda dei dati di sicurezza.

SEZIONE 8: Controllo dell'esposizione/protezione individuale**8.1. Parametri di controllo**

Limiti di Esposizione Questo prodotto, così come viene consegnato, non contiene materiali pericolosi con limiti di esposizione professionali stabiliti dalle autorità di regolamentazione specifiche locali.

Denominazione chimica	Cipro	Repubblica Ceca	Danimarca	Estonia	Finlandia
sodio carbonato 497-19-8	-	TWA: 5 mg/m ³ Ceiling: 10 mg/m ³	-	-	-
Denominazione chimica	Portogallo	Romania	Slovacchia	Slovenia	Spagna
sodio carbonato 497-19-8	-	TWA: 1 mg/m ³ STEL: 3 mg/m ³	-	-	-

Limiti biologici di esposizione professionale

Questo prodotto, così come fornito, non contiene alcun materiale pericoloso con valori limite biologici fissati dagli organi di regolamentazione specifici della regione.

Livello derivato senza effetto (DNEL) Nessuna informazione disponibile.

Predicted No Effect Concentration Nessuna informazione disponibile.

(PNEC, Concentrazione Prevedibile Priva di Effetti)

8.2. Controlli dell'esposizione

Controlli tecnici Nessuna informazione disponibile.

Dispositivi di protezione individuale

Protezioni per occhi/volto Non è necessario alcun equipaggiamento speciale di protezione.

Protezione pelle e corpo Non è necessario alcun equipaggiamento speciale di protezione.

Protezione respiratoria Non serve attrezzatura protettiva in condizioni di impiego normali. Se si superano i limiti di esposizione o se si presenta un'irritazione, potrebbe essere necessario ventilare o evacuare.

Raccomandazioni generiche sull'igiene professionale Maneggiare nel rispetto delle buone norme igieniche e di sicurezza industriali.

Controlli dell'esposizione Nessuna informazione disponibile.

ambientale

SEZIONE 9: Proprietà fisiche e chimiche**9.1. Informazioni sulle proprietà fisiche e chimiche fondamentali**

Stato fisico	Nessuna informazione disponibile
Colore	Nessuna informazione disponibile
Odore	Nessuna informazione disponibile.
Soglia olfattiva	Nessuna informazione disponibile

Proprietà**Valori****Note • Metodo**

Punto di fusione / punto di congelamento		Nessuna informazione disponibile
Punto/intervallo di ebollizione		Nessuna informazione disponibile
Infiammabilità (solidi, gas)		Nessuna informazione disponibile
Limite di infiammabilità in aria		Nessuna informazione disponibile
Limite di infiammabilità superiore:		
Limite di infiammabilità inferiore		
Punto di infiammabilità		Nessuna informazione disponibile
Temperatura di autoaccensione		Nessuna informazione disponibile
Temperatura di decomposizione		Nessuna informazione disponibile
pH		Nessuna informazione disponibile
pH (come soluzione acquosa)		Nessuna informazione disponibile
Viscosità cinematica		Nessuna informazione disponibile
Viscosità dinamica		Nessuna informazione disponibile
Idrosolubilità		Nessuna informazione disponibile
La solubilità/le solubilità		Nessuna informazione disponibile
Coefficiente di ripartizione		Nessuna informazione disponibile
Tensione di vapore		Nessuna informazione disponibile
Densità relativa		Nessuna informazione disponibile
Peso specifico apparente		
Densità del liquido		
Densità di vapore		Nessuna informazione disponibile
Caratteristiche delle particelle		Nessuna informazione disponibile
Dimensioni delle particelle		
Ripartizione delle particelle per dimensione		

9.2. Altre informazioni*9.2.1. Informazioni sulle classe di pericolo*

Non applicabile

9.2.2. Altre caratteristiche correlate alla sicurezza

Nessuna informazione disponibile

SEZIONE 10: Stabilità e reattività**10.1. Reattività**

Reattività	Nessuna informazione disponibile.
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10.2. Stabilità chimica

Stabilità	Stabile in condizioni normali.
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Dati esplosione

Sensibilità all'impatto meccanico	Nessuno.
Sensibilità alla scarica statica	Nessuno.

10.3. Possibilità di reazioni pericolose

Possibilità di reazioni pericolose Nessuno durante la normale trasformazione.

10.4. Condizioni da evitare

Condizioni da evitare Nessuno noto in base alle informazioni fornite.

10.5. Materiali incompatibili

Materiali incompatibili Nessuno noto in base alle informazioni fornite.

10.6. Prodotti di decomposizione pericolosi

Prodotti di Decomposizione Pericolosi: Nessuno noto in base alle informazioni fornite.

SEZIONE 11: Informazioni tossicologiche

11.1. Informazioni sulle classi di pericolo secondo la definizione del Regolamento (CE) n. 1272/2008

Informazioni sulle vie probabili di esposizione

Informazioni sul prodotto

Inalazione Non sono disponibili dati specifici per la sostanza o miscela.

Contatto con gli occhi Non sono disponibili dati specifici per la sostanza o miscela.

Contatto con la pelle Non sono disponibili dati specifici per la sostanza o miscela.

Ingestione Non sono disponibili dati specifici per la sostanza o miscela.

Sintomi connessi alle caratteristiche fisiche, chimiche e tossicologiche

Sintomi Nessuna informazione disponibile.

Misure numeriche di tossicità

Nessuna informazione disponibile

Tossicità acuta

Denominazione chimica	LD50 orale	LD50 dermico	LC50 inalazione
sodio carbonato	= 4090 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	= 2300 mg/m ³ (Rat) 2 h

Effetti immediati, ritardati e cronici derivanti da esposizioni a breve e a lungo termine

Corrosione/irritazione della pelle Nessuna informazione disponibile.

Lesioni oculari gravi/irritazione oculare Nessuna informazione disponibile.

Sensibilizzazione cutanea o delle vie respiratorie Nessuna informazione disponibile.

Mutagenicità sulle cellule germinali Nessuna informazione disponibile.

Cancerogenicità Nessuna informazione disponibile.

Tossicità per la riproduzione Nessuna informazione disponibile.

STOT - esposizione singola Nessuna informazione disponibile.

STOT - esposizione ripetuta Nessuna informazione disponibile.

Pericolo in caso di aspirazione Nessuna informazione disponibile.

11.2. Informazioni su altri pericoli

11.2.1. Proprietà di interferente endocrino

Proprietà di interferente endocrino Nessuna informazione disponibile.

11.2.2. Altre informazioni

Altri effetti avversi Nessuna informazione disponibile.

SEZIONE 12: Informazioni ecologiche

12.1. Tossicità

Ecotossicità L'impatto ambientale di questo prodotto non è stato completamente indagato.

Denominazione chimica	Piante acquatiche/alghe	Pesci	Tossicità per i microrganismi	Crostacei
sodio carbonato	-	LC50: 310 - 1220mg/L (96h, Pimephales promelas) LC50: =300mg/L (96h, Lepomis macrochirus)	-	EC50: =265mg/L (48h, Daphnia magna)

12.2. Persistenza e degradabilità

Persistenza e degradabilità Nessuna informazione disponibile.

12.3. Potenziale di bioaccumulo

Bioaccumulo: Nessuna informazione disponibile.

12.4. Mobilità nel suolo

Mobilità nel suolo Nessuna informazione disponibile.

12.5. Risultati della valutazione PBT e vPvB

Valutazione PBT e vPvB Nessuna informazione disponibile.

Denominazione chimica	Valutazione PBT e vPvB
sodio carbonato	La sostanza non è un PBT / vPvB La valutazione PBT non è applicabile

12.6. Proprietà di interferente endocrino

Proprietà di interferente endocrino Nessuna informazione disponibile.

12.7. Altri effetti avversi

Nessuna informazione disponibile.

SEZIONE 13: Considerazioni sullo smaltimento

13.1. Metodi di trattamento dei rifiuti

Rifiuti derivanti da residui/prodotti inutilizzati	Smaltire i rifiuti in conformità alla legislazione ambientale. Smaltire in conformità alle normative locali.
Imballaggio contaminato	Non riutilizzare i contenitori vuoti.
Codici rifiuti/denominazioni rifiuti secondo EWC / AVV	I codici rifiuti devono essere assegnati dall'utente in base all'applicazione per cui il prodotto è stato impiegato.

SEZIONE 14: Informazioni sul trasporto

IATA

14.1 Numero UN o numero ID	Non regolamentato
14.2 Designazione ufficiale di trasporto	Non regolamentato
14.3 Classi di pericolo connesso al trasporto	Non regolamentato
14.4 Gruppo d'imballaggio	Non regolamentato
14.5 Rischio ambientale	Non applicabile
14.6 Precauzioni speciali per gli utilizzatori	
Disposizioni Particolari	Nessuno

IMDG

14.1 Numero UN o numero ID	Non regolamentato
14.2 Designazione ufficiale di trasporto	Non regolamentato
14.3 Classi di pericolo connesso al trasporto	Non regolamentato
14.4 Gruppo d'imballaggio	Non regolamentato
14.5 Rischio ambientale	Non applicabile
14.6 Precauzioni speciali per gli utilizzatori	
Disposizioni Particolari	Nessuno
14.7 Trasporto marittimo alla rinfusa secondo gli strumenti IMO	Nessuna informazione disponibile

RID

14.1 N. ID/ONU	Non regolamentato
14.2 Designazione ufficiale di trasporto	Non regolamentato
14.3 Classi di pericolo connesso al trasporto	Non regolamentato
14.4 Gruppo d'imballaggio	Non regolamentato
14.5 Rischio ambientale	Non applicabile
14.6 Precauzioni speciali per gli utilizzatori	
Disposizioni Particolari	Nessuno

ADR

14.1 Numero UN o numero ID	Non regolamentato
14.2 Designazione ufficiale di trasporto	Non regolamentato
14.3 Classi di pericolo connesso al	Non regolamentato

trasporto**14.4 Gruppo d'imballaggio** Non regolamentato**14.5 Rischio ambientale** Non applicabile**14.6 Precauzioni speciali per gli utilizzatori****Disposizioni Particolari** Nessuno**SEZIONE 15: Informazioni sulla regolamentazione****15.1. Disposizioni legislative e regolamentari su salute, sicurezza e ambiente specifiche per la sostanza o la miscela****Italia**

-D.lgs. 81/2008 (Testo unico in materia di tutela della salute e della sicurezza nei luoghi di lavoro) e successive modifiche e
Direttiva 2009/161/UE - valutazione rischio chimico ai sensi del titolo IX

-Decreto legislativo 3 aprile 2006, n. 152 (Norme in materia ambientale)

-"Direttiva Seveso III" – Decreto Legislativo 26 giugno 2015, n°105 (Attuazione della direttiva 2012/18/UE relativa al controllo del pericolo di incidenti rilevanti connessi con sostanze pericolose)

Unione Europea

Prendere nota della Direttiva 98/24/CE sulla protezione della salute e della sicurezza dei lavoratori dai rischi derivanti da agenti chimici durante il lavoro.

Autorizzazioni e/o limitazioni sull'uso:

Questo prodotto non contiene sostanze soggette ad autorizzazione (Regolamento (CE) n. 1907/2006 (REACH), Allegato XIV)

Questo prodotto non contiene sostanze soggette a limitazione (Regolamento (CE) n. 1907/2006 (REACH), Allegato XVII)

Denominazione chimica	Sostanza limitata, in conformità alla normativa REACH Allegato XVII	Sostanza soggetta ad autorizzazione, in conformità alla normativa REACH Allegato XIV
sodio carbonato - 497-19-8	75.	-

Inquinanti organici persistenti

Non applicabile

Regolamento (CE) 1005/2009 sulle sostanze che riducono lo strato di ozono (ODS)

Non applicabile

Inventari Internazionali

TSCA	Conforme
DSL/NDSL	Conforme
EINECS/ELINCS	Conforme
ENCS	Conforme
IECSC	Conforme
KECL	Conforme
PICCS	Conforme
AICS	Conforme
NZIoC	Conforme

Legenda:

TSCA - Sezione 8(b) United States Toxic Substances Control Act (Decreto Statunitense per il Controllo delle Sostanze Tossiche), Inventario

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List (Lista delle Sostanze non Nazionali/delle Sostanze Nazionali Canadesi)

EINECS/ELINCS - Inventario Europeo delle Sostanze Chimiche Esistenti/Lista Europea delle Sostanze Chimiche Notificate
ENCS - Japan Existing and New Chemical Substances (Sostanze Chimiche Nuove ed Esistenti in Giappone)
IECSC - China Inventory of Existing Chemical Substances (Inventario Cinese delle Sostanze Chimiche Esistenti)
KECL - Korean Existing and Evaluated Chemical Substances (Sostanze Chimiche Esistenti e Valutate in Corea)
PICCS - Philippines Inventory of Chemicals and Chemical Substances (Inventario delle Sostanze Chimiche delle Filippine)
AICS - Inventario Australiano delle Sostanze Chimiche (Australian Inventory of Chemical Substances)

15.2. Valutazione della sicurezza chimica

Relazione sulla Sicurezza Chimica Nessuna informazione disponibile

SEZIONE 16: Altre informazioni

Spiegazione o legenda delle abbreviazioni e degli acronimi utilizzata nella scheda di dati di sicurezza

Legenda

SVHC: Sostanze estremamente preoccupanti per l'autorizzazione:

Legenda Sezione 8: CONTROLLO DELL'ESPOSIZIONE/PROTEZIONE INDIVIDUALE

TWA	TWA (media temporale esaminata)	STEL	STEL (Limite di Esposizione a Breve Termine)
Massimali	Valore limite massimo	*	Indicazioni per la pelle
+	Sensibilizzatori		

Principali riferimenti bibliografici e fonti dei dati utilizzati per la stesura della scheda di dati di sicurezza

Agenzia per le sostanze tossiche e registro malattie (Agency for Toxic Substances and Disease Registry, ATSDR)
 Database ChemView dell'Environmental Protection Agency (Agenzia per la protezione dell'ambiente) degli Stati Uniti
 Autorità europea per la sicurezza alimentare (EFSA)
 Agenzia europea per le sostanze chimiche (ECHA) Comitato per la valutazione del rischio (ECHA_RAC)
 Agenzia europea per le sostanze chimiche (ECHA) (ECHA_API)
 EPA (Environmental Protection Agency)
 Livelli di Esposizione Acuta (AEGL)
 Environmental Protection Agency (Agenzia per la protezione dell'ambiente) degli Stati Uniti - Legge federale su insetticidi, fungicidi e rodenticidi
 Sostanze chimiche ad alto volume di produzione dell'Environmental Protection Agency (Agenzia per la protezione dell'ambiente) degli Stati Uniti
 Giornale della ricerca nel campo dell'alimentazione (Food Research Journal)
 Database delle sostanze pericolose
 Banca dati internazionale di informazione chimica uniforme (IUCLID)
 Classificazione giapponese GHS
 National Industrial Chemicals Notification and Assessment Scheme (NICNAS) dell'Australia
 NIOSH (National Institute for Occupational Safety and Health)
 ChemID Plus della National Library of Medicine (NLM CIP)
 Database PubMed della National Library of Medicine (NLM PUBMED)
 Programma di tossicologia nazionale (NTP)
 Chemical Classification and Information Database (CCID - Banca dati di informazioni e classificazione delle sostanze chimiche) della Nuova Zelanda
 Pubblicazioni su ambiente, salute e sicurezza dell'Organizzazione per la cooperazione e lo sviluppo economico
 Programma sulle sostanze chimiche ad alto volume di produzione dell'Organizzazione per la cooperazione e lo sviluppo economico
 Screening Information Data Set dell'Organizzazione per la cooperazione e lo sviluppo economico
 Organizzazione mondiale della sanità

Data di revisione 25-mar-2021

Scheda di Dati di Sicurezza ai sensi del Regolamento (CE) n. 1907/2006 (REACH)

Dichiarazione di non responsabilità

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informazioni disponibili nella data di preparazione indicata. Poiché le condizioni nelle quali il presente prodotto potrebbe essere utilizzato varieranno e possono non essere sotto il controllo di Newpark Drilling Fluids LLC, non si garantisce che le precauzioni descritte sopra siano sufficienti per tutti ed in tutte le situazioni. L'acquirente si assume ogni responsabilità di utilizzare e maneggiare il prodotto conformemente alle norme federali, statali, provinciali e/o locali. Riguardo al prodotto/materiale descritto nel presente documento, NON SI FORNISCE ALCUNA GARANZIA, ESPLICITA O IMPLICITA, DI COMMERCIALIZZABILITÀ IDONEITÀ AD UN PARTICOLARE SCOPO O DI ALTRO TIPO. Ai sensi del Regolamento (CE) N. 1272/2008 del Parlamento Europeo e del Consiglio del 16 dicembre 2008 riguardo a classificazione, etichettatura e imballaggio di sostanze e miscele, che modifica e abroga le Direttive 67/548/CEE e 1999/45/CE, e che modifica il Regolamento (CE) N. 1907/2006, modificato dal regolamento (CE) N. 2020/878.

Fine della Scheda di Dati di Sicurezza

VICTOSAL

A safety data sheet is not required for this product under Article 31 of REACH

Issuing Date 08-Mar-2016

Revision Date 14-Sep-2021

Version 2.5

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product Code NDF00098

Product Name VICTOSAL

Pure substance/mixture Mixture

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Viscosifier, filtration control agent

Uses advised against No information available

1.3. Details of the supplier of the safety data sheet

Supplier

Newpark Drilling Fluids S.p.A.

Via Salaria 1313/C

00138 ROMA (Italy)

For further information, please contact

Contact Point Telephone: + 39 06 8856111

Fax: +39 06 8889363

Website: www.newpark.com

E-mail address hse-hqit@newpark.com

1.4. Emergency telephone number

Emergency Telephone - §45 - (EC)1272/2008	
Europe	112
Croatia	+385 1 7776 920 ; +385 01 2348 342 (Centar za kontrolu otrovanja, 24 sata)
France	+(33)-975181407
Germany	0800-181-7059; +(49)- 69643508409
Hungary	+(36)-18088425
Italy	800-789-767; +(39)-0245557031 Milano 24/24 Ospedale Niguarda Ca'grande Piazza ospedale maggiore 3 +39 0266101029 Roma 24/24 Policlinico Gemelli Largo Agostino Gemelli 8 +39 063054343
Netherlands	+(31)-858880596
Romania	+(40)-37-6300026

Spain	900-868538; +(34)-931768545
Switzerland	145, (+41) 435082011
United Kingdom	+(44)-870-8200418

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

2.2. Label elements

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

Hazard statements

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

2.3. Other hazards

May form combustible dust concentrations in air.

This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

SECTION 3: Composition/information on ingredients

3.1 Substances

Not applicable

3.2 Mixtures

The product contains no substances which at their given concentration, are considered to be hazardous to health

Full text of H- and EUH-phrases: see section 16

Acute Toxicity Estimate

If LD50/LC50 data is not available or does not correspond to the classification category, then the appropriate conversion value from CLP Annex I, Table 3.1.2, is used to calculate the acute toxicity estimate (ATE_{mix}) for classifying a mixture based on its components

This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (Regulation (EC) No. 1907/2006 (REACH), Article 59)

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	Remove to fresh air.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Skin contact	Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.
Ingestion	Rinse mouth.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms No information available.

4.3. Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

SECTION 5: Firefighting measures**5.1. Extinguishing media**

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Large Fire CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media Do not scatter spilled material with high pressure water streams.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical Avoid generation of dust. Fine dust dispersed in air may ignite.

Hazardous combustion products Carbon oxides.

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Personal precautions Ensure adequate ventilation. Avoid generation of dust.

For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Use appropriate personal protective equipment (PPE). Carefully shovel or sweep up spilled material and place in suitable container. Avoid generating dust.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

Advice on safe handling Ensure adequate ventilation. Avoid generation of dust. Fine dust dispersed in air, in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed in a dry and well-ventilated place.

7.3. Specific end use(s)

Identified uses

Risk Management Methods (RMM) The information required is contained in this Safety Data Sheet.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits

Chemical name	European Union	Austria	Belgium	Bulgaria	Croatia
Starch 9005-25-8	-	-	TWA: 10 mg/m ³	TWA: 10.0 mg/m ³	TWA: 4 mg/m ³ TWA: 10 mg/m ³
Chemical name	Cyprus	Czech Republic	Denmark	Estonia	Finland
Starch 9005-25-8	-	TWA: 4.0 mg/m ³	-	-	-
Chemical name	France	Germany	Germany MAK	Greece	Hungary
Starch 9005-25-8	-	-	-	TWA: 10 mg/m ³ TWA: 5 mg/m ³	-
Chemical name	Ireland	Italy	Italy REL	Latvia	Lithuania
Starch 9005-25-8	TWA: 10 mg/m ³ TWA: 4 mg/m ³ STEL: 30 mg/m ³ STEL: 12 mg/m ³	-	TWA: 10 mg/m ³	-	-
Chemical name	Portugal	Romania	Slovakia	Slovenia	Spain
Starch 9005-25-8	TWA: 10 mg/m ³	-	-	-	TWA: 10 mg/m ³
Chemical name	Sweden		Switzerland		United Kingdom
Starch 9005-25-8	-		TWA: 3 mg/m ³		TWA: 10 mg/m ³ TWA: 4 mg/m ³ STEL: 30 mg/m ³ STEL: 12 mg/m ³

Biological occupational exposure limits

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Derived No Effect Level (DNEL) No information available.

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles). Use eye protection according to EN

166, designed to protect against powders and dusts.

Skin and body protection	Wear suitable protective clothing. (EN 340).
Respiratory protection	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. (EN 136, EN 140, EN 141, EN 143, EN 149, EN 405).
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice.
Environmental exposure controls	No information available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Solid
Appearance	Powder
Color	White
Odor	Odorless.
Odor threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Melting point / freezing point		No information available
Boiling point / boiling range		No information available
Flammability (solid, gas)		No information available
Flammability Limit in Air		No information available
Upper flammability limit:		
Lower flammability limit:		
Flash point		Not applicable
Autoignition temperature		No information available
Decomposition temperature		No information available
pH	6.06	
pH (as aqueous solution)		No information available
Kinematic viscosity		Not applicable
Dynamic viscosity		Not applicable
Water solubility	150 g/L @ 20 °C	
Solubility(ies)		No information available
Partition coefficient		No information available
Vapor pressure		Not applicable
Relative density	1.8	
Bulk density		
Liquid Density		
Vapor density		Not applicable
Particle characteristics		No information available
Particle Size		
Particle Size Distribution		

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Explosives

Explosive properties	Fine dust dispersed in air, in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard
----------------------	--

9.2.2. Other safety characteristics

No information available Not applicable

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity Stable.

10.2. Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

10.4. Conditions to avoid

Conditions to avoid None known based on information supplied.

10.5. Incompatible materials

Incompatible materials Strong oxidizing agents.

10.6. Hazardous decomposition products

Hazardous Decomposition Products None known based on information supplied.

SECTION 11: Toxicological information**11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008****Information on likely routes of exposure****Product Information**

Inhalation Specific test data for the substance or mixture is not available.

Eye contact Specific test data for the substance or mixture is not available.

Skin contact Specific test data for the substance or mixture is not available.

Ingestion Specific test data for the substance or mixture is not available.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms No information available.

Numerical measures of toxicity

No information available

Acute toxicity**Component Information****Delayed and immediate effects as well as chronic effects from short and long-term exposure**

Skin corrosion/irritation No information available.

Serious eye damage/eye irritation No information available.

Respiratory or skin sensitization No information available.

Germ cell mutagenicity No information available.

Carcinogenicity No information available.

Reproductive toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Aspiration hazard Not applicable.

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Endocrine disrupting properties No information available.

11.2.2. Other information

Other adverse effects No information available.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity

Unknown aquatic toxicity Contains 10.76 % of components with unknown hazards to the aquatic environment.

12.2. Persistence and degradability

Persistence and degradability Readily biodegradable.

12.3. Bioaccumulative potential

Bioaccumulation No information available.

12.4. Mobility in soil

Mobility in soil No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment The product does not contain any substance(s) classified as PBT or vPvB.

12.6. Endocrine disrupting properties

Endocrine disrupting properties No information available.

12.7. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products	Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
Contaminated packaging	Do not reuse empty containers.
Waste codes / waste designations according to EWC / AVV	Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14: Transport information

IATA

14.1 UN number or ID number	Not regulated
14.2 Proper shipping name	Not Regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	None

IMDG

14.1 UN number or ID number	Not regulated
14.2 Proper shipping name	Not Regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing Group	Not Regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	None
14.7 Maritime transport in bulk according to IMO instruments	No information available

RID

14.1 UN/ID no	Not Regulated
14.2 Proper shipping name	Not Regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing Group	Not Regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	None

ADR

14.1 UN number or ID number	Not regulated
14.2 Proper shipping name	Not Regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing Group	Not Regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	None

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**National regulations****Germany**

Water hazard class (WGK) slightly hazardous to water (WGK 1)

Italy

-D. LGs. 81/2008 (single text on the protection of health and safety in the workplace) and subsequent amendments and Directive 2009/161/EU-assessment of chemical risk under title IX

-Legislative Decree 3 April 2006, no 152 (environmental standards)

-"Seveso III Directive" – Legislative Decree of 26 June 2015, n° 105 (Implementation of the Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances)

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Authorizations and/or restrictions on use:

This product contains one or more substance(s) subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Persistent Organic Pollutants

Not applicable

Named dangerous substances per Seveso Directive (2012/18/EU)**Ozone-depleting substances (ODS) regulation (EC) 1005/2009**

Not applicable

Plant protection products directive (91/414/EEC)**EU - Biocides****International Inventories**

TSCA	Complies
DSL/NDL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies
NZIoC	Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

15.2. Chemical safety assessment

Chemical Safety Report

None

SECTION 16: Other information**Key or legend to abbreviations and acronyms used in the safety data sheet****Full text of H-Statements referred to under section 3**

H302 - Harmful if swallowed

H319 - Causes serious eye irritation

H400 - Very toxic to aquatic life

H410 - Very toxic to aquatic life with long lasting effects

Legend

SVHC: Substances of Very High Concern for Authorization:

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA

TWA (time-weighted average)

STEL

STEL (Short Term Exposure Limit)

Ceiling

Maximum limit value

*

Skin designation

Classification procedure	
Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - vapor	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	Calculation method
Respiratory sensitization	Calculation method
Skin sensitization	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	Calculation method
Reproductive toxicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration hazard	Calculation method
Ozone	Calculation method

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)

U.S. Environmental Protection Agency ChemView Database

European Food Safety Authority (EFSA)

EPA (Environmental Protection Agency)

Acute Exposure Guideline Level(s) (AEGl(s))

U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act

U.S. Environmental Protection Agency High Production Volume Chemicals

Food Research Journal

Hazardous Substance Database

International Uniform Chemical Information Database (IUCLID)

Japan GHS Classification

Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)

NIOSH (National Institute for Occupational Safety and Health)

National Library of Medicine's ChemID Plus (NLM CIP)

National Library of Medicine's PubMed database (NLM PUBMED)

National Toxicology Program (NTP)

New Zealand's Chemical Classification and Information Database (CCID)

Organization for Economic Co-operation and Development Environment, Health, and Safety Publications

Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
World Health Organization

Issuing Date 08-Mar-2016

Revision Date 14-Sep-2021

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

Disclaimer

According to Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006, as amended by Regulation (EU) No. 2015/830. This document is provided as an information resource relating exclusively to the product or material described herein. The information contained herein may not be applicable to other products/ materials or processes and may not be valid when this product/material is used in combination with any other product/material or process. The information provided in this document is compiled by Newpark Drilling Fluids LLC or its representatives from various sources including manufacturers, suppliers and other third-party sources, and is based on the information available as of the indicated date of preparation. As the conditions under which this product could be used will vary and may not be within the control of Newpark Drilling Fluids LLC there is no guarantee that the precautions outlined above will be sufficient for all individuals or situations. The buyer assumes all responsibility for using and handling the product in accordance with federal, state, provincial, or local regulations. For the product/ material described in this document, NO WARRANTY IS MADE, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE.

End of Safety Data Sheet

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture
Trade name : SEAL-GUARD™ ECF™
Product code : J209
Product group : Mixtures

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Industrial/Professional use spec : Industrial

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Manufacturer

Whitmore Manufacturing LLC
930 Whitmore Drive
75087 Rockwall, Texas
USA
T 1.972.771.1000
Regulatory@whitmores.com - www.jetlube.com

Distributor

Whitmore Europe Limited
Unit 9
Foster Avenue, Woodside Park Industrial Estate
Dunstable, Bedfordshire, LU5 5TA
United Kingdom
T +44 1707 379870
Regulatory@whitmores.com - www.whitmores.com

1.4. Emergency telephone number

Emergency number : For Chemical Emergency Call CHEMTREC 24hr/day 7days/week
Within USA and Canada: 1.800.424.9300
Outside USA and Canada: +1.703.527.3887
(collect calls accepted)

Country	Organisation/Company	Address	Emergency number	Comment
United Kingdom	National Poisons Information Service (Birmingham Centre) City Hospital	Dudley Road B18 7QH Birmingham	0344 892 0111	Only for healthcare professionals
United Kingdom	Chemtrec - United Kingdom	London	Local (City) +44 20 3807 3798	
United Kingdom	Chemtrec - United Kingdom		Local (National) +44 870 820 0418	

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

Adverse physicochemical, human health and environmental effects

To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

EUH-statements : EUH210 - Safety data sheet available on request.

2.3. Other hazards

Contains no PBT/vPvB substances $\geq 0.1\%$ assessed in accordance with REACH Annex XIII

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

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according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Fluorite (CaF ₂)	CAS-No.: 14542-23-5	20 - 30	Not classified
distillates (petroleum), hydrotreated heavy paraffinic (Note L)	CAS-No.: 64742-54-7 EC-No.: 265-157-1 EC Index-No.: 649-467-00-8	20 - 30	Not classified
Distillates (petroleum), hydrotreated heavy naphthenic (Note L)	CAS-No.: 64742-52-5 EC-No.: 265-155-0 EC Index-No.: 649-465-00-7	8.493074	Not classified
Distillates, petroleum, hydrotreated heavy naphthenic (Note H)(Note L)	CAS-No.: 64742-52-5 EC-No.: 265-155-0 EC Index-No.: 649-465-00-7		Not classified
Distillates (petroleum), solvent-dewaxed heavy paraffinic (Note H)(Note L)	CAS-No.: 64742-65-0 EC-No.: 265-169-7 EC Index-No.: 649-474-00-6		Not classified

Note H : The classification and labelling shown for this substance applies to the hazardous property(ies) indicated by the hazard statement(s) in combination with the hazard class(es) and category(ies) shown. The requirements of Article 4 for manufacturers, importers or downstream users of this substance apply to all other hazard classes and categories. For hazard classes where the route of exposure or the nature of the effects leads to a differentiation of the classification of the hazard class, the manufacturer, importer or downstream user is required to consider the routes of exposure or the nature of the effects not already considered.

Note L : The classification as a carcinogen need not apply if it can be shown that the substance contains less than 3 % DMSO extract as measured by IP 346 'Determination of polycyclic aromatics in unused lubricating base oils and asphaltene free petroleum fractions — Dimethyl sulphoxide extraction refractive index method', Institute of Petroleum, London. This note applies only to certain complex oil-derived substances in Part 3.

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact : Wash skin with plenty of water.
First-aid measures after eye contact : Rinse eyes with water as a precaution.
First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

No additional information available

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Exercise caution. Spill area may be slippery.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Mechanically recover the product.
Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

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Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	: Ensure good ventilation of the work station. Wear personal protective equipment.
Hygiene measures	: Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	: Store in a well-ventilated place. Keep cool.
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7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

Fluorite (CaF ₂) (14542-23-5)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Fluorine
IOEL TWA [ppm]	1 ppm
IOEL STEL	3.16 mg/m ³
IOEL STEL [ppm]	2 ppm
Regulatory reference	COMMISSION DIRECTIVE 2000/39/EC
EU - Biological Limit Value (BLV)	
Local name	Fluorine and inorganic fluorides
BLV	8 mg/l Parameter: F - Medium: urine - Sampling time: end of shift
Regulatory reference	SCOEL List of recommended health-based BLVs and BGVs
United Kingdom - Occupational Exposure Limits	
Local name	Fluorine
WEL TWA (OEL TWA) [1]	1.6 mg/m ³
WEL TWA (OEL TWA) [2]	1 ppm
WEL STEL (OEL STEL)	1.6 mg/m ³
WEL STEL (OEL STEL) [ppm]	1 ppm
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

8.2.2. Personal protection equipment

8.2.2.1. Eye and face protection

Eye protection:

Wear eye protection

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according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

8.2.2.2. Skin protection

Skin and body protection:

Wear suitable protective clothing

Hand protection:

Neoprene or nitrile rubber gloves

Hand protection					
Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Disposable gloves	Nitrile rubber (NBR), Neoprene rubber (HNBR)	2 (> 30 minutes)	0.3mm - 0.6 mm		

8.2.2.3. Respiratory protection

Respiratory protection:

No respiratory protection needed under normal use conditions

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Colour	: black or grey.
Appearance	: Grease.
Odour	: petroleum-like odour.
Odour threshold	: Not available
Melting point	: Not available
Freezing point	: Not available
Boiling point	: Not available
Flammability	: Non flammable.
Explosive limits	: Not applicable
Lower explosion limit	: Not applicable
Upper explosion limit	: Not applicable
Flash point	: > 232 °C Open cup
Auto-ignition temperature	: Not applicable
Decomposition temperature	: Not available
pH	: Not available
pH solution	: Not available
Viscosity, kinematic	: > 22 mm²/s @ 40 °C
Solubility	: insoluble in water.
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapour pressure	: Not available
Vapour pressure at 50°C	: Not available
Density	: Not available
Relative density	: Not available
Relative vapour density at 20°C	: Not applicable
Particle size	: Not available
Particle size distribution	: Not available
Particle shape	: Not available
Particle aspect ratio	: Not available
Particle aggregation state	: Not available
Particle agglomeration state	: Not available
Particle specific surface area	: Not available
Particle dustiness	: Not available

SEAL-GUARD™ ECF™

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

VOC content : < 0.1 %

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral) : Not classified

Acute toxicity (dermal) : Not classified

Acute toxicity (inhalation) : Not classified

distillates (petroleum), hydrotreated heavy paraffinic (64742-54-7)

LD50 oral rat	> 5000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity), Guideline: OECD Guideline 420 (Acute Oral Toxicity - Fixed Dose Method)
LD50 dermal rabbit	> 5000 mg/kg Source: IUCLID
LC50 Inhalation - Rat	> 25 mg/l/4h

Distillates, petroleum, hydrotreated heavy naphthenic (64742-52-5)

LD50 oral rat	> 5000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity), Guideline: OECD Guideline 420 (Acute Oral Toxicity - Fixed Dose Method)
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Distillates (petroleum), solvent-dewaxed heavy paraffinic (64742-65-0)

LD50 oral rat	> 5000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity), Guideline: OECD Guideline 420 (Acute Oral Toxicity - Fixed Dose Method)
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Skin corrosion/irritation : Not classified (Based on available data, the classification criteria are not met)

Serious eye damage/irritation : Not classified (Based on available data, the classification criteria are not met)

Respiratory or skin sensitisation : Not classified (Based on available data, the classification criteria are not met)

Germ cell mutagenicity : Not classified (Based on available data, the classification criteria are not met)

Carcinogenicity : Not classified (Based on available data, the classification criteria are not met)

Reproductive toxicity : Not classified (Based on available data, the classification criteria are not met)

STOT-single exposure : Not classified (Based on available data, the classification criteria are not met)

STOT-repeated exposure : Not classified (Based on available data, the classification criteria are not met)

distillates (petroleum), hydrotreated heavy paraffinic (64742-54-7)

LOAEL (oral, rat, 90 days)	125 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
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Distillates, petroleum, hydrotreated heavy naphthenic (64742-52-5)

LOAEL (oral, rat, 90 days)	125 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
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Distillates (petroleum), solvent-dewaxed heavy paraffinic (64742-65-0)

LOAEL (oral, rat, 90 days)	125 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
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according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Distillates (petroleum), solvent-dewaxed heavy paraffinic (64742-65-0)	
NOAEL (dermal, rat/rabbit, 90 days)	≈ 1000 mg/kg bodyweight Animal: rabbit, Guideline: OECD Guideline 410 (Repeated Dose Dermal Toxicity: 21/28-Day Study)

Aspiration hazard : Not classified (Based on available data, the classification criteria are not met)

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Viscosity, kinematic	> 22 mm²/s @ 40 °C

distillates (petroleum), hydrotreated heavy paraffinic (64742-54-7)	
Viscosity, kinematic	1.99 – 847 mm²/s Temp.: '40°C' Parameter: 'mm²/smm2/s '

Distillates, petroleum, hydrotreated heavy naphthenic (64742-52-5)	
Viscosity, kinematic	1.99 – 847 mm²/s Temp.: '40°C' Parameter: 'mm²/smm2/s '

Distillates (petroleum), solvent-dewaxed heavy paraffinic (64742-65-0)	
Viscosity, kinematic	1.99 – 847 mm²/s Temp.: '40°C' Parameter: 'mm²/smm2/s '

11.2. Information on other hazards

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

Hazardous to the aquatic environment, short-term (acute) : Not classified

Hazardous to the aquatic environment, long-term (chronic) : Not classified

Not rapidly degradable

Fluorite (CaF2) (14542-23-5)	
EC50 96h - Algae [1]	7444 mg/l Source: ECOSAR

distillates (petroleum), hydrotreated heavy paraffinic (64742-54-7)	
LC50 - Fish [1]	> 5000 mg/l
EC50 - Crustacea [1]	> 1000 mg/l Source: IUCLID
EC50 96h - Algae [1]	> 1000 mg/l Source: IUCLID

12.2. Persistence and degradability

Distillates (petroleum), solvent-dewaxed heavy paraffinic (64742-65-0)	
Persistence and degradability	Biodegradability in water: no data available.

12.3. Bioaccumulative potential

distillates (petroleum), hydrotreated heavy paraffinic (64742-54-7)	
Partition coefficient n-octanol/water (Log Pow)	3.9 – 6 Source: IUCLID

Distillates (petroleum), solvent-dewaxed heavy paraffinic (64742-65-0)	
Partition coefficient n-octanol/water (Log Pow)	3.9 – 6 (calculated value)

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

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according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.2. UN proper shipping name				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.4. Packing group				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.5. Environmental hazards				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
No supplementary information available				

14.6. Special precautions for user

Overland transport

Not regulated

Transport by sea

Not regulated

Air transport

Not regulated

Inland waterway transport

Not regulated

Rail transport

Not regulated

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations

REACH Annex XVII (Restriction List)

Contains no substance(s) listed on REACH Annex XVII (Restriction Conditions)

REACH Annex XIV (Authorisation List)

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Contains no substance(s) listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

POP Regulation (Persistent Organic Pollutants)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

Ozone Regulation (1005/2009)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 1005/2009 on substances that deplete the ozone layer)

VOC Directive (2004/42)

VOC content : < 0.1 %

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Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acronyms:

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS-No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified
vPvB	Very Persistent and Very Bioaccumulative
ED	Endocrine disrupting properties

SEAL-GUARD™ ECF™

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Full text of H- and EUH-statements:

EUH210	Safety data sheet available on request.
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Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

HALLIBURTON

SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of: Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations

SEM-8™ EMULSIFIER

Revision date: 07-Mar-2024

Revision Number: 50

SECTION 1: Identification of the hazardous chemical and of the supplier

Product identifier

Product Code(s) HM003938

Product Name SEM-8™ EMULSIFIER

Other means of identification

Synonyms No information available

Recommended use of the chemical and restrictions on use

Recommended use Emulsifier

Uses advised against No information available

Supplier's details

Malaysia Address Halliburton Energy Service (M) Sdn Bhd
10th Floor, G Tower,
199 Jalan Tun Razak,
50400, Kuala Lumpur, Malaysia
Phone Number: +603-9206 6888

Prepared By Chemical Stewardship
e-mail: fdunexchem@halliburton.com

Emergency Telephone Number +60 3-2706 0104
Global Incident Response Access Code: 334305
Contract Number: 14012

SECTION 2: Hazard identification

Classification of the substance or mixture

Flammable liquids	Category 3
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 1
Chronic aquatic toxicity	Category 3

Label elements



Signal word
Danger

Hazard statements

Flammable liquid and vapor
Causes skin irritation
Causes serious eye damage
Harmful to aquatic life with long lasting effects

Precautionary Statements - Prevention Wash face, hands and any exposed skin thoroughly after handling.

Wear protective gloves/clothing and eye/face protection.

Avoid release to the environment.

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Keep container tightly closed.

Ground and bond container and receiving equipment.

Use only non-sparking tools.

Take action to prevent static discharges.

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

Skin

If skin irritation occurs: Get medical advice/attention. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.

Fire

In case of fire: Use CO2, dry chemical, or foam for extinction.

Spill

Collect spillage.

Precautionary Statements - Storage

Store in a well-ventilated place. Keep cool.

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant.

Other hazards which do not result in classification

Harmful to aquatic life.

SECTION 3: Composition and information of the ingredients of the hazardous chemical**Substance**

Not applicable

Mixture

Chemical name	CAS No.	Weight-%
Polyethylene glycol (C6-C10) alkyl ether, sulfate ammonium salt	68037-05-8	60 - 100%
Isopropanol	67-63-0	10 - 30%

If CAS number is "proprietary", the specific chemical identity and percentage of composition has been withheld as a trade secret

SECTION 4: First aid measures**Description of necessary measures****General advice**

Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.

Inhalation

Remove to fresh air. Get medical attention immediately if symptoms occur.

Skin contact

Wash off immediately with soap and plenty of water while removing all contaminated clothes

	and shoes. Get medical attention if irritation develops and persists.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Get immediate medical attention. Remove contact lenses, if present and easy to do. Continue rinsing.
Ingestion	Rinse mouth. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a physician.
Specific first aid facilities	Facilities for quickly drenching the body should be provided within the immediate work area for emergency use where there is a possibility of exposure. Have eye-wash facilities immediately available.

Most important symptoms/effects, acute and delayed

Symptoms	Burning sensation.
Effects of Exposure	No information available.

Indication of immediate medical attention and special treatment needed, if necessary

Note to physicians	Treat symptomatically.
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SECTION 5: Firefighting measures**Suitable (and unsuitable) extinguishing media**

Suitable Extinguishing Media	Water fog, carbon dioxide, foam, dry chemical. Dry chemical. Carbon dioxide (CO2). Water spray. Alcohol resistant foam.
Large Fire	CAUTION: Use of water spray when fighting fire may be inefficient.
Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.
Specific hazards arising from the chemical	Risk of ignition. Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. Oxides of nitrogen. Oxides of sulfur. Carbon monoxide and carbon dioxide.

Special protective equipment and precautions for fire-fighters

Special protective equipment and precautions for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.
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SECTION 6: Accidental release measures**Personal precautions, protective equipment and emergency procedures**

Personal precautions	Evacuate personnel to safe areas. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material.
Other information	Ventilate the area. Refer to protective measures listed in Sections 7 and 8.
For emergency responders	Use personal protection recommended in Section 8.

Environmental precautions

Environmental precautions Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.

Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Do not touch or walk through spilled material. A vapor suppressing foam may be used to reduce vapors. Dike far ahead of spill to collect runoff water. Keep out of drains, sewers, ditches and waterways. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

Methods for cleaning up Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

Precautions to prevent secondary hazards

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

SECTION 7: Handling and storage

Precautions for safe handling

Advice on safe handling Use personal protection equipment. Avoid breathing vapors or mists. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Use with local exhaust ventilation. Use spark-proof tools and explosion-proof equipment. Keep in an area equipped with sprinklers. Use according to package label instructions. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse.

General hygiene considerations Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection.

Conditions for safe storage, including any incompatibilities

Storage Conditions Store in a cool well ventilated area. Store away from oxidizers. Keep from heat, sparks, and open flames. Keep container closed when not in use. Product has a shelf life of 36 months. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labeled containers. Do not store near combustible materials. Keep in an area equipped with sprinklers. Store in accordance with the particular national regulations. Store in accordance with local regulations. Store locked up. Keep out of the reach of children.

Incompatible materials Strong oxidizers. Strong alkalis. Strong acids. Strong bases. Strong oxidizing agents.

SECTION 8: Exposure controls and personal protection

Control parameters

Exposure Limits

Chemical name	Malaysia	ACGIH TLV
Isopropanol 67-63-0	TWA: 400 ppm TWA: 983 mg/m ³	STEL: 400 ppm TWA: 200 ppm

Biological occupational exposure

limits

Chemical name	ACGIH
Isopropanol - 67-63-0	40 mg/L - urine (Acetone) - end of shift at end of workweek

Appropriate engineering controls

Engineering controls Use in a well ventilated area. Local exhaust ventilation should be used in areas without good cross ventilation.

Individual protection measures, such as personal protective equipment

Eye/face protection Chemical goggles; also wear a face shield if splashing hazard exists. Tight sealing safety goggles.

Hand protection Impervious gloves. Manufacturer's directions for use should be observed because of great diversity of types. Wear suitable gloves. Impervious gloves.

Skin and body protection Rubber apron. Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron. Antistatic boots.

Respiratory protection If engineering controls and work practices cannot keep exposure below occupational exposure limits or if exposure is unknown, wear a NIOSH certified, European Standard EN 149, AS/NZS 1715:2009, or equivalent respirator when using this product. Selection of and instruction on using all personal protective equipment, including respirators, should be performed by an Industrial Hygienist or other qualified professional. Organic vapor respirator.
In high concentrations, supplied air respirator or a self-contained breathing apparatus.

Other protective equipment Eyewash fountains and safety showers must be easily accessible.

SECTION 9: Physical and chemical properties**Information on basic physical and chemical properties**

Appearance			
Physical state	Liquid	Color	Clear light yellow
Odor	Alcohol	Odor threshold	No information available
Property	Values	Remarks • Method	
pH	7.0-8.5 @ 5%	None known	
Melting point / freezing point	-29 °C / -20.2 °F		
Initial boiling point and boiling range			
Flash point	33.89 °C / 93 °F	Seta closed cup	
Evaporation rate	< 1 (BuAc = 1)		
Flammability	No data available		
Flammability Limit in Air			
Upper flammability or explosive limits	No data available		
Lower flammability or explosive limits	No data available		
Vapor pressure	15.7 mmHg @ 20C		
Relative vapor density	< 1 (Air=1)		
Relative density	1.054		
Water solubility	Soluble in water		
Solubility(ies)	No data available		
Partition coefficient	No data available		
Autoignition temperature	No data available		
Decomposition temperature			
Kinematic viscosity	No data available		
Dynamic viscosity	No data available		

Other information

Explosive properties	No information available
Oxidizing properties	No information available
Molecular weight	No information available
VOC content	No information available

SECTION 10: Stability and reactivityReactivity

Reactivity	No information available.
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Chemical stability

Stability	Stable under normal conditions.
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Explosion data

Sensitivity to mechanical impact	None.
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Sensitivity to static discharge	Yes.
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Possibility of hazardous reactions

Possibility of hazardous reactions	None under normal processing.
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Conditions to avoid

Conditions to avoid	Heat, flames and sparks.
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Incompatible materials

Incompatible materials	Strong oxidizers. Strong alkalis. Strong acids. Strong bases. Strong oxidizing agents.
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Hazardous decomposition products

Hazardous decomposition products	Oxides of nitrogen. Oxides of sulfur. Carbon monoxide and carbon dioxide.
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SECTION 11: Toxicological informationInformation on the likely routes of exposure

Principle Route of Exposure	Eye or skin contact, inhalation, Ingestion, Skin contact, Eye contact, Inhalation
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Product Information

Inhalation	Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract.
Ingestion	Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Skin contact	Specific test data for the substance or mixture is not available. Causes skin irritation. (based on components).
Eye contact	Specific test data for the substance or mixture is not available. Causes serious eye damage. May cause irreversible damage to eyes.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms	Redness. Burning. May cause blindness. May cause redness and tearing of the eyes.
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Acute toxicity

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	6,307.70 mg/kg
ATEmix (dermal)	99,999.00 mg/kg
ATEmix (inhalation-gas)	99,999.00 ppm
ATEmix (inhalation-vapor)	99,999.00 mg/l

ATEmix (inhalation-dust/mist) 99,999.00 mg/l

Chronic (long-term) toxicity No information available

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Polyethylene glycol (C6-C10) alkyl ether, sulfate ammonium salt	4100 mg/kg (Rat) (Similar substance)	>5000 mg/kg (Rabbit) (Similar substance)	No data available
Isopropanol	4700 mg/kg-bw (rat)	12870 mg/kg-bw (rabbit)	72.6 mg/L (Rat, 4h, vapor)

Delayed and immediate effects as well as chronic effects from short and long-term exposure**Skin corrosion/irritation**

Classification based on data available for ingredients. Causes skin irritation.

Chemical name	Skin corrosion/irritation
Polyethylene glycol (C6-C10) alkyl ether, sulfate ammonium salt 68037-05-8	May cause moderate skin irritation. (Rabbit) (similar substances)
Isopropanol 67-63-0	Non-irritating to the skin (Rabbit)

Serious eye damage/eye irritation

Classification based on data available for ingredients. Causes burns. Causes serious eye damage.

Chemical name	Serious eye damage/eye irritation
Polyethylene glycol (C6-C10) alkyl ether, sulfate ammonium salt 68037-05-8	Causes severe eye irritation (Rabbit) (similar substances)
Isopropanol 67-63-0	Causes moderate eye irritation (Rabbit)

Respiratory or skin sensitization

Chemical name	Respiratory sensitization
Polyethylene glycol (C6-C10) alkyl ether, sulfate ammonium salt 68037-05-8	No information available
Isopropanol 67-63-0	No information available
Chemical name	Skin sensitization
Polyethylene glycol (C6-C10) alkyl ether, sulfate ammonium salt 68037-05-8	Did not cause sensitization on laboratory animals (guinea pig) (similar substances)
Isopropanol 67-63-0	Did not cause sensitization on laboratory animals (guinea pig)

Germ cell mutagenicity

Chemical name	Germ cell mutagenicity
Polyethylene glycol (C6-C10) alkyl ether, sulfate ammonium salt 68037-05-8	In vitro tests did not show mutagenic effects. In vivo tests did not show mutagenic effects. (similar substances)
Isopropanol 67-63-0	In vitro tests did not show mutagenic effects. In vivo tests did not show mutagenic effects.

Carcinogenicity

Chemical name	Carcinogenicity
Polyethylene glycol (C6-C10) alkyl	Did not show carcinogenic effects in animal experiments (similar substances)

ether, sulfate ammonium salt 68037-05-8	
Isopropanol 67-63-0	Did not show carcinogenic effects in animal experiments

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	Malaysia	IARC
Isopropanol		Group 3

Legend

IARC (International Agency for Research on Cancer)

Group 3 - Not Classifiable as to Carcinogenicity in Humans

Reproductive toxicity

Chemical name	Reproductive toxicity
Polyethylene glycol (C6-C10) alkyl ether, sulfate ammonium salt 68037-05-8	Did not show teratogenic effects in animal experiments. (similar substances)
Isopropanol 67-63-0	Animal testing did not show any effects on fertility.

STOT - single exposure

Chemical name	STOT - single exposure
Polyethylene glycol (C6-C10) alkyl ether, sulfate ammonium salt 68037-05-8	No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)
Isopropanol 67-63-0	May cause headache, dizziness, and other central nervous system effects.

STOT - repeated exposure

Chemical name	STOT - repeated exposure
Polyethylene glycol (C6-C10) alkyl ether, sulfate ammonium salt 68037-05-8	No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)
Isopropanol 67-63-0	No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)

Aspiration hazard

Chemical name	Aspiration hazard
Polyethylene glycol (C6-C10) alkyl ether, sulfate ammonium salt 68037-05-8	Not applicable
Isopropanol 67-63-0	Not applicable

SECTION 12: Ecological information

Ecotoxicity

Toxic to aquatic life with long lasting effects.

Unknown aquatic toxicity

0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

Chemical name	Algae/aquatic plants	Fish	Crustacea
Polyethylene glycol (C6-C10) alkyl ether, sulfate ammonium salt	EC50 (72h) 73.52 mg/L (Skeletonema costatum) ErC50 (72h) 32 mg/L (Selenstrum capricornutum) (similar substance) NOEC (72h) 9 mg/L (Selenastrum capricornutum) NOEC (72h) 32 mg/L (Skeletonema costatum)	LC50 (96h) 1 - 2.5 mg/L (Salmo trutta) (similar substance) LC50 (96h) 350 mg/L (Scophthalmus maximus) NOEC (30d) 0.88 mg/L (Pimephales promelas) (similar substance)	EC50 (48h) 1.17 mg/L (Daphnia magna) (similar substance) LC50 (96h) 232.5 mg/L (Acartia tonsa) NOEC (21d) 0.37 mg/L (Daphnia magna) (similar substance)
Isopropanol	EC50 (72h) > 1000 mg/L (Desmodesmus subspicatus) EC50 (7d) 1800 mg/L (meanextinction value)(Scenedesmus quadricauda)	LC50 (96h) 9640 mg/L (Pimephales promelas) LC50 (7d) 7060 mg/L (Poecilia reticulata)	EC50 (48 h)=2285 mg/L (Daphnia sp.) EC50 (24h) > 10,000 mg/L (Daphnia magna)

Persistence and degradability

Chemical name	Persistence and degradability
Polyethylene glycol (C6-C10) alkyl ether, sulfate ammonium salt 68037-05-8	Readily biodegradable.
Isopropanol 67-63-0	Readily biodegradable. (53% @ 5d).

Bioaccumulation

Chemical name	Partition coefficient
Isopropanol	0.05

Mobility

Chemical name	Mobility
Polyethylene glycol (C6-C10) alkyl ether, sulfate ammonium salt 68037-05-8	No information available.

PBT and vPvB assessment

The product does not contain any substance(s) classified as PBT or vPvB above the threshold of declaration.

Chemical name	PBT and vPvB assessment
Isopropanol	The substance is not PBT / vPvB.

Other adverse effects

Other adverse effects No information available.

SECTION 13: Disposal information**Disposal methods****Waste from residues/unused products**

Should not be released into the environment. Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging

Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers.

SECTION 14: Transportation information**IMDG**

UN number or ID number	UN1993
Transport hazard class(es)	3
Packing group	III
Description	UN1993, Flammable liquid, n.o.s.(Isopropanol), 3, III, (33.89°C c.c.)
Special Provisions	223, 274, 955
EmS-No.	F-E, S-E

UN number or ID number	UN1993
UN proper shipping name	Flammable liquid, n.o.s.
UN proper shipping name	Flammable liquid, n.o.s. (Isopropanol)
Transport hazard class(es)	3
Packing group	III
Description	UN1993, Flammable liquid, n.o.s. (Isopropanol), 3, III
Classification code	F1
Special Provisions	274, 601

IATA

UN number or ID number	UN1993
UN proper shipping name	Flammable liquid, n.o.s.
Description	UN1993, Flammable liquid, n.o.s. (Isopropanol), 3, III
Transport hazard class(es)	3
Packing group	III
Special Provisions	A3
ERG Code	3L

ADR

UN number or ID number	UN1993
UN proper shipping name	Flammable liquid, n.o.s.
Description	UN1993, Flammable liquid, n.o.s. (Isopropanol), 3, III, (D/E)
Transport hazard class(es)	3
Packing group	III
Classification code	F1
Special Provisions	274, 601

Special precautions which a user needs to be aware of, or needs to comply with, in connection either within or outside their premises

Special precautions for user	Please refer to the applicable dangerous goods regulations for additional information
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SECTION 15: Regulatory information**Safety, health and environmental regulations specific for the product in question****National regulations****Malaysia - Applicable regulations:****OSHA (Occupational Safety and Health Act) 1994 and relevant regulations**

Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations

Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations

See section 8 for national exposure control parameters.

Hazardous chemical
Flammable

Threshold quantity (T)
200

Process conditions: elevated
temperature

Factories and Machinery Act 1967 and relevant regulations

Environmental Quality Act 1974 and regulations
Road Transport (Construction and Use) (Dangerous Goods Vehicle) Rules 2015

International Inventories

TSCA	All components listed on inventory or are exempt
DSL	All components listed on inventory or are exempt
EINECS/ELINCS	Product contains one or more components not listed on the inventory

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal Not applicable

SECTION 16: Other information

Date of preparation of the SDS

Date of revision of the SDS 07-Mar-2024

Revision Note Update to Format

Prepared By Chemical Stewardship
e-mail: fdunexchem@halliburton.com

Key or legend to abbreviations and acronyms used in the safety data sheet

ADR - The European Agreement concerning the International Carriage of Dangerous Goods by Road

bw – body weight

CAS – Chemical Abstracts Service

CLP – REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on Classification, Labelling and Packaging of substances and mixtures

EN 149 - European standard on filtering halfmasks to protect against particles

FFP - Filtering Facepieces

h - hour

IBC Code – International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk

LL50 – Lethal Loading 50%

d - day

Derived No Effect Level (DNEL)

EC – European Commission

EC10 – Effective Concentration 10%

EC50 – Effective Concentration 50%

EEC – European Economic Community

IATA/ICAO - International Air Transport Association / International Civil Aviation Organization
IMDG/IMO - International Maritime Dangerous Goods / International Maritime Organization
LC50 – Lethal Concentration 50%
LD50 – Lethal Dose 50%
NTP – National Toxicology Program
OEL – Occupational Exposure Limit
PEL – Permissible Exposure Limit
ppm – parts per million
REACH – REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL concerning the
Registration, Evaluation, Authorisation and Restriction of Chemicals
VOC – Volatile Organic Carbon
UN – United Nations
VLA-EC - short-time excursion limits [Spain valores límite ambientales para la exposición de corta duración]
vPvB – very Persistent and very Bioaccumulative
w/w - weight/weight
Water hazard class (WGK)
UN – United Nations
VOC – Volatile Organic Carbon
TWA - Time-Weighted Average
STEL – Short Term Exposure Limit

Legend Section 8: Exposure controls/personal protection

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	Sk*	Skin designation
+	Sensitizers		

Key literature references and sources for data used to compile the SDS

Acute Exposure Guideline Level(s) (AEGl(s))
European Chemicals Agency (ECHA) (ECHA_API)
European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
NIOSH (National Institute for Occupational Safety and Health)

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

Sodium Chloride 98.5% (Sea Salt)

A safety data sheet is not required for this product under REACH Regulation (EC) No 1907/2006

Issuing Date 15-Oct-2015

Revision date 10-Aug-2023

Version 2.2

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product Code	NDF00117
Product Name	Sodium Chloride 98.5% (Sea Salt)
CAS No	7647-14-5
Pure substance/mixture Formula	Substance NaCl
Molecular weight	58.44

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use	Industrial use
Uses advised against	None known

1.3. Details of the supplier of the safety data sheet

Supplier

Newpark Drilling Fluids S.r.l.
 Via Salaria 1313/C
 00138 ROMA (Italy)
 For further information, please contact

Contact Point	Telephone: + 39 06 8856111 Fax: +39 06 8889363 Website: www.newpark.com
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E-mail address	hse-hqit@newpark.com
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1.4. Emergency telephone number

Emergency Telephone - §45 - (EC)1272/2008	
Europe	112
Croatia	+385 1 7776 920 ; +385 01 2348 342 (Centar za kontrolu otrovanja, 24 sata)
Cyprus	1401
France	+(33)-975181407
Germany	0800-181-7059; +(49)- 69643508409
Hungary	+(36)-18088425
Italy	800-789-767; +(39)-0245557031 Milano 24/24 Ospedale Niguarda Ca'grande Piazza ospedale maggiore 3 +39 0266101029

	Roma 24/24 Policlinico Gemelli Largo Agostino Gemelli 8 +39 063054343
Netherlands	+(31)-858880596
Romania	+40213183606, Institutul Național de Sănătate Publică (L-V între 08.00-15.00)
Spain	900-868538; +(34)-931768545
Switzerland	145, (+41) 435082011
United Kingdom	+(44)-870-8200418

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

This substance is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

2.2. Label elements

This substance is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

Hazard statements

This substance is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

2.3. Other hazards

May be harmful if swallowed.

This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

SECTION 3: Composition/information on ingredients

3.1 Substances

Chemical name	Weight-%	REACH registration number	EC No (EU Index No)	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
Sodium chloride 7647-14-5	>98.5	Exemption	231-598-3	No data available	-	-	-

Full text of H- and EUH-phrases: see section 16

Acute Toxicity Estimate

No information available

Chemical name	Oral LD50 mg/kg	Dermal LD50 mg/kg	Inhalation LC50 - 4 hour - dust/mist - mg/L	Inhalation LC50 - 4 hour - vapor - mg/L	Inhalation LC50 - 4 hour - gas - ppm
Sodium chloride 7647-14-5	3000	10000	No data available	No data available	No data available

This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (Regulation (EC) No. 1907/2006 (REACH), Article 59)

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	Remove to fresh air.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Skin contact	In the case of skin irritation or allergic reactions see a physician. Wash skin with soap and water.
Ingestion	Rinse mouth.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms	No information available.
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4.3. Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptomatically.
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SECTION 5: Firefighting measures**5.1. Extinguishing media**

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Large Fire	CAUTION: Use of water spray when fighting fire may be inefficient.
Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical	No information available.
Hazardous combustion products	Sodium oxides. Hydrogen chloride.

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.
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SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Personal precautions	Ensure adequate ventilation.
For emergency responders	Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions	See Section 12 for additional Ecological Information.
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6.3. Methods and material for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so.
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Methods for cleaning up	Take up mechanically, placing in appropriate containers for disposal.
Prevention of secondary hazards	Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections	See section 8 for more information. See section 13 for more information.
------------------------------------	--

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

Advice on safe handling	Ensure adequate ventilation.
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep container tightly closed in a dry and well-ventilated place.
Storage class (TRGS 510)	Storage class 13

7.3. Specific end use(s)

Risk Management Methods (RMM)	The information required is contained in this Safety Data Sheet.
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SECTION 8: Exposure controls/personal protection**8.1. Control parameters**

Exposure Limits	This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.
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Chemical name	Ireland	Italy MDLPS	Italy AIDII	Latvia	Lithuania
Sodium chloride 7647-14-5	-	-	-	TWA: 5 mg/m ³	TWA: 5 mg/m ³

Biological occupational exposure limits

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Derived No Effect Level (DNEL)	Long term.
Dermal	295.52 mg/kg bw/day
Inhalation	2,068.62 mg/m ³
Derived No Effect Level (DNEL)	Short term.
Dermal	295.52 mg/kg bw/day
Inhalation	2,068.62 mg/m ³
Predicted No Effect Concentration (PNEC)	
Freshwater	5 mg/L
Soil	4.86 mg/kg
Impact on Sewage Treatment	500 mg/L

8.2. Exposure controls

Engineering controls	No information available.
Personal protective equipment	
Eye/face protection	Wear safety glasses with side shields (or goggles). Eye protection must conform to standard

EN 166.

Skin and body protection	No special protective equipment required.
Respiratory protection	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice.
Environmental exposure controls	No information available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Solid
Appearance	granules
Color	White to Off-white
Odor	None.
Odor threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Melting point / freezing point	801 °C	
Boiling point / boiling range	1413 °C	
Flammability (solid, gas)		Not applicable
Flammability Limit in Air		Not applicable
Upper flammability limit:		
Lower flammability limit:		
Flash point		Not applicable
Autoignition temperature		No information available
Decomposition temperature		No information available
pH	5-7	100 g/L @ 20 °C
pH (as aqueous solution)		No information available
Kinematic viscosity		Not applicable
Dynamic viscosity		Not applicable
Water solubility	258 g/L @ 20 °C	
Solubility(ies)		No information available
Partition coefficient		No information available
Vapor pressure		No information available
Relative density	2.16	
Bulk density		
Liquid Density		
Vapor density		No information available
Particle characteristics		No information available
Particle Size		
Particle Size Distribution		

9.2. Other information

Molecular weight	58.44
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9.2.1. Information with regard to physical hazard classes

Not applicable

9.2.2. Other safety characteristics

No information available Not applicable

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	No information available.
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Remarks Not reactive under normal conditions.

10.2. Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

10.4. Conditions to avoid

Conditions to avoid None known based on information supplied.

10.5. Incompatible materials

Incompatible materials None known based on information supplied.

10.6. Hazardous decomposition products

Hazardous Decomposition Products None known based on information supplied.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Information on likely routes of exposure

Product Information

Inhalation Specific test data for the substance or mixture is not available.

Eye contact Specific test data for the substance or mixture is not available.

Skin contact Specific test data for the substance or mixture is not available.

Ingestion Specific test data for the substance or mixture is not available.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms No information available.

Numerical measures of toxicity

No information available

Acute toxicity

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral) 3,046.00 mg/kg

ATEmix (dermal) 10,162.00 mg/kg

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Sodium chloride	= 3 g/kg (Rat)	> 10000 mg/kg (Rabbit)	> 42 mg/L (Rat) 1 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation No information available.

Serious eye damage/eye irritation No information available.

Respiratory or skin sensitization No information available.

Germ cell mutagenicity No information available.

Carcinogenicity No information available.

Reproductive toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Aspiration hazard No information available.

11.2. Information on other hazards**11.2.1. Endocrine disrupting properties**

Endocrine disrupting properties No information available.

11.2.2. Other information

Other adverse effects No information available.

SECTION 12: Ecological information**12.1. Toxicity**

Ecotoxicity The environmental impact of this product has not been fully investigated.

Unknown aquatic toxicity Contains 1.5 % of components with unknown hazards to the aquatic environment.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Sodium chloride	-	LC50: 4747 - 7824mg/L (96h, Oncorhynchus mykiss) LC50: 5560 - 6080mg/L (96h, Lepomis macrochirus) LC50: 6020 - 7070mg/L (96h, Pimephales promelas) LC50: 6420 - 6700mg/L (96h, Pimephales promelas) LC50: =12946mg/L (96h,	-	EC50: 340.7 - 469.2mg/L (48h, Daphnia magna) EC50: =1000mg/L (48h, Daphnia magna)

		Lepomis macrochirus) LC50: =7050mg/L (96h, Pimephales promelas)		
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12.2. Persistence and degradability

Persistence and degradability Not readily biodegradable.

12.3. Bioaccumulative potential

Bioaccumulation MATERIAL DOES NOT BIOACCUMULATE.

12.4. Mobility in soil

Mobility in soil After release, disperses through ground water.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment The product does not contain any substance(s) classified as PBT or vPvB.

Chemical name	PBT and vPvB assessment
Sodium chloride	The substance is not PBT / vPvB PBT assessment does not apply

12.6. Endocrine disrupting properties

Endocrine disrupting properties No information available.

12.7. Other adverse effects

No information available.

SECTION 13: Disposal considerations**13.1. Waste treatment methods**

Waste from residues/unused products Dispose of waste in accordance with environmental legislation. Dispose of in accordance with local regulations.

Contaminated packaging Do not reuse empty containers.

Waste codes / waste designations according to EWC / AVV Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14: Transport information**IATA**

14.1 UN number or ID number Not regulated
14.2 Proper shipping name Not Regulated
14.3 Transport hazard class(es) Not regulated
14.4 Packing group Not regulated
14.5 Environmental hazard Not applicable
14.6 Special precautions for user
Special Provisions None

IMDG

14.1 UN number or ID number Not regulated
14.2 Proper shipping name Not Regulated
14.3 Transport hazard class(es) Not regulated
14.4 Packing Group Not Regulated

14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	None
14.7 Maritime transport in bulk according to IMO instruments	No information available

RID

14.1 UN/ID no	Not Regulated
14.2 Proper shipping name	Not Regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing Group	Not Regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	None

ADR

14.1 UN number or ID number	Not regulated
14.2 Proper shipping name	Not Regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing Group	Not Regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	None

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****France****Occupational Illnesses (R-463-3, France)**

Chemical name	French RG number
Sodium chloride 7647-14-5	RG 78

Germany**Italy**

-D. LGs. 81/2008 (single text on the protection of health and safety in the workplace) and subsequent amendments and Directive 2009/161/EU-assessment of chemical risk under title IX
 -Legislative Decree 3 April 2006, no 152 (environmental standards)
 -"Seveso III Directive" – Legislative Decree of 26 June 2015, n° 105 (Implementation of the Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances)

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Authorizations and/or restrictions on use:

This product does not contain substances subject to authorization (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Persistent Organic Pollutants

Not applicable

Ozone-depleting substances (ODS) regulation (EC) 1005/2009

Not applicable

Chemical name	EU - Plant Protection Products (1107/2009/EC)
Sodium chloride - 7647-14-5	Plant protection agent
Chemical name	Biocidal Products Regulation (EU) No 528/2012 (BPR)
Sodium chloride - 7647-14-5	1 - Human hygiene

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies
NZIoC	Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

15.2. Chemical safety assessment**Chemical Safety Report**

With reference to the components mentioned in Section 3, a chemical risk assessment was performed which is available consulting the REACH registration on the ECHA database.

SECTION 16: Other information**Key or legend to abbreviations and acronyms used in the safety data sheet****Legend**

SVHC: Substances of Very High Concern for Authorization:

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
+	Sensitizers		

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)

U.S. Environmental Protection Agency ChemView Database

European Food Safety Authority (EFSA)

European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)

European Chemicals Agency (ECHA) (ECHA_API)

EPA (Environmental Protection Agency)

Acute Exposure Guideline Level(s) (AEGL(s))

U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act

U.S. Environmental Protection Agency High Production Volume Chemicals

Food Research Journal

Hazardous Substance Database

International Uniform Chemical Information Database (IUCLID)

Japan GHS Classification

Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
World Health Organization

Issuing Date 15-Oct-2015

Revision date 10-Aug-2023

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

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End of Safety Data Sheet



HOUGHTON®

SAFETY DATA SHEET

Revision Date 08-04-2018

Version 5

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product Code(s) 01920801-M
Product Name STACK MAGIC ECO V2
Product Registration number
Denmark -
Norway -
Sweden -
EC #
Pure substance/mixture Contains 2,2',2''-(Hexahydro-1,3,5-triazine-1,3,5-triyl)triethanol, Ethane-1,2-diol

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Fire-resistant hydraulic fluid Blowout preventer control fluid
Uses advised against Any other purpose.

1.3. Details of the supplier of the safety data sheet

Manufacturer, Importer, Supplier

Houghton plc
Beacon Road
Trafford Park
Manchester
M17 1AF
Tel: +44 (0)161 874 5000
productstewardship@houghtonintl.com

Houghton S.A.S.
604 Bd Albert Camus,
BP 60041
69652 Villefranche sur saone
France
Tel: (0) 4 74 65 65 00
Fax: (0) 4 74 60 08 44

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1.4. Emergency telephone number

Carechem 24 International: +44 1235 239670

Austria		Notfall-Telefonnummer +43 (0) 1 406 4343
Belgium		Telefoonnummer voor +32 (0)70 245 245
Bulgaria		Телефон за спешни случаи +359 2 9154 409
Croatia		Telefon za izvanredna stanja +385 1 2348 342
Czech Republic	Carechem 24 International: +420 228 882 830	Telefonní číslo pro naléhavé situace +420 224 919 293
Denmark	Carechem 24 International: +45 8988 2286	Ring til Giftlinjen på +45 82 12 12 12
Estonia		Mürgistusteabekeskuse +372 626 93 90
Finland	Carechem 24 International: +358 9 7479 0199	Hätäpuhelinnumero +358 09 471 977
France	Carechem 24 International: +33 1 72 11 00 03	Numéro d'appel d'urgence +33 (0)1 45 42 5959
Germany	Carechem 24 International: +49 69 222 25285	
Greece	Carechem 24 International: +30 21 1198 3182	
Hungary		Díjmentesen hívható zöld szám +36 80 20 11 99
Italy	Carechem 24 International: +39 02 3604 2884	Numeri telefonici dei principali CAV: FI 055 7947819, MI 02 66101029, PV 038 224444, RM 06 3054343, NA 081 7472870
Ireland		Emergency telephone number +353 1 809 2166
Latvia		Valsts Toksikoloģijas centra Saindēšanās un zāļu informācijas centrs +371 6704 2473
Lithuania		Neatidėliotina informacija apsinuodijus +370 5 236 20 52
Netherlands	Carechem 24 International: +31 10 713 8195	National Poisons Information Center (NL): +31 30 274 88 88 (NB: this service is only available to health professionals)
Norway	Carechem 24 International: +47 2103 4452	Giftinformasjon +47 22 59 13 00
Poland	Carechem 24 International: +48 22 307 3690	112
Portugal	Carechem 24 International: +351 30880 4750	

		Número de telefone de emergência +351 808 250 143
Romania		Număr de telefon care poate fi apelat în caz de urgență +021 318 36 06 (08:00-15:00)
Slovakia		Národné toxikologické informačné centrum +421 2 5477 4166
South Africa	Carechem 24 International: +27 21 300 2732	
Spain	Carechem 24 International: +34 91 114 2520	
Sweden	Carechem 24 International: +46 8 566 42573	112 – Ask for poisons information
Switzerland		145; +41 44 251 51 51 (www.toxi.ch)
Turkey	Carechem 24 International: +90 212 375 5231	Ulusal Zehir Danışma Merkezi (UZEM): 114 Acil Sağlık Hizmetleri: 112

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Skin corrosion/irritation	Category 2 - (H315)
Serious eye damage/eye irritation	Category 1 - (H318)
Skin sensitization	Category 1 - (H317)
Specific target organ toxicity (repeated exposure)	Category 2 - (H373)

2.2. Label Elements

Contains 2,2',2''-(Hexahydro-1,3,5-triazine-1,3,5-triyl)triethanol, Ethane-1,2-diol



Signal Word
DANGER

Hazard statements

H315 - Causes skin irritation

H317 - May cause an allergic skin reaction

H318 - Causes serious eye damage

H373 - May cause damage to organs through prolonged or repeated exposure

Precautionary Statements - EU (§28, 1272/2008)

P260 - Do not breathe dust/fume/gas/mist/vapors/spray

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water

P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P310 - Immediately call a POISON CENTER or doctor/physician

2.3. Other hazards

No information available

- 0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
- 0 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
- 0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
- 0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
- 0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances / 3.2. Mixtures

This product is a mixture. Health hazard information is based on its ingredients

Chemical name	EC-No	CAS No	Weight-%	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH Registration Number
Ethane-1,2-diol	203-473-3	107-21-1	10% - 25%	Acute Tox. 4 (H302) STOT RE 2 (H373)	01-2119456816-28-xxx x
2-Aminoethanol	205-483-3	141-43-5	2.5% - 10%	Acute Tox. 4 (H302) Acute Tox. 4 (H312) Skin Corr. 1B (H314) Acute Tox. 4 (H332) STOT SE 3 (H335) Aquatic Chronic 3 (H412)	01-2119486455-28-xxx x
2,2',2''-(Hexahydro-1,3,5-triazine-1,3,5-triyl)triethanol	225-208-0	4719-04-4	2.5% - 10%	Acute Tox. 2 (H330) Acute Tox. 4 (H302) Skin Sens. 1 (H317) STOT RE 1 (H372)	01-2119529226-41-xxx x
Neutralised 2-Aminoethanol	205-483-3	141-43-5*	2.5% - 10%	Acute Tox. 4 (H302) Acute Tox. 4 (H312) Acute Tox. 4 (H332) Aquatic Chronic 3 (H412)	01-2119486455-28-xxx x
Neutralised Poly(oxy-1,2-ethanediyl), a-(2-ethylhexyl)-w-hydroxy-, phosphate	-	68439-39-4*	2.5% - 10%	No data available	no data available
Neutralised 3,5,5-trimethylhexanoic acid	221-975-0	3302-10-1*	1% - 2.5%	Acute Tox. 4 (H302)	01-2119517580-45-xxx x
Neutralised nonanoic acid	203-931-2	112-05-0*	1% - 2.5%	Aquatic Chronic 3 (H412)	01-2119529247-37-xxx x
2,2',2''-Nitrilotriethanol	203-049-8	102-71-6	1% - 2.5%	**	01-2119486482-31-xxx x

** Substances for which there are Community workplace exposure limits CAS Numbers marked with * indicate that the substance is neutralised during the manufacturing process. The substance is present as part of a complex mixture, usually called "ionic mixture", which is intended to facilitate the process/application of the product in use.

Full text of H- and EUH-phrases: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of first-aid measures

General advice	Do not get in eyes, on skin, or on clothing. May produce an allergic reaction. Immediate medical attention is required. Do not breathe dust/fume/gas/mist/vapors/spray.
Inhalation	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Get medical attention immediately if symptoms occur.
Skin contact	Wash off immediately with plenty of water for at least 15 minutes. Remove and wash contaminated clothing before re-use. If symptoms persist, call a physician.
Eye contact	Keep eye wide open while rinsing. Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Do not rub affected area. Seek immediate medical attention/advice.
Ingestion	Clean mouth with water and afterwards drink plenty of water. Call a POISON CENTER or doctor/physician if exposed or you feel unwell.
Protection of First-aiders	Use personal protective equipment. Avoid contact with skin, eyes and clothing. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

4.2. Most important symptoms and effects, both acute and delayed

Main Symptoms	Redness, Rash, Itching, May cause allergic skin reaction, Eye damage/irritation, Gastrointestinal discomfort
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4.3. Indication of immediate medical attention and special treatment needed

Notes to physician	Treat symptomatically. May cause sensitization of susceptible persons.
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SECTION 5: FIRE FIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.; Use CO2, dry chemical, or foam, Water spray or fog

Extinguishing media which shall not be used for safety reasons

None

5.2. Special hazards arising from the substance or mixture

Special Hazard

Thermal decomposition can lead to release of irritating gases and vapors.

Hazardous decomposition products

None under normal use

5.3. Advice for firefighters

Special protective equipment for fire-fighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Keep people away from and upwind of spill/leak.

Advice for non-emergency personnel

Material can create slippery conditions.

Advice for emergency responders For personal protection see section 8.**6.2. Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system.

6.3. Methods and materials for containment and cleaning up

After cleaning, flush away traces with water.

6.4. Reference to other sections

See Section 8/12/13 for additional information

SECTION 7: HANDLING AND STORAGE**7.1. Precautions for safe handling**

Ensure adequate ventilation. Do not eat, drink or smoke when using this product. Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities**Technical measures/Storage conditions**

Keep container tightly closed in a dry and well-ventilated place.

Recommended Shelf Life

Shelf life 12 months.

Incompatible materials

Strong acids

7.3. Specific end uses**Specific use(s)**

Fire-resistant hydraulic fluid Blowout preventer control fluid

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**8.1. Control parameters****Exposure limits***Legend**(s) - Skin; TWA - Time-Weighted Average; STEL - Short Term Exposure Limit; Ceiling - Ceiling Value; TLV® - Threshold Limit Value; PEL (Permissible Exposure Limit)*

Chemical name	European Union	United Kingdom	France	Spain
Ethane-1,2-diol	TWA: 20 ppm TWA: 52 mg/m ³ STEL: 40 ppm STEL: 104 mg/m ³ (s)	TWA: 10 mg/m ³ TWA: 20 ppm TWA: 52 mg/m ³ - particulates - vapour STEL: 40 ppm	TWA: 20 ppm TWA: 52 mg/m ³ limite indicative (vapeur) STEL: 40 ppm STEL: 104 mg/m ³	VLA-ED: 20 ppm VLA-ED: 52 mg/m ³ (valor límite indicativo) VLA-EC: 40 ppm VLA-EC: 104 mg/m ³ (s)

		STEL: 104 mg/m ³ STEL: 30 mg/m ³ - particulate (s)	(s)	
2-Aminoethanol	TWA: 1 ppm TWA: 2.5 mg/m ³ (s)	TWA: 1 ppm TWA: 2.5 mg/m ³ STEL: 3 ppm STEL: 7.6 mg/m ³ (s)	TWA: 1 ppm TWA: 2.5 mg/m ³ limite contraignante STEL: 3 ppm STEL: 7.6 mg/m ³ (s)	VLA-ED: 1 ppm VLA-ED: 2.5 mg/m ³ (valor límite indicativo) VLA-EC: 3 ppm VLA-EC: 7.5 mg/m ³ (s)
2,2',2''-Nitrilotriethanol				VLA-ED: 5 mg/m ³

United Kingdom Workplace exposure limits (EH40).

France Valeurs limites d'exposition professionnelle aux agents chimiques en France ED 984 (par l'INRS).

Spain Límites de Exposición Profesional Para Agentes Químicos en España (Ley 31/1995).

Chemical name	Germany	Italy	Portugal	Netherlands
Ethane-1,2-diol	AGW TWA: 10 ppm AGW TWA: 26 mg/m ³ Überschreitungsfaktor 2 (II)	TWA: 20 ppm TWA: 52 mg/m ³ STEL: 40 ppm STEL: 104 mg/m ³ (s)	TWA: 20 ppm TWA: 52 mg/m ³ (Valor-limite indicativo) STEL: 40 ppm STEL: 104 mg/m ³ Ceiling: 100 mg/m ³ aerosol (s)	TWA: 52 mg/m ³ TWA: 10 mg/m ³ (damp) (druppeltjes) STEL: 104 mg/m ³ (s)
2-Aminoethanol	AGW TWA: 0.2 ppm AGW TWA: 0.5 mg/m ³ Überschreitungsfaktor 1 (II)	TWA: 1 ppm TWA: 2.5 mg/m ³ STEL: 3 ppm STEL: 7.6 mg/m ³ (s)	TWA: 1 ppm TWA: 2.5 mg/m ³ (Valor-limite indicativo) STEL: 3 ppm STEL: 7.6 mg/m ³ (s)	TWA: 2.5 mg/m ³ STEL: 7.6 mg/m ³ (s)
2,2',2''-Nitrilotriethanol	AGW TWA: 1 mg/m ³ (Einatembare fraktion) Überschreitungsfaktor 1		TWA: 5 mg/m ³	

Germany TRGS 900 - Arbeitsplatzgrenzwerte, Technische Regeln für Gefahrstoffe (TRGS).

Italy Istituto Superiore per la Prevenzione e la Sicurezza del Lavoro (ISPESL), Allegato XXXVIII e Allegato XLIII - Valori Limite di Esposizione Professionale.

Portugal Valores-limite e índices biológicos de exposição profissional a agentes químicos. Quadro 1 - Valores Limite de Exposição (Norma Portuguesa NP 1796:2014).

Netherlands Grenswaarden gezondheidsschadelijke stoffen; Arbeidsomstandighedenregeling.

Chemical name	Austria	Switzerland	Poland	Ireland
Ethane-1,2-diol	MAK TWA: 10 ppm MAK TWA: 26 mg/m ³ MAK STEL: 20 ppm MAK STEL: 52 mg/m ³ 8 X 5 min (s)	TWA: 10 ppm TWA: 26 mg/m ³ STEL: 20 ppm STEL: 52 mg/m ³ (s)	TWA: 15 mg/m ³ STEL: 50 mg/m ³	TWA: 10 mg/m ³ TWA: 20 ppm TWA: 52 mg/m ³ particulate vapour STEL: 40 ppm STEL: 30 mg/m ³ STEL: 104 mg/m ³ (s)
2-Aminoethanol	MAK TWA: 1 ppm MAK TWA: 2.5 mg/m ³ MAK STEL: 3 ppm MAK STEL: 7.6 mg/m ³ 4 X 15 min (s)	TWA: 2 ppm TWA: 5 mg/m ³ STEL: 4 ppm STEL: 10 mg/m ³	TWA: 2.5 mg/m ³ STEL: 7.5 mg/m ³	TWA: 1 ppm TWA: 2.5 mg/m ³ STEL: 3 ppm STEL: 7.6 mg/m ³ (s)
2,2',2''-Nitrilotriethanol	MAK TWA: 0.8 ppm MAK TWA: 5 mg/m ³ (Einatembare Fraktion) MAK STEL: 1.6 ppm MAK STEL: 10 mg/m ³ (Einatembare fraktion) 4 X 15 min	TWA: 5 mg/m ³ einatembarer staub STEL: 10 mg/m ³		TWA: 5 mg/m ³ STEL: 15 mg/m ³

Austria Verordnung des Bundesministers für Wirtschaft und Arbeit über Grenzwerte für Arbeitsstoffe und über krebserzeugende Arbeitsstoffe

("Maximale Arbeitsplatzkonzentrationen" - MAK und "Technische Richtkonzentrationen" - TRK).

Switzerland Grenzwerte am Arbeitsplatz 2016 - SUVAPro.

Poland Rozporządzenie Ministra Pracy i Polityki Społecznej z dnia 6 czerwca 2014 w sprawie najwyższych dopuszczalnych stężeń i natężeń czynników szkodliwych dla zdrowia w środowisku pracy (Dz.U. 2016 Nr. 944).

Ireland 2016 Code of Practice for the Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001.

Chemical name	Finland	Denmark	Norway	Sweden
Ethane-1,2-diol	TWA: 20 ppm TWA: 50 mg/m ³ STEL: 40 ppm STEL: 100 mg/m ³ (s)	TWA: 10 ppm TWA: 26 mg/m ³ TWA: 10 mg/m ³ forstøvet (s)	TWA: 20 ppm TWA: 52 mg/m ³ total støv damp STEL: 104 mg/m ³ STEL: 40 ppm (s)	TLV: 10 ppm TLV: 25 mg/m ³ - (limit value applies to the combined concentration of vapor and aerosol) STLV: 40 ppm (Indikativ) STLV: 104 mg/m ³ (Indikativ) STLV: 40 ppm (Bindande) STLV: 104 mg/m ³ (Bindande) aerosol and vapor (s)
2-Aminoethanol	TWA: 1 ppm TWA: 2.5 mg/m ³ STEL: 3 ppm STEL: 7.6 mg/m ³ (s)	TWA: 1 ppm TWA: 2.5 mg/m ³ (s)	TWA: 1 ppm TWA: 2.5 mg/m ³ STEL: 2 ppm STEL: 5 mg/m ³ (s)	TLV: 1 ppm TLV: 2.5 mg/m ³ STLV: 3 ppm (Indikativ) STLV: 7.5 mg/m ³ (Indikativ) STLV: 3 ppm (Bindande) STLV: 7.5 mg/m ³ (Bindande) (s)
2,2',2''-Nitrilotriethanol	TWA: 5 mg/m ³	TWA: 0.5 ppm TWA: 3.1 mg/m ³	TWA: 5 mg/m ³ STEL: 10 mg/m ³	TLV: 5 mg/m ³ TLV: 0.8 ppm STLV: 10 mg/m ³ (Indikativ) STLV: 1.6 ppm (Indikativ) (s)

Finland Förordningen om koncentrationer som befunnits skadliga, 268/2014 - HTP-arvot 2014.

Denmark Bekendtgørelse om grænseværdier for stoffer og materialer. Arbejdstilsynets bekendtgørelse nr. 507 Bilag 2 Afsnit A.

Norway Forskrift om tiltaksverdier og grenseverdier for fysiske og kjemiske faktorer i arbeidsmiljøet samt smitterisikogrupper for biologiske faktorer (Forskrift om tiltaks- og grenseverdier), FOR-2011-12-06-1358, FOR-2016-06-21-760, FOR-2016-12-22-1860.

Sweden Arbetsmiljöverkets föreskrifter om hygieniska gränsvärden och allmänna råd om tillämpningen av föreskrifterna.

Chemical name	Czech Republic	Hungary	Bulgaria	Romania
Ethane-1,2-diol	TWA: 50 mg/m ³ Ceiling: 100 mg/m ³ (s)	TWA: 52 mg/m ³ STEL: 104 mg/m ³ (s)	TWA: 52 mg/m ³ TWA: 20 ppm STEL: 40 ppm STEL: 104 mg/m ³ (s)	TWA: 20 ppm TWA: 52 mg/m ³ STEL: 40 ppm STEL: 104 mg/m ³ (s)
2-Aminoethanol	TWA: 2.5 mg/m ³ Ceiling: 7.5 mg/m ³ (s)	TWA: 2.5 mg/m ³ STEL: 7.6 mg/m ³ (s)	TWA: 1 ppm TWA: 2.5 mg/m ³ STEL: 3 ppm STEL: 7.6 mg/m ³ (s)	TWA: 1 ppm TWA: 2.5 mg/m ³ STEL: 3 ppm STEL: 7.6 mg/m ³ (s)
2,2',2''-Nitrilotriethanol	TWA: 5 mg/m ³ Ceiling: 10 mg/m ³ (s)			

Czech Republic Narizeni vlady 93/2012, kterym se meni narizeni vlady c.361/2007 Sb., kterym se stanoví podmínky ochrany zdraví při práci, ve znění narizeni vlady c.68/2010 Sb.

Hungary 25/2000. (IX. 30.) EüM-SzCsM együttes rendelet a munkahelyek kémiai biztonságáról (62/2016. (XII.29.)).

Bulgaria НАРЕДБА #13 от 30.12.2003 г. за защита на работещите от рискове, свързани с експозиция на химични агенти при работа.

Romania Valori Limit Obligatorii Nationale de expunere profesională ale agenților chimici - Anex Nr.1 Publicat în Monitorul Oficial, Partea I nr. 845.

Chemical name	Greece	Cyprus	Turkey	Malta
Ethane-1,2-diol	TWA: 50 ppm TWA: 125 mg/m ³ STEL: 50 ppm STEL: 125 mg/m ³	TWA: 20 ppm TWA: 52 mg/m ³ STEL: 40 ppm STEL: 104 mg/m ³ (s)	TWA: 20 ppm TWA: 52 mg/m ³ STEL: 40 ppm STEL: 104 mg/m ³ (s)	TWA: 20 ppm TWA: 52 mg/m ³ STEL: 40 ppm STEL: 104 mg/m ³ (s)
2-Aminoethanol	TWA: 1 ppm	TWA: 1 ppm	TWA: 1 ppm	TWA: 1 ppm

	TWA: 2.5 mg/m ³ STEL: 3 ppm STEL: 7.6 mg/m ³ (s)	TWA: 2.5 mg/m ³ STEL: 3 ppm STEL: 7.6 mg/m ³ (s)	TWA: 2.5 mg/m ³ STEL: 3 ppm STEL: 7.6 mg/m ³ (s)	TWA: 2.5 mg/m ³ STEL: 3 ppm STEL: 7.6 mg/m ³ (s)
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Greece Οριακές Τιμές Επαγγελματικής Έκθεσης - Προστασία της υγείας και της ασφάλειας των εργαζομένων που εκτίθενται σε ορισμένους καρκινογόνους και μεταλλαξιογόνους παράγοντες 127/2000.

Cyprus Κανονισμός 268/2001 του Υπουργικού Συμβουλίου - Ασφάλεια και Υγεία στην Εργασία (Χημικοί Παράγοντες), 6 Ιουλίου, 2001 - Όπως τροποποιήθηκε από τον Κανονισμό 44/2015 (δημοσιεύθηκε στην Επίσημη Εφημερίδα της Κυβέρνησης της Κύπρου στις 13 Φεβρουαρίου, 2015, Παράρτημα ΙΙΙ(Ι), Αριθμ. 4850).

Turkey Kimyasal Maddelerle Çalışmalarda Sağlık ve Güvenlik Önlemleri Hakkında Yönetmelik.

Malta Occupational Health and Safety Authority Act: Chapter 424.

Chemical name	Belgium	Luxembourg	Iceland	Croatia
Ethane-1,2-diol	(s)	TWA: 20 ppm TWA: 52 mg/m ³ STEL: 40 ppm STEL: 104 mg/m ³ (s)	TWA: 10 ppm TWA: 26 mg/m ³ TWA: 10 mg/m ³ STEL: 40 ppm STEL: 104 mg/m ³ (s)	TWA: 20 ppm TWA: 52 mg/m ³ STEL: 40 ppm STEL: 104 mg/m ³ (s)
2-Aminoethanol	TWA: 1 ppm TWA: 2.5 mg/m ³ STEL: 3 ppm STEL: 7.6 mg/m ³ (s)	TWA: 1 ppm TWA: 2.5 mg/m ³ STEL: 3 ppm STEL: 7.6 mg/m ³ (s)	TWA: 1 ppm TWA: 2.5 mg/m ³ STEL: 3 ppm STEL: 7.6 mg/m ³ (s)	TWA: 1 ppm TWA: 2.5 mg/m ³ STEL: 3 ppm STEL: 7.6 mg/m ³ (s)
2,2',2''-Nitrilotriethanol	TWA: 5 mg/m ³		TWA: 5 mg/m ³	

Belgium Arrêté royal relatif à la protection de la santé et de la sécurité des travailleurs contre les risques liés à des agents chimiques sur le lieu de travail.

Luxembourg Règlement grand-ducal du 28 juillet 2011 concernant la protection de la santé et de la sécurité des travailleurs contre les risques liés à des agents chimiques sur le lieu de travail.

Iceland Reglur og reglugerðir sem heyra undir Vinnuverndarlögin nr. 46/1980 um aðbúnað, hollustuhætti og öryggi á vinnustöðum. 390/2009 - Reglugerð um mengunarmörk og aðgerðir til að draga úr mengun á vinnustöðum.

Croatia Pravilnik o izmjenama i dopunama Pravilnika o graničnim vrijednostima izloženosti opasnim tvarima pri radu i o biološkim graničnim vrijednostima.

Chemical name	Russia	Estonia	Latvia	Lithuania
Ethane-1,2-diol	TWA: 5 mg/m ³ STEL: 10 mg/m ³	TWA: 20 ppm TWA: 52 mg/m ³ STEL: 40 ppm STEL: 104 mg/m ³ (s)	TWA: 20 ppm TWA: 52 mg/m ³ STEL: 40 ppm STEL: 104 mg/m ³ (s)	TWA: 10 ppm TWA: 25 mg/m ³ STEL: 20 ppm STEL: 50 mg/m ³ (s)
2-Aminoethanol	MAC: 0.5 mg/m ³ (s)	TWA: 1 ppm TWA: 2.5 mg/m ³ STEL: 3 ppm STEL: 7.6 mg/m ³ (s)	TWA: 0.2 ppm TWA: 0.5 mg/m ³ STEL: 3 ppm STEL: 7.6 mg/m ³ (s)	TWA: 3 ppm TWA: 8 mg/m ³ STEL: 6 ppm STEL: 15 mg/m ³ (s)
2,2',2''-Nitrilotriethanol		TWA: 5 mg/m ³ STEL: 10 mg/m ³		TWA: 5 mg/m ³ STEL: 10 mg/m ³

Russia ГН 2.2.5.1313-03 "Гигиенические нормативы. Предельно допустимые концентрации (ПДК) вредных веществ в воздухе рабочей зоны".

Estonia Tookeskonna keemiliste ohutegurite piirnormid.

Latvia Ministru Kabineta noteikumi Nr. 325 - Darba aizsardzības prasības, saskaroties ar ķīmiskajām vielām darba vietās.

Lithuania Del Lietuvos higienos normos HN 23:2011 "Cheminių medžiagų profesinio poveikio ribiniai dydžiai. Matavimo ir poveikio vertinimo bendrieji reikalavimai".

Chemical name	Belarus	Ukraine	Slovakia	Slovenia
Ethane-1,2-diol	TWA: 5 mg/m ³ (aerosol and vapor)		TWA: 20 ppm TWA: 52 mg/m ³ Skin	TWA: 20 ppm TWA: 52 mg/m ³ STEL: STEL ppm STEL: STEL mg/m ³ Skin
2-Aminoethanol	(s)		TWA: 1 ppm TWA: 2.5 mg/m ³ (s)	TWA: 1 ppm TWA: 2.5 mg/m ³ STEL: STEL ppm STEL: STEL mg/m ³ (s)
2,2',2''-Nitrilotriethanol				TWA: 5 mg/m ³

Belarus Санитарные нормы, правила и гигиенические нормативы "Перечень регламентированных в воздухе рабочей зоны вредных веществ".

Slovakia Nariadenie Vlády Slovenskej republiky z 16. januára 2002 o ochrane zdravia pri práci s karcinogénnymi a mutagénymi faktormi.
Slovenia Pravilnik o varovanju delavcev pred tveganji zaradi izpostavljenosti kemičnim snovem pri delu.

Chemical name	Serbia	Macedonia	Liechtenstein	South Africa
Ethane-1,2-diol	TWA: 20 ppm TWA: 52 mg/m ³ STEL: 40 ppm STEL: 104 mg/m ³ (s)	TWA: 20 ppm TWA: 52 mg/m ³ STEL: 40 ppm STEL: 104 mg/m ³ (s)	TWA: 20 ppm TWA: 52 mg/m ³ STEL: 40 ppm STEL: 104 mg/m ³ (s)	
2-Aminoethanol	TWA: 1 ppm TWA: 2.5 mg/m ³ STEL: 3 ppm STEL: 7.6 mg/m ³ (s)	TWA: 1 ppm TWA: 2.5 mg/m ³ STEL: 3 ppm STEL: 7.5 mg/m ³ (s)	TWA: 1 ppm TWA: 2.5 mg/m ³ STEL: 3 ppm STEL: 7.6 mg/m ³ (s)	
2,2',2''-Nitrilotriethanol		TWA: 5 mg/m ³		

Serbia Pravilnik o preventivnim merama za bezbedan i zdrav rad pri izlaganju hemijskim materijama, Prilog 1- Obavezujuće granične vrednosti izloženosti hemijskim materijama na radnom mestu.

Macedonia Правилник минималните барања за безбедност и здравје при работа вработени од ризици поврзани со изложување на хемиски супстанции.

Liechtenstein 822.103.3 - Verordnung ueber die Sicherheit und den Gesundheitsschutz der Arbeitnehmer am Arbeitsplatz, Arbeitnehmerschutz.

Derived No Effect Level (DNEL)

Workers Systemic toxicity

Chemical name	Long term - Oral exposure	Long term - Dermal exposure	Long term - Inhalation exposure	Short term - Oral Exposure	Short term - Dermal exposure	Short term - Inhalation exposure
Ethane-1,2-diol		106 mg/kg	35 mg/m ³			
2-Aminoethanol		1 mg/kg				
Neutralised 2-Aminoethanol		1 mg/kg				
Neutralised 3,5,5-trimethylhexanoic acid		2 mg/kg	7 mg/m ³			
Neutralised nonanoic acid		8.33 mg/kg	58.8 mg/m ³		50 mg/kg	117 mg/m ³

Workers Local effects

Chemical name	Long term - Oral exposure	Long term - Dermal exposure	Long term - Inhalation exposure	Short term - Oral Exposure	Short term - Dermal exposure	Short term - Inhalation exposure
Ethane-1,2-diol						35 mg/m ³
2-Aminoethanol			3.3 mg/m ³			
2,2',2''-(Hexahydro-1,3,5-triazine-1,3,5-triyl)triethanol			0.2 mg/m ³			
Neutralised 2-Aminoethanol			3.3 mg/m ³			

Consumers Systemic toxicity

Chemical name	Long term - Oral exposure	Long term - Dermal exposure	Long term - Inhalation exposure	Short term - Oral Exposure	Short term - Dermal exposure	Short term - Inhalation exposure
Ethane-1,2-diol		53 mg/kg				
2-Aminoethanol	3.75 mg/kg	0.24 mg/kg	2 mg/m ³			
Neutralised 2-Aminoethanol	3.75 mg/kg	0.24 mg/kg	2 mg/m ³			

Neutralised 3,5,5-trimethylhexanoic acid	1 mg/kg	1 mg/kg	2 mg/m ³			
Neutralised nonanoic acid	4.17 mg/kg	4.17 mg/kg	14.5 mg/m ³	25 mg/kg	25 mg/kg	29 mg/m ³

Consumers Local effects

Chemical name	Long term - Oral exposure	Long term - Dermal exposure	Long term - Inhalation exposure	Short term - Oral Exposure	Short term - Dermal exposure	Short term - Inhalation exposure
Ethane-1,2-diol			7 mg/m ³			
2-Aminoethanol			2 mg/m ³			
Neutralised 2-Aminoethanol			2 mg/m ³			

Predicted No Effect Concentration (PNEC)

Chemical name	Fresh water	Sea water	Fresh water sediment	Sea sediment	Soil
Ethane-1,2-diol	10 mg/L	1 mg/L	37 mg/kg	3.7 mg/kg	1.53 mg/kg
2-Aminoethanol	0.085 mg/l	0.0085 mg/l	0.425 mg/kg	0.0425 mg/kg	0.035 mg/kg
2,2',2''-(Hexahydro-1,3,5-triazine-1,3,5-triyl)triethanol	0.0066 mg/L	0.00066 mg/L	0.0304 mg/kg	0.00304 mg/kg	0.00219 mg/kg
Neutralised 2-Aminoethanol	0.085 mg/l	0.0085 mg/l	0.425 mg/kg	0.0425 mg/kg	0.035 mg/kg
Neutralised 3,5,5-trimethylhexanoic acid	0.068 mg/l	0.0068 mg/l	0.904 mg/kg	0.0904 mg/kg	0.141 mg/kg
Neutralised nonanoic acid	0.36 mg/L	0.036 mg/L	8.5 mg/kg	0.85 mg/kg	1.48 mg/kg

8.2. Exposure controls**Engineering Measures**

Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Engineering controls should be considered as the first line of protection against adverse exposure to harmful substances. Administrative controls and PPE should be used in the absence of engineering controls or as supplemental controls where engineering controls are insufficient in reducing specific exposures to an acceptable level.

Eye Protection

Eye protection must conform to standard EN 166. Tightly fitting safety goggles.

Hand Protection

The following glove type may be suitable for handling this product: Protective gloves complying with EN 374.

Nitrile rubber

Glove thickness => 0.38 mm Break through time => 480 min

Butyl rubber

Glove thickness => 0.64 mm Break through time => 480 min

Neoprene™

Glove thickness => 0.64 mm Break through time => 480 min

Glove material suitability will vary depending on specific use conditions. Consideration should be given to variables such as operational characteristics, anticipated contact time, task requirements and other factors relevant to the selection of PPE. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion. Any specific glove information provided is based on published literature and glove manufacturer data. Barrier creams may help to protect the exposed areas of skin. Barrier creams should not be applied after exposure has occurred. Gloves should be replaced regularly and if there is any sign of damage to the glove material.

Skin and body protection

Lightweight protective clothing. Apron. Impervious gloves.

Respiratory protection

Do not breathe vapors, mist or gas. In case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

This information is based on the state in which the specific product is delivered and on the intended use specified within this SDS. This information is provided based on literature reference, manufacturer specifications and recommendations and/or derived by analogy with similar substances. The level of protection and types of exposure controls will vary depending on potential exposure conditions.

Hygiene measures

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Remove and wash contaminated clothing before re-use. Do not eat, drink or smoke when using this product. Handle in accordance with good industrial hygiene and safety practice.

Environmental Exposure Controls

No special environmental precautions required.

Thermal hazards

None under normal use conditions

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**9.1. Information on basic physical and chemical properties**

Physical state	liquid	Appearance	clear colorless
Odor	Characteristic	Odor threshold	Not Determined
<u>Property</u>	<u>Values</u>	<u>Remarks</u>	
pH	> 9.2		
Melting point / freezing point	Not Determined		
Boiling point / boiling range	Not Determined		
Flash point	Not applicable		
Evaporation rate	Not Determined		
Flammability (solid, gas)	Not Determined		
Flammability Limit in Air			
Upper flammability limit:	Not Determined		
Lower flammability limit:	Not Determined		
Vapor pressure	Not Determined		
Vapor density	Not Determined		
Relative density	> 1.00	g/cm3 @15.5°C	
Solubility(ies)	Miscible in water		
Partition coefficient	Not Determined		
Autoignition temperature	Not Determined		
Decomposition temperature	Not Determined		
Kinematic viscosity	~ 0.70 cSt @ 40 °C	ASTM D 445	
Explosive properties	Not applicable		
Oxidizing Properties	Not applicable		

9.2. Other information

Viscosity, kinematic (100°C)	Not Determined
Pour Point	Not Determined
VOC Content (ASTM E-1868-10)	Not Determined
VOC content	Not Determined

SECTION 10: STABILITY AND REACTIVITY**10.1. Reactivity**

None under normal use conditions

10.2. Chemical stability

Stable under normal conditions

10.3. Possibility of hazardous reactions

None under normal use conditions

10.4. Conditions to avoid

None under normal use conditions

10.5. Incompatible materials

Strong acids

10.6. Hazardous decomposition products

None under normal use conditions

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Product Information - Principle Routes of Exposure

Inhalation	None known
Eye contact	May result in permanent damage including blindness
Skin contact	Irritating to skin; Repeated or prolonged skin contact may cause allergic reactions with susceptible persons
Ingestion	Ingestion constitutes the main danger because of the toxicity of ethylene glycol; May cause adverse liver effects; May cause adverse kidney effects

Acute toxicity - Product Information

Product does not present an acute toxicity hazard based on known or supplied information.

Acute toxicity - Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Ethane-1,2-diol	4000 mg/kg (Rat)	= 9530 µL/kg (Rabbit)	
2-Aminoethanol	1720 mg/kg (Rat)	= 1 mL/kg (Rabbit) = 1025 mg/kg (Rabbit)	
2,2',2''-(Hexahydro-1,3,5-triazine-1,3,5-triyl)triethanol	= 763 mg/kg (Rat)	> 2000 mg/kg (Rat)	0.371 mg/L (4h) (Rat)
Neutralised 2-Aminoethanol	1720 mg/kg (Rat)	= 1 mL/kg (Rabbit) = 1025 mg/kg (Rabbit)	
Neutralised 3,5,5-trimethylhexanoic acid	1100 mg/kg (Rat)	> 2000 mg/kg (Rat)	
Neutralised nonanoic acid	9000 mg/kg (Rat)	9000 mg/kg (Rabbit)	
2,2',2''-Nitrilotriethanol		> 16 mL/kg (Rat) > 2000 mg/kg (Rabbit)	

Skin corrosion/irritation	Irritating to skin.
Serious eye damage/eye irritation	Causes severe eye damage.
Sensitization	
Respiratory Sensitization	Based on available data, the classification criteria are not met.

Skin sensitization	Skin Sensitization - Category 1.
Germ cell mutagenicity	Based on available data, the classification criteria are not met.
Carcinogenicity	Based on available data, the classification criteria are not met.
Reproductive toxicity	Based on available data, the classification criteria are not met.
Specific target organ systemic toxicity (single exposure)	Based on available data, the classification criteria are not met
Specific target organ systemic toxicity (repeated exposure)	Causes damage to organs through prolonged or repeated exposure
Aspiration hazard	Based on available data, the classification criteria are not met.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

No special environmental measures are necessary

Chemical name	Algae/aquatic plants	Fish	Crustacea
Ethane-1,2-diol	6500 - 13000: 96 h Pseudokirchneriella subcapitata mg/L EC50	41000: 96 h Oncorhynchus mykiss mg/L LC50 14-18: 96 h Oncorhynchus mykiss ml/L LC50 static 27540: 96 h Lepomis macrochirus mg/L LC50 static 40761: 96 h Oncorhynchus mykiss mg/L LC50 static 40000-60000: 96 h Pimephales promelas mg/L LC50 static 16000: 96 h Poecilia reticulata mg/L LC50 static	46300: 48 h Daphnia magna mg/L EC50
2-Aminoethanol	2.8: 72 h Pseudokirchneriella subcapitata mg/L EC50	227: 96 h Pimephales promelas mg/L LC50 flow-through 3684: 96 h Brachydanio rerio mg/L LC50 static 300 - 1000: 96 h Lepomis macrochirus mg/L LC50 static 114 - 196: 96 h Oncorhynchus mykiss mg/L LC50 static 200: 96 h Oncorhynchus mykiss mg/L LC50 flow-through	65: 48 h Daphnia magna mg/L EC50
2,2',2''-(Hexahydro-1,3,5-triazine-1,3,5-triyl)triethanol	6.66: 72 h Desmodesmus subspicatus mg/L EC50	16.07: 96 h Brachydanio rerio mg/L LC50	11.9: 48 h Daphnia magna mg/L EC50
Neutralised 2-Aminoethanol	2.8: 72 h Pseudokirchneriella subcapitata mg/L EC50	227: 96 h Pimephales promelas mg/L LC50 flow-through 3684: 96 h Brachydanio rerio mg/L LC50 static 300 - 1000: 96 h Lepomis macrochirus mg/L LC50 static 114 - 196: 96 h Oncorhynchus mykiss mg/L LC50 static 200: 96 h Oncorhynchus mykiss mg/L LC50 flow-through	65: 48 h Daphnia magna mg/L EC50
Neutralised 3,5,5-trimethylhexanoic acid	81: 72 h Pseudokirchneriella subcapitata mg/L EC50	122: 96 h Oncorhynchus mykiss mg/L LC50 190: 96 h Lepomis gibbosus mg/L LC50	68: 48 h Daphnia magna mg/L EC50
Neutralised nonanoic acid	60: 72 h Pseudokirchneriella subcapitata mg/L EC50	93.4-115: 96 h Pimephales promelas mg/L LC50 flow-through 68-121: 96 h Oncorhynchus mykiss mg/L LC50 static 105: 96 h Lepomis macrochirus mg/L LC50 static	96: 48 h Daphnia magna mg/L EC50
2,2',2''-Nitrilotriethanol	216: 72 h Desmodesmus	10600-13000: 96 h Pimephales	1386: 24 h Daphnia magna mg/L

	subspicatus mg/L EC50 169: 96 h Desmodesmus subspicatus mg/L EC50	promelas mg/L LC50 flow-through 1000: 96 h Pimephales promelas mg/L LC50 static 450-1000: 96 h Lepomis macrochirus mg/L LC50 static	EC50
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12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential

No information available

Chemical name	Partition coefficient
Ethane-1,2-diol	-1.93
2-Aminoethanol	-1.91
Neutralised 2-Aminoethanol	-1.91
Neutralised 3,5,5-trimethylhexanoic acid	3.08
Neutralised nonanoic acid	3.4
2,2',2''-Nitrilotriethanol	-2.53

12.4. Mobility

Miscible with water

12.5. Results of PBT and vPvB assessment

This preparation contains no substance considered to be persistent, bioaccumulating nor toxic (PBT). This preparation contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

12.6. Other adverse effects

None known

SECTION 13: DISPOSAL CONSIDERATIONS**13.1. Waste treatment methods****Waste from Residues / Unused Products**

Dispose of as hazardous waste in compliance with local and national regulations

Contaminated packaging

Empty containers should be taken to an approved waste handling site for recycling or disposal. Observe all label precautions until container is cleaned, reconditioned or destroyed.

Other Data

According to the European Waste Catalog, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14: TRANSPORT INFORMATION**14.1. UN number**

Not Regulated

14.2. UN proper shipping name

Not Regulated

14.3. Transport hazard class

Not Regulated

14.4. Packing group

Not Regulated

14.5. Environmental Hazards

None

14.6. Special precautions for users

None

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

IMDG Not Regulated**ADR** Not Regulated**IATA** Not Regulated**ADN** Not Regulated

SECTION 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**EU legislation**

The Classification, Labeling and Packaging of Substances and Mixtures (CLP) Regulation (EC 1272/2008)
Registration, Evaluation, Authorization, and Restriction of Chemicals (REACH) Regulation (EC 1907/2006)
Safety Data Sheet according to Regulation EC 1907/2006 (REACH) with its amendment regulation EC 2015/830
European Agreement concerning the International Carriage of Dangerous Goods by Road/ Regulations concerning the International Carriage of Dangerous Goods by Rail
International Civil Aviation Organization / International Air Transport Association Dangerous Goods Regulation

Restrictions on use

This product does not contain substances above concentrations required for disclosure which are subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII).

Substance(s) of Very High Concern

This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (Regulation (EC) No. 1907/2006 (REACH), Article 59).

Dangerous substance category per Seveso Directive (2012/18/EU) Not applicable**Named dangerous substances per Seveso Directive (2012/18/EU)** Not applicable

National regulations

Germany

WGK Classification

Low hazard to water/Class 1

United Kingdom

Statutory Instruments: Control of Substances Hazardous to Health Regulations 2002. Chemicals (Hazard Information and Packaging) Regulations 2009.

Acts of Parliament: The Health and Safety at Work etc. Act 1974. Environment Protection Act 1990.

Regulation on classification, labeling, of hazardous chemicals (2002 changing 2005). Appendix VI to Regulation on classification, labeling etc. of hazardous chemicals (2002 changing 2010), list of hazardous substances (as amended). Guidelines for submission and declaration of hazardous waste (2009). Transport of dangerous goods: ADR, RID, IMDG and IATA. Administrative norms for pollution of the atmosphere, 2009.

Workplace exposure limits (EH40)

International Regulations

Ozone-depleting substances (ODS)

Not applicable

Persistent Organic Pollutants

Not applicable

Chemicals Subject to Prior Informed Consent (PIC)

Not applicable

International Inventories

Inventory information may be utilizing alternative CAS#s or exemptions beyond those stated within this document. For further information, please contact: . ProductStewardship@houghtonintl.com.

TSCA	Complies
DSL	All Components are NOT on the Chemical Inventory
AICS	Does not Comply
PICCS	Does not Comply
KECL	Does not Comply
IECSC	Complies
ENCS	Does not Comply
TCSI	Complies
NZIoC	Does not Comply

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List
AICS - Australian Inventory of Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
ENCS - Japan Existing and New Chemical Substances
TCSI - Taiwan National Existing Chemical Inventory
NZIoC - New Zealand Inventory of Chemicals

Other Information

Not applicable

15.2. Chemical Safety Assessment

A chemical safety assessment according to regulation (EC) No. 1907/2006 is not required

SECTION 16: OTHER INFORMATION

Key or legend to abbreviations and acronyms used in the safety data sheet

Repr.-Reproduction toxicity
Asp. Tox. - Aspiration Toxicity
Acute Tox. - Acute Toxicity
Aquatic Acute - Acute Aquatic Toxicity
Aquatic Chronic - Chronic Aquatic Toxicity
Eye Dam. - Eye Damage
Eye Irrit. - Eye Irritation
Skin Corr. - Skin Corrosion
Skin Irrit. - Skin Irritation
Skin Sens. - Skin Sensitizer
Resp. Sens. - Respiratory Sensitizer
STOT SE - Specific target organ systemic toxicity (Single exposure)
STOT RE - Specific target organ systemic toxicity (repeated exposure)
VOC - Volatile organic compounds

Full text of H-Statements which may be referred to under Sections 2 and 3

• H224 - Extremely flammable liquid and vapor • H225 - Highly flammable liquid and vapor • H226 - Flammable liquid and vapor • H270 - May cause or intensify fire; oxidizer • H271 - May cause fire or explosion; strong oxidizer • H272 - May intensify fire; oxidizer • H290 - May be corrosive to metals • H300 - Fatal if swallowed • H301 - Toxic if swallowed • H302 - Harmful if swallowed • H304 - May be fatal if swallowed and enters airways • H310 - Fatal in contact with skin • H311 - Toxic in contact with skin • H312 - Harmful in contact with skin • H314 - Causes severe skin burns and eye damage • H315 - Causes skin irritation • H317 - May cause an allergic skin reaction • H318 - Causes serious eye damage • H319 - Causes serious eye irritation • H330 - Fatal if inhaled • H331 - Toxic if inhaled • H332 - Harmful if inhaled • H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled • H335 - May cause respiratory irritation • H336 - May cause drowsiness or dizziness • H340 - May cause genetic defects	• H341 - Suspected of causing genetic defects • H350 - May cause cancer • H351 - Suspected of causing cancer • H360 - May damage fertility or the unborn child • H361 - Suspected of damaging fertility or the unborn child • H362 - May cause harm to breast-fed children • H370 - Causes damage to organs • H371 - May cause damage to organs • H372 - Causes damage to organs through prolonged or repeated exposure • H373 - May cause damage to organs through prolonged or repeated exposure • H400 - Very toxic to aquatic life • H410 - Very toxic to aquatic life with long lasting effects • H411 - Toxic to aquatic life with long lasting effects • H412 - Harmful to aquatic life with long lasting effects • H413 - May cause long lasting harmful effects to aquatic life • H360Df - May damage the unborn child. Suspected of damaging fertility • H360D - May damage the unborn child • H360FD - May damage fertility. May damage the unborn child • H360F - May damage fertility • H361d - Suspected of damaging the unborn child • H361fd - Suspected of damaging fertility. Suspected of damaging the unborn child • H361f - Suspected of damaging fertility • EUH066 - Repeated exposure may cause skin dryness or cracking • EUH210 - Safety data sheet available on request • EUH208 - May produce an allergic reaction
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Classification for mixtures and used evaluation method according to regulation (EC) 1207/2008 [CLP]

Physical hazards	On basis of test data
Health Hazards	Calculation Method
Environmental Hazards	Calculation Method

Revision Date 08-04-2018

Revision Note This SDS has been revised in the following section(s), 15, 8.

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Safety Data Sheet

DAUBERT
CHEMICAL COMPANY, INC.

Stock Number: 3009006
Revision Date: 12-10-2024
Replaces: 01-11-2022

TECTYL® 506

1. Identification

Product identifier used on the label: **TECTYL® 506**
Stock Number: 3009006

Other means of identification:

Synonyms: None
Chemical family: Mixture

Recommended use of the chemical and restrictions on use:

Recommended use: Corrosion Preventative Compound

Restrictions on use: Uses other than those described above

Name, address, and telephone number
of the chemical manufacturer,
importer, or other responsible party: Daubert Chemical Company
4700 S. Central Avenue
Chicago, IL 60638

Telephone number: 1-708-496-7350

E-mail address: SDS@Daubert.com

Emergency phone number: Chemtrec: (800) 424-9300 - in USA and Canada
+1-703-527-3887 - outside USA and Canada

2. Hazard(s) identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200:

GHS Hazard
Symbols:



GHS Classification: Flammable Liquid Category 3; Specific Target Organ Systemic Toxicity (STOT) - Single Exposure Category 3

Signal Word: Warning

Hazard Statements: Flammable liquid and vapor
May cause respiratory irritation

Unclassified Hazards (HNOC): None Identified

Precautionary Statements:

Prevention: Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.

Safety Data Sheet

Product identifier used on the label: TECTYL® 506

Stock Number: 3009006

Revision Date: 12-10-2024

Replaces: 01-11-2022

Response:

Avoid breathing fume/gas/mist/ vapors/spray.

Use only outdoors or in a well-ventilated area.

Wear protective gloves/protective clothing/eye protection/face protection.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

If inhaled: Remove person to fresh air and keep comfortable for breathing.

Call a poison center/doctor if you feel unwell.

In case of fire: Use appropriate media to extinguish.

Storage:

Store in a well-ventilated place. Keep container tightly closed.

Store in a well-ventilated place. Keep cool.

Store locked up.

Disposal:

Dispose of contents/container to a suitable disposal site in accordance with local/national/international regulations.

Hazards not otherwise classified:

No data available

3. Composition/information on ingredients

Chemical Name	Common name and synonyms	CAS #	%
Distillates (petroleum), hydrotreated light	None	64742-47-8	45 - 70
Sulfonic acids, petroleum, sodium salts	None	68608-26-4	1 - 5

Specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

4. First-aid measures

Description of necessary measures, subdivided according to the different routes of exposure, i.e., inhalation, skin and eye contact, and ingestion:

Inhalation:

If symptoms are experienced remove source of contamination or move victim to fresh air and obtain medical advice.

Eye Contact:

Immediately flush eyes with plenty of water for at least 20 minutes retracting eyelids often. Tilt the head to prevent chemical from transferring to the uncontaminated eye. Get immediate medical attention and monitor the eye daily as advised by your physician.

Safety Data Sheet

Product identifier used on the label: TECTYL® 506

Stock Number: 3009006

Revision Date: 12-10-2024

Replaces: 01-11-2022

Skin Contact:	Wash with soap and water. Get medical attention if irritation develops or persists.
Ingestion:	Do not induce vomiting and seek medical attention immediately. Provide medical care provider with this SDS.
Most important symptoms/effects, acute and delayed:	May cause respiratory irritation
Indication of immediate medical attention and special treatment needed, if necessary:	Consult a physician. Treat symptomatically.

5. Fire-fighting measures

Suitable (and unsuitable) extinguishing media:

Suitable extinguishing media: Use alcohol resistant foam, carbon dioxide, dry chemical, or water spray when fighting fires. Water or foam may cause frothing if liquid is burning but it still may be a useful extinguishing agent if carefully applied to the fire.

Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical: Vapors may be ignited by sparks, flames or other sources of ignition if material is above the flash point giving rise to a fire (Class B). Vapors are heavier than air and may travel to a source of ignition and flash back. Empty containers that retain product residue (liquid, solid/sludge, or vapor) can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose container to heat, flame, sparks, static electricity, or other sources of ignition. Any of these actions can potentially cause an explosion that may lead to injury or death.

Hazardous combustion products: Carbon dioxide, Carbon monoxide, Sulfur compounds, Hydrocarbons

Special protective equipment and precautions for fire-fighters: Do not enter fire area without proper protection including self-contained breathing apparatus and full protective equipment. Fight fire from a safe distance and a protected location due to the potential of hazardous vapors and decomposition products.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: No health effects expected from the clean-up of this material if contact can be avoided. Follow personal protective equipment recommendations found in Section VIII of this SDS

Safety Data Sheet

Product identifier used on the label: TECTYL® 506

Stock Number: 3009006

Revision Date: 12-10-2024

Replaces: 01-11-2022

Methods and materials for containment and cleaning up:

Absorb or cover with dry earth, sand or other non-combustible material and transfer to appropriate waste containers. Use clean, non-sparking tools to collect absorbed material. Collect and discard in accordance with local, state and national regulations.

7. Handling and storage

Precautions for safe handling:

Mildly irritating material. Avoid unnecessary exposure. "Empty" containers retain product residue (liquid and/or vapor) and can be dangerous. Do not get in eyes, on skin and clothing. Wash thoroughly after handling. As with all chemicals, good industrial hygiene practices should be followed when handling this material.

Conditions for safe storage, including any incompatibilities:

Safe storage conditions:

Store in a cool dry place. Isolate from incompatible materials. Keep away from heat, sparks, and flame. Keep container closed when not in use.

Materials to Avoid/Chemical Incompatibility:

Strong oxidizing agents

8. Exposure controls/personal protection

OSHA permissible exposure limit (PEL), American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV), and any other exposure limit used or recommended by the chemical manufacturer, importer, or employer preparing the safety data sheet, where available:

Chemical component	OSHA PEL	ACGIH TLV	ACGIH STEL	IDLH
Distillates (petroleum), hydrotreated light		200 mg/m ³		No data available

Appropriate engineering controls:

Local exhaust ventilation or other engineering controls are normally required when handling or using this product to avoid overexposure.

Engineering controls must be designed to meet the OSHA chemical specific standard in 29 CFR 1910.

Individual protection measures, such as personal protective equipment:

Respiratory Protection:

Proper ventilation (at a minimum) will be required when handling this product. Use respirators (NIOSH approved) only if ventilation cannot be used to eliminate symptoms or reduce the exposure to below acceptable levels.

Respirator Type(s):

NIOSH approved air purifying respirator with organic vapor/acid gas cartridge.

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Eye protection:	Wear chemically resistant safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing or spraying liquid, or airborne material. Do not wear contact lenses. Have an eye wash station available.
Skin protection:	Wear protective gloves. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.
Gloves:	Nitrile
Other protective equipment:	Wear chemically resistant safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing or spraying liquid, or airborne material. Do not wear contact lenses. Have an eye wash station available. Wear protective gloves. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.
General hygiene conditions:	Ground and bond containers when transferring material. Use spark-proof tools and explosion-proof equipment. "Empty" containers retain product residue (liquid and/or vapor) and can be dangerous. Do not get in eyes, on skin and clothing. Wash thoroughly after handling. As with all chemicals, good industrial hygiene practices should be followed when handling this material.

9. Physical and chemical properties

Appearance (physical state, color etc.):

Physical state:	Liquid
Color:	Amber
Odor:	Solvent Odor
	Slight
Odor Threshold:	No data available
pH:	No data available
Melting point/freezing point (°C):	
Melting Point (°C):	No data available
Freezing point (°C):	No data available
Initial boiling point and boiling range (°C):	No data available

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Flash Point:	>= 105 °F(41 °C)
Evaporation Rate:	No data available
Flammability (solid, gas):	No data available
Upper/lower flammability or explosive limits:	
Upper flammability or explosive limits:	No data available
Lower flammability or explosive limits:	No data available
Vapor pressure:	2 mmHg @ 20°C
Vapor density:	>1 (Air=1)
Relative density:	0.864
Solubility(ies):	Negligible; 0-1%
Partition coefficient: n-octanol/water:	No data available
Auto-ignition temperature (°C):	No data available
Decomposition Temperature (°C):	No data available
Viscosity:	80 cSt @ 40°C
Volatiles, % by weight:	45.74
VOC, Material, lb/gal	3.28
VOC, Material, grams/liter	393.44
VOC minus exempt solvents & water, g/L	393

10. Stability and reactivity

Reactivity:	Not expected to be reactive
Chemical stability:	Hazardous polymerization will not occur.
Possibility of hazardous reactions:	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid (e.g., static discharge, shock, or vibration):	Temperatures above flash point in combination with sparks, open flames, or other sources of ignition. Elevated temperatures. Contamination.
Incompatible materials:	Strong oxidizing agents
Hazardous decomposition products:	Under normal conditions of use & storage, decomposition and hazardous decomposition products are unlikely.

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11. Toxicological information

Description of the various toxicological (health) effects and the available data used to identify those effects:

Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact):

Eye contact, Skin contact, Inhalation

Symptoms related to the physical, chemical and toxicological characteristics:

May cause respiratory irritation

Delayed and immediate effects and also chronic effects from short- and long-term exposure:

Ingestion Toxicity:

Harmful if swallowed.

Skin Contact:

Can cause minor skin irritation, defatting, and dermatitis.

Inhalation Toxicity:

May cause respiratory irritation

Eye Contact:

Contact with the eyes may cause moderate to severe eye injury. Eye contact may result in tearing and reddening, but not likely to permanently injure eye tissue. Temporary vision impairment (cloudy or blurred vision) is possible.

Sensitization:

None known

Mutagenicity:

No data

Reproductive and Developmental Toxicity:

No data available

Carcinogenicity:

There are no carcinogenic ingredients present at or over 0.1%.

STOT-single exposure:

Classification has been based on toxicological information of the components in Section 3.

STOT-repeated exposure:

Based on available data, the classification criteria are not met.

Aspiration hazard:

Based on available data, the classification criteria are not met.

Numerical measures of toxicity (such as acute toxicity estimates):

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Distillates (petroleum), hydrotreated light			Inhalation LC50 (4h) Rat > 20 mg/L

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Is the hazardous chemical listed in the National Toxicology Program (NTP) Report on Carcinogens (latest edition) or has it been found to be a potential carcinogen in the International Agency for Research on Cancer (IARC)

Monographs (latest edition), or by OSHA?:

Chemical Name	OSHA Carcinogen	IARC Carcinogen	NTP Carcinogen
No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen.			

12. Ecological information

Ecological Toxicity Data:

Chemical Name	CAS #	Aquatic EC50 Crustacea	Aquatic ERC50 Algae	Aquatic LC50 Fish
No data available				

Persistence and degradability:

No data

Bioaccumulative potential:

No data available

Mobility in soil:

No data available

Other adverse effects (such as hazardous to the ozone layer):

No data available

13. Disposal considerations

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging:

Spent or discarded material may be a hazardous waste.

Dispose of by incineration following Federal, State, Local, or Provincial regulations.

Waste codes / waste designations:

D001

14. Transport information

Domestic Ground in containers <= 119 GL	Corrosion preventive/Non-Regulated
Domestic Ground in containers > 119 GL	UN1268, PETROLEUM DISTILLATES, N.O.S.,(Naphtha Solvent), Combustible liquid, PG III

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Shipping name for Export, Air (IATA)	UN1268, PETROLEUM DISTILLATES, N.O.S.,(Naphtha Solvent),3, PG III
Shipping name for Export, Sea (IMDG)	UN1268, PETROLEUM DISTILLATES, N.O.S.,(Naphtha Solvent),3, PG III
Marine Pollutant?	No

15. Regulatory information

International Inventory

Country(s) or region		On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	Yes
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippines Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Inventory	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or are unknown from listing on the inventory administered by the governing country(s).

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Chemical Name	CAS #	Regulation	Percent
Naphthalene	91-20-3	Prop. 65 - Cancer	TRACE
Cumene	98-82-8	Prop. 65 - Cancer	TRACE
Benzene	71-43-2	Prop. 65 - Cancer	TRACE
Ethylbenzene	100-41-4	Prop. 65 - Cancer	TRACE
Benzene	71-43-2	Prop. 65 - Developmental and/or Reproductive	TRACE
Toluene	108-88-3	Prop. 65 - Developmental and/or Reproductive	<0.1
Toluene	108-88-3	CERCLA	<0.1 RQ = 1000 lbs
Naphthalene	91-20-3	CERCLA	TRACE RQ = 100 lbs.
Cumene	98-82-8	CERCLA	TRACE RQ = 5000 lbs.
Benzene	71-43-2	CERCLA	TRACE RQ = 10 lbs.
Ethylbenzene	100-41-4	CERCLA	TRACE RQ = 1000 lbs.
Naphthalene	91-20-3	SARA 313	TRACE
Cumene	98-82-8	SARA 313	TRACE
Benzene	71-43-2	SARA 313	TRACE
Ethylbenzene	100-41-4	SARA 313	TRACE

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Toluene	108-88-3	SARA 313	<0.1
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No SARA 302 EHS-listed chemicals in this product.	SARA EHS
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16. Other information, including date of preparation or last revision.

SDS Prepared by:	REGULATORY
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Revision Date:	12-10-2024
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Revision Number:	35
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Reason for revision:	Reviewed Approved: K. Slegel
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Disclaimer:	Although the information contained herein is believed to be reliable, it is furnished without warranty of any kind. This information is not intended to be all-inclusive as to the manner and conditions of use, handling, and storage.
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Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by UK REACH Regulation SI 2019/758

SAFETY DATA SHEET

WAXOYL AEROSOL CLEAR

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name : WAXOYL AEROSOL CLEAR

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses
Consumer use
Uses advised against
None

Product use : Aerosol

1.3 Details of the supplier of the safety data sheet

ICI Paints AkzoNobel,
Wexham Road,
Slough,
Berkshire,
SL2 5DS, U.K.
Tel.: +44 (0) 333 222 71 71
www.hammerite.co.uk

e-mail address of person responsible for this SDS : hammerite.advice@akzonobel.com

1.4 Emergency telephone number

National advisory body/Poison Center

Telephone number : +44 (0)344 892 0111

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Aerosol 1, H222, H229
Skin Irrit. 2, H315
Skin Sens. 1, H317
STOT SE 3, H336
Aquatic Chronic 2, H411

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.
See Section 16 for the full text of the H statements declared above.

Date of issue/Date of revision : 10-1-2025

Version : 1

Date of previous issue : No previous validation

1/17

AkzoNobel

SECTION 2: Hazards identification

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : H222, H229 - Extremely flammable aerosol. Pressurized container: may burst if heated.
H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H336 - May cause drowsiness or dizziness.
H411 - Toxic to aquatic life with long lasting effects.

Precautionary statements

General : P102 - Keep out of reach of children.
P101 - If medical advice is needed, have product container or label at hand.

Prevention : P280 - Wear protective gloves.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211 - Do not spray on an open flame or other ignition source.
P271 - Use only outdoors or in a well-ventilated area.
P273 - Avoid release to the environment.
P261 - Avoid breathing dust or mist.
P264 - Wash hands thoroughly after handling.
P251 - Do not pierce or burn, even after use.

Response : P391 - Collect spillage.
P304 + P312 - IF INHALED: Call a POISON CENTER or doctor if you feel unwell.
P362 + P364 - Take off contaminated clothing and wash it before reuse.
P302 + P352 - IF ON SKIN: Wash with plenty of water.
P333 + P313 - If skin irritation or rash occurs: Get medical advice or attention.

Storage : P405 - Store locked up.
P410 + P412 - Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.

Disposal : P501 - Dispose of contents and container in accordance with all local, regional, national or international regulations.

Hazardous ingredients : Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane
Sulfonic acids, petroleum, calcium salts

Supplemental label elements : Not applicable.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Special packaging requirements

Containers to be fitted with child-resistant fastenings : Not applicable.

Tactile warning of danger : Not applicable.

SECTION 2: Hazards identification

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII : This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Other hazards which do not result in classification : None known.

SECTION 3: Composition/information on ingredients

3.2 Mixtures : Mixture

Product/ingredient name	Identifiers	%	Classification	Specific Conc. Limits, M-factors and ATEs	Type
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane	EC: 921-024-6	≥25 - ≤50	Flam. Liq. 2, H225 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 2, H411	-	[1]
propane	EC: 200-827-9 CAS: 74-98-6 Index: 601-003-00-5	≥15 - ≤20	Flam. Gas 1A, H220 Press. Gas (Comp.), H280	-	[1]
Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics	REACH #: 01-2119463258-33 EC: 919-857-5	≥15 - <20	Flam. Liq. 3, H226 STOT SE 3, H336 Asp. Tox. 1, H304 EUH066	-	[1]
butane	EC: 203-448-7 CAS: 106-97-8 Index: 601-004-00-0	≤10	Flam. Gas 1A, H220 Press. Gas (Comp.), H280	-	[1]
isobutane	EC: 200-857-2 CAS: 75-28-5 Index: 601-004-00-0	≤10	Flam. Gas 1A, H220 Press. Gas (Comp.), H280	-	[1]
Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics	REACH #: 01-2119471843-32 EC: 927-241-2	≤10	Flam. Liq. 3, H226 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 3, H412	-	[1]
Sulfonic acids, petroleum, calcium salts	EC: 263-093-9 CAS: 61789-86-4	≤5	Skin Sens. 1B, H317 See Section 16 for the full text of the H statements declared above.	-	[1]

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

[1] Substance classified with a physical, health or environmental hazard

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses if easy to do. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness
- Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
- Ingestion** : No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.

SECTION 4: First aid measures

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media : None known.

5.2 Special hazards arising from the substance or mixture

- Hazards from the substance or mixture : Extremely flammable aerosol. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Bursting aerosol containers may be propelled from a fire at high speed. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
- Hazardous combustion products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

5.3 Advice for firefighters

- Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurized contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions

- : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

6.3 Methods and materials for containment and cleaning up

SECTION 6: Accidental release measures

- Small spill

: Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill

: Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product.
- 6.4 Reference to other sections

: See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance.

7.1 Precautions for safe handling

- Protective measures

: Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing gas. Avoid breathing vapor or mist. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous.
- Advice on general occupational hygiene

: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Seveso Directive - Reporting thresholds

Danger criteria		
Category	Notification and MAPP threshold	Safety report threshold
P3a	150 tonne	500 tonne
E2	200 tonne	500 tonne

7.3 Specific end use(s)

- Recommendations

: Not available.
- Industrial sector specific solutions

: Not available.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. Information is provided based on typical anticipated uses of the product. Additional measures might be required for bulk handling or other uses that could significantly increase worker exposure or environmental releases.

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
butane	EH40/2005 WELs (United Kingdom (UK), 1/2020). STEL: 1810 mg/m³ 15 minutes. STEL: 750 ppm 15 minutes. TWA: 1450 mg/m³ 8 hours. TWA: 600 ppm 8 hours.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

Product/ingredient name	Type	Exposure	Value	Population	Effects
Sulfonic acids, petroleum, calcium salts	DNEL	Long term Dermal	0.513 mg/cm²	General population	Local
	DNEL	Long term Oral	0.8333 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	1.03 mg/cm²	Workers	Local
	DNEL	Long term Dermal	1.667 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	2.9 mg/m³	General population	Systemic
	DNEL	Long term Dermal	3.33 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	11.75 mg/m³	Workers	Systemic

PNECs

No PNECs available.

8.2 Exposure controls

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Individual protection measures

SECTION 8: Exposure controls/personal protection

Hygiene measures	: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
Eye/face protection	: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.
Skin protection	
Hand protection	: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. When prolonged or frequently repeated contact may occur, a glove with a protection class of 6 (breakthrough time >480 minutes according to EN374) is recommended. Recommended gloves: Viton ® or Nitrile, thickness ≥ 0.38 mm. When only brief contact is expected, a glove with protection class of 2 or higher (breakthrough time >30 minutes according to EN374) is recommended. Recommended gloves: Nitrile, thickness ≥ 0.12 mm. Gloves should be replaced regularly and if there is any sign of damage to the glove material. The performance or effectiveness of the glove may be reduced by physical/chemical damage and poor maintenance. The user must check that the final choice of type of glove selected for handling this product is the most appropriate and takes into account the particular conditions of use, as included in the user's risk assessment.
Body protection	: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves. Refer to European Standard EN 1149 for further information on material and design requirements and test methods.
Other skin protection	: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Respiratory protection	: Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Wear a respirator conforming to EN140 with type A/P2 filter or better. Dry sanding, flame cutting and/or welding of the dry paint film will give rise to dust and/or hazardous fumes. Wet sanding/flattening should be used wherever possible. If exposure cannot be avoided by the provision of local exhaust ventilation, suitable respiratory protective equipment should be used.
Environmental exposure controls	: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

9.1 Information on basic physical and chemical properties

Appearance

- Physical state : Liquid.
- Color : Colorless.
- Odor : Characteristic.
- Odor threshold : Not available.
- Melting point/freezing point : Not available.
- Boiling point, initial boiling point, and boiling range : 10.1°C (50.2°F)
- Flammability : Not available.
- Lower and upper explosion limit : Greatest known range: Lower: 1.4% Upper: 7.6% (Naphtha (petroleum), hydrotreated heavy)
- Flash point : Not available.
- Auto-ignition temperature : Not available.
- Decomposition temperature : Not available.
- pH : Not applicable. [DIN EN 1262]
- Viscosity : Kinematic (room temperature): 5969 mm²/s [DIN EN ISO 3219]
Kinematic (40°C): Not applicable. [DIN EN ISO 3219]
- Solubility(ies) :

Media	Result
cold water	Not soluble [OECD (TG 105)]

Partition coefficient: n-octanol/ water : Not applicable.

Vapor pressure :

Ingredient name	Vapor Pressure at 20°C			Vapor pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
propane	6300.51192	840				
isobutane	2280.18527	304				
butane	1602.88023	213.7				

Density : 0.67 g/cm³ [DIN EN ISO 2811-1]

Vapor density : Not available.

Particle characteristics

- Median particle size : Not applicable.
- Percentage of particles with aerodynamic diameter ≤ 10 µm : 0

9.2 Other information

- Minimum ignition energy (mJ) : Not available.
- Fundamental burning velocity : Not applicable.
- SADT : Not available.
- Heat of combustion : 14.61 kJ/g

Aerosol product

SECTION 9: Physical and chemical properties

Type of aerosol : Spray

SECTION 10: Stability and reactivity

- 10.1 Reactivity : No specific test data related to reactivity available for this product or its ingredients.
- 10.2 Chemical stability : The product is stable.
- 10.3 Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.
- 10.4 Conditions to avoid : Avoid all possible sources of ignition (spark or flame).
- 10.5 Incompatible materials : No specific data.
- 10.6 Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

There are no data available on the mixture itself. The mixture has been assessed following the conventional method of the CLP Regulation (EC) No 1272/2008 and is classified for toxicological properties accordingly. See Sections 2 and 3 for details.

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
propane	LC50 Inhalation Gas.	Rat	>800000 ppm	15 minutes
butane	LC50 Inhalation Vapor	Mouse	680000 mg/m³	2 hours
	LC50 Inhalation Vapor	Rat	658000 mg/m³	4 hours
isobutane	LC50 Inhalation Gas.	Rat	57 pph	15 minutes
	LC50 Inhalation Gas.	Rat	570000 ppm	15 minutes
	LC50 Inhalation Vapor	Mouse	680000 mg/m³	2 hours
	LC50 Inhalation Vapor	Rat	658000 mg/m³	4 hours
Sulfonic acids, petroleum, calcium salts	LD50 Dermal	Rabbit	>5 g/kg	-
	LD50 Oral	Rat	>20 g/kg	-
	LD50 Oral	Rat	>5 g/kg	-

Conclusion/Summary : Not available.

Acute toxicity estimates

N/A

Irritation/Corrosion

Conclusion/Summary : Not available.

Sensitization

Conclusion/Summary : Not available.

Mutagenicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

SECTION 11: Toxicological information

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane	Category 3	-	Narcotic effects
Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics	Category 3	-	Narcotic effects
Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics	Category 3	-	Narcotic effects

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Product/ingredient name	Result
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane	ASPIRATION HAZARD - Category 1
Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics	ASPIRATION HAZARD - Category 1
Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Not available.

Potential acute health effects

- Eye contact : No known significant effects or critical hazards.
- Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.
- Skin contact : Causes skin irritation. May cause an allergic skin reaction.
- Ingestion : Can cause central nervous system (CNS) depression.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact : Adverse symptoms may include the following:
 - pain or irritation
 - watering
 - redness
- Inhalation : Adverse symptoms may include the following:
 - respiratory tract irritation
 - coughing
 - nausea or vomiting
 - headache
 - drowsiness/fatigue
 - dizziness/vertigo
 - unconsciousness
- Skin contact : Adverse symptoms may include the following:
 - irritation
 - redness
- Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

SECTION 11: Toxicological information

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

Conclusion/Summary : Not available.

General : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Reproductive toxicity : No known significant effects or critical hazards.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

Not available.

11.2.2 Other information

No additional information.

SECTION 12: Ecological information

12.1 Toxicity

There are no data available on the mixture itself.
Do not allow to enter drains or watercourses.

The mixture has been assessed following the summation method of the CLP Regulation (EC) No 1272/2008 and is classified for eco-toxicological properties accordingly. See Sections 2 and 3 for details.

Conclusion/Summary : Not available.

12.2 Persistence and degradability

Conclusion/Summary : Not available.

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
propane	1.09	-	low
butane	2.89	-	low
isobutane	2.8	-	low

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

SECTION 12: Ecological information

12.6 Endocrine disrupting properties

Not available.

12.7 Other adverse effects

No known significant effects or critical hazards.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

- Methods of disposal** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.
- Hazardous waste** : The classification of the product may meet the criteria for a hazardous waste.
- Disposal considerations** : Do not allow to enter drains or watercourses. Dispose of according to all federal, state and local applicable regulations. If this product is mixed with other wastes, the original waste product code may no longer apply and the appropriate code should be assigned. For further information, contact your local waste authority.

European waste catalogue (EWC)

The European Waste Catalogue classification of this product, when disposed of as waste, is:

Waste code	Waste designation
EWC 08 01 11*	waste paint and varnish containing organic solvents or other hazardous substances

Packaging

- Methods of disposal** : The generation of waste should be avoided or minimized wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.
- Disposal considerations** : Using information provided in this safety data sheet, advice should be obtained from the relevant waste authority on the classification of empty containers. Empty containers must be scrapped or reconditioned. Dispose of containers contaminated by the product in accordance with local or national legal provisions.
- Special precautions** : This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

SECTION 14: Transport information

	ADR/RID	IMDG
14.1 UN number or ID number	UN1950	UN1950
14.2 UN proper shipping name	AEROSOLS	AEROSOLS

SECTION 14: Transport information

14.3 Transport hazard class(es)	2  	2.1  
14.4 Packing group	-	-
14.5 Environmental hazards	Yes.	Marine Pollutant(s): Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane

Additional information

- ADR/RID : The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.
Tunnel code (D)
- IMDG : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.
- 14.6 Special precautions for user : Transport within user’s premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.
- 14.7 Transport in bulk according to IMO instruments : Not applicable.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

UK (GB) /REACH

Annex XIV - List of substances subject to authorization

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Other EU regulations

- VOC : The provisions of Directive 2004/42/EC on VOC apply to this product. Refer to the product label and/or technical data sheet for further information.
- VOC for Ready-for-Use Mixture : Not available.
- Industrial emissions (integrated pollution prevention and control) - Air : Not listed

SECTION 15: Regulatory information

Industrial emissions : Not listed
(integrated pollution prevention and control) -
Water

Ozone depleting substances (1005/2009/EU)
Not listed.

Prior Informed Consent (PIC) (649/2012/EU)
Not listed.

Persistent Organic Pollutants
Not listed.

Aerosol dispensers :

3



Extremely flammable

Seveso Directive
This product is controlled under the Seveso Directive.

Danger criteria

Category
P3a E2

National regulations

Product/ingredient name	List name	Name on list	Classification	Notes
butane	UK Occupational Exposure Limits EH40 - WEL	butane	Carc.	-

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

15.2 Chemical Safety Assessment : No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

- Abbreviations and acronyms**
- : ATE = Acute Toxicity Estimate
 - CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
 - DMEL = Derived Minimal Effect Level
 - DNEL = Derived No Effect Level
 - EUH statement = CLP-specific Hazard statement
 - N/A = Not available
 - PBT = Persistent, Bioaccumulative and Toxic
 - PNEC = Predicted No Effect Concentration
 - RRN = REACH Registration Number
 - SGG = Segregation Group
 - vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Aerosol 1, H222, H229 Skin Irrit. 2, H315 Skin Sens. 1, H317 STOT SE 3, H336 Aquatic Chronic 2, H411	On basis of test data Calculation method Calculation method Calculation method Calculation method

Full text of abbreviated H statements

H220 H222, H229 H225 H226 H280 H304 H315 H317 H336 H411 H412 EUH066	Extremely flammable gas. Extremely flammable aerosol. Pressurized container: may burst if heated. Highly flammable liquid and vapor. Flammable liquid and vapor. Contains gas under pressure; may explode if heated. May be fatal if swallowed and enters airways. Causes skin irritation. May cause an allergic skin reaction. May cause drowsiness or dizziness. Toxic to aquatic life with long lasting effects. Harmful to aquatic life with long lasting effects. Repeated exposure may cause skin dryness or cracking.
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Full text of classifications [CLP/GHS]

Aerosol 1 Aquatic Chronic 2 Aquatic Chronic 3 Asp. Tox. 1 Flam. Gas 1A Flam. Liq. 2 Flam. Liq. 3 Press. Gas (Comp.) Skin Irrit. 2 Skin Sens. 1 Skin Sens. 1B STOT SE 3	AEROSOLS - Category 1 AQUATIC HAZARD (LONG-TERM) - Category 2 AQUATIC HAZARD (LONG-TERM) - Category 3 ASPIRATION HAZARD - Category 1 FLAMMABLE GASES - Category 1A FLAMMABLE LIQUIDS - Category 2 FLAMMABLE LIQUIDS - Category 3 GASES UNDER PRESSURE - Compressed gas SKIN CORROSION/IRRITATION - Category 2 SKIN SENSITIZATION - Category 1 SKIN SENSITIZATION - Category 1B SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 3
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- Date of issue/ Date of revision** : 10-1-2025
- Date of previous issue** : No previous validation
- Version** : 1
- Unique ID** : 655BA9EE76931EDFB3ECDF7B09908EF4

SECTION 16: Other information

Notice to reader

IMPORTANT NOTE: The information in this data sheet is not intended to be exhaustive and is based on the present state of our knowledge and on current laws: any person using the product for any purpose other than that specifically recommended in the technical data sheet without first obtaining written confirmation from us as to the suitability of the product for the intended purpose does so at his own risk. It is always the responsibility of the user to take all necessary steps to fulfill the demands set out in the local rules and legislation. Always read the Material Data Sheet and the Technical Data Sheet for this product if available. All advice we give or any statement made about the product by us (whether in this data sheet or otherwise) is correct to the best of our knowledge but we have no control over the quality or the condition of the substrate or the many factors affecting the use and application of the product. Therefore, unless we specifically agree in writing otherwise, we do not accept any liability whatsoever for the performance of the product or for any loss or damage arising out of the use of the product. All products supplied and technical advice given are subject to our standard terms and conditions of sale. You should request a copy of this document and review it carefully. The information contained in this data sheet is subject to modification from time to time in the light of experience and our policy of continuous development. It is the user's responsibility to verify that this data sheet is current prior to using the product.

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19950-A: BAKERLOK (Resin)

Safety Data Sheet



1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Identification of the substance or mixture

Product Name: BAKERLOK (Resin)
Product Code: 19950-A
Product Use: Thread locking compound, adhesive
Supplier: Forum Energy Technologies
10344 Sam Houston Park Drive, Suite 300
Houston, TX 77064
Tel: 713-351-7900
www.f-e-t.com

Emergency telephone number: +1 813 248 0585, 24 hours

E-mail address for questions regarding this SDS: janer@socousa.com

2. HAZARDS IDENTIFICATION

GHS Classification

Skin irritation (Category 2)
Eye irritation (Category 2A)
Skin sensitization (Category 1)
Germ cell mutagenicity (Category 2)
Acute aquatic toxicity (Category 2)
Chronic aquatic toxicity (Category 2)

GHS label elements



Signal Word:

Warning

Hazard statements:

H315 – Causes skin irritation
H317 – May cause an allergic skin reaction
H319 – Causes serious eye irritation
H341 – Suspected of causing genetic effects

19950-A: BAKERLOK (Resin)

Safety Data Sheet



H411 – Toxic to aquatic life with long lasting effects

Precautionary statements:

P273 – Avoid release to the environment

P280 – Wear protective gloves/eye protection/face protection

P302 + P352 – IF ON SKIN: Wash with plenty of soap and water

P305 + P351 + P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308 + P313 – IF exposed or concerned: get medical advice/attention.

Other hazards: High pressure injection under skin is a medical emergency.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	Concentration
Propane, 2,2-bis[p-(2,3-epoxypropoxy)phenyl]-, polymers CAS-No. 25085-99-8	30-45%
1,2-Epoxy-3-(2-methylphenoxy)propane CAS-No. 2210-79-9	10-20%

4. FIRST AID MEASURES

General: If exposed or concerned, get medical attention or advice.

Inhalation: Move exposed person to fresh air. If effects occur, get medical attention.

Ingestion: Wash out mouth with water. Do not induce vomiting. Get medical attention if stomach pains or nausea occur.

Skin contact: Remove contaminated clothing and shoes. Wash skin with soap and water. Get medical attention if irritation symptoms persist.

Eye contact: Check for and remove any contact lenses. Immediately flush eyes with running water for at least 5 minutes, keeping eyelids open. Get medical attention.

5. FIRE-FIGHTING MEASURES

Suitable media: Use dry chemical, CO₂, water spray (fog) or foam.

Not suitable: Do not use water jet.

Combustion products: Carbon monoxide, carbon dioxide, phenolics.

Special protective equipment for fire-fighters: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus with a full face-piece operated in positive pressure mode.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Wear appropriate personal protection equipment (see section 8).

Environmental precautions: Recover free product. Use suitable oil adsorbent and dispose of material in accordance with all regulations. Keep product out of sewers

19950-A: BAKERLOK (Resin)

Safety Data Sheet



and watercourses, prevent soil penetration. Advise authorities if large amounts of product enter waterways or extensive land areas.

7. HANDLING AND STORAGE

Handling: Wear appropriate personal protection equipment (see section 8). Do not eat, drink or smoke when using. Wash thoroughly after handling. Follow good hygiene and housekeeping practices.

Storage: Store in cool dry area in original or equivalent container in accordance with all regulations. Do not expose to extreme heat or flame. Do not expose to extreme cold. Store at 5 – 40°C, away from strong oxidizers and acids.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters: No ingredients have workplace exposure limits.

Engineering controls: Use with adequate ventilation.

Eye/face protection: Safety glasses. Ensure eye bath is to hand.

Hand protection: Protective gloves. Nitrile or butyl rubber recommended.

Skin protection: No additional protection required beyond normal industrial attire is required.

Respiratory protection: No special measures required.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and odor: Grey paste, mild odor

pH: Not applicable, insoluble in water

Flash point: 121°C (250°F) (PMCC)

Evaporation rate: No data

Upper flammability limit: Not applicable

Lower flammability limit: Not applicable

Vapor pressure: No data

Vapor density: No data

Relative density: 1.4

Solubility: Insoluble in water

Viscosity: Cone penetration 330-365 (ASTM D217)

10. STABILITY AND REACTIVITY

Chemical stability: Stable

Polymerization: Will not occur without amine catalyst, then it may build up heat

Conditions to avoid: Extreme heat

Incompatible materials: Strong oxidizers.

Hazardous decomposition products: Carbon oxides, phenolics

19950-A: BAKERLOK (Resin)

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11. TOXICOLOGICAL INFORMATION

Potential acute health effects

Acute toxicity:

LD50 Oral – rat - >5000 mg/kg estimated, based on components

LD50 Dermal – rabbit - >5000 mg/kg estimated, based on components

Eye damage/irritation: May cause moderate eye irritation. Corneal damage is unlikely.

Skin corrosion/irritation: Prolonged or repeated contact may cause skin irritation with local redness.

Potential chronic health effects

Sensitization: May cause allergic skin reaction

Repeated dose toxicity: Except for skin sensitization, none anticipated

Carcinogenicity: No ingredients listed as carcinogens

Mutagenicity: In vitro tests showed mutagenic effects

Reproductive toxicity: No ingredients suspected to cause reproductive effects

STOT repeated exposure: No known effects

12. ECOLOGICAL INFORMATION

Ecotoxicity: Toxic to aquatic life with long lasting effects

Propane, 2,2-bis[p-(2,3-epoxypropoxy)phenyl]-, polymers

Toxicity to fish: LC50 – Oncorhynchus mykiss (rainbow trout) – 96h – 2 mg/l

Toxicity to daphnia and other aquatic invertebrates: EC50 – Daphnia magna (water flea) – 48h – 1.8 mg/l

Toxicity to algae: EC50 – Scenedesmus capricornutum (fresh water algae) – 72h – 11 mg/l

Chronic toxicity: NOEC – Daphnia magna (water flea) – 21d – 0.3 mg/l

1,2-Epoxy-3-(2-methylphenoxy)propane

Toxicity to fish: LC50 – Oncorhynchus mykiss (rainbow trout) – 96h – 7.5 mg/l

Toxicity to daphnia and other aquatic invertebrates: EC50 – Daphnia magna (water flea) – 48h – 3.3 mg/l

Toxicity to algae: EC50 – Scenedesmus capricornutum (fresh water algae) – 72h – 5.1 mg/l

Persistence/degradability: Not expected to be readily biodegradable

Bioaccumulative potential: Moderate, Log Pow estimated between 3 and 5

Mobility in soil: No information available

Other adverse effects: No information available

13. DISPOSAL CONSIDERATIONS

Waste disposal: Generation of waste should be avoided or minimized where possible. Empty containers may contain residue. Dispose of as hazardous waste via licensed waste disposal operator. Follow all applicable regulations.

14. TRANSPORT INFORMATION

Transport information according to ADR, RID, ADN, IMDG, ICAO, IATA

UN number: UN3077

19950-A: BAKERLOK (Resin)

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Proper shipping name: Environmentally hazardous substance, solid, n.o.s. (epoxy resin)
Hazard class: Class 9
Packing group PGIII
Additional information: Marine pollutant
Not regulated in containers 5kg or less.

Transport information according to USDOT: Not regulated.

15. REGULATORY INFORMATION

US Regulations

SARA 302 Extremely Hazardous Substances: None.

SARA 313 Components: None.

State Regulations

California Prop 65: No ingredients listed.

Massachusetts Right to Know: No ingredients listed.

New Jersey Right to Know: No ingredients listed.

Pennsylvania RTK Hazardous Substances: No ingredients listed.

United States inventory (TSCA): All ingredients listed or exempt.

International regulations

Canada: WHMIS Classification: D2B: Material causing other toxic effects (toxic). **WHMIS:** This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

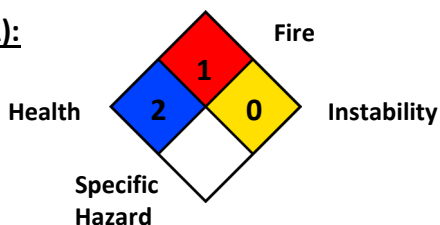
Canada DSL: All ingredients listed.

16. OTHER INFORMATION

Hazardous Material Information System (USA):

HEALTH	2*
FIRE	1
REACTIVITY	0
PERSONAL PROTECTION	B

National Fire Protection Association (USA):



19950-A: BAKERLOK (Resin)

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Revision information: Original GHS issue 12 May 2015. Rev 1: correction in Section 2 to add Muta. 2, H341 and pictogram; associated changes in Section 11, 16. Rev 2: product name change in Section 1 and title. Rev 3: reviewed with no changes. Rev 4: updated date.

END OF SAFETY DATA SHEET

19950-B: BAKERLOK (Hardener)

Safety Data Sheet



1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Identification of the substance or mixture

Product Name: BAKERLOK (Hardener)
Product Code: 19950-B
Product Use: Thread locking compound, adhesive
Supplier: Forum Energy Technologies
10344 Sam Houston Park Drive, Suite 300
Houston, TX 77064
Tel: 713-351-7900
www.f-e-t.com

Emergency telephone number: +1 813 248 0585, 24 hours

E-mail address for questions regarding this SDS: janer@socousa.com

2. HAZARDS IDENTIFICATION

GHS Classification

Skin irritation (Category 2)
Serious eye damage/eye irritation (Category 1)
Skin sensitization (Category 1B)
Respiratory sensitization (Category 1B)

GHS label elements



Signal Word:

Danger

Hazard statements:

H315 – Causes skin irritation
H317 – May cause an allergic skin reaction
H318 – Causes serious eye damage
H334 – May cause allergy or asthma symptoms or respiratory difficulties if inhaled

Precautionary statements:

P280 – Wear protective gloves/protective clothing/eye protection/face protection
P302 + P352 – IF ON SKIN: Wash with plenty of soap and water

19950-B: BAKERLOK (Hardener)

Safety Data Sheet



P305 + P351 + P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P304 + P340 – IF INHALED: remove person to fresh air and keep comfortable for breathing.

Other hazards: None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Amine based epoxy hardener

Hazardous components

Component	Concentration
Polyethylene polyamines CAS-No. 68131-73-7	10-15%

4. FIRST AID MEASURES

General: If exposed or concerned, get medical attention or advice.

Inhalation: Move exposed person to fresh air. If effects occur, get medical attention.

Ingestion: Wash out mouth with water. Do not induce vomiting. Get medical attention.

Skin contact: Remove contaminated clothing and shoes. Wash skin with soap and water. Get medical attention if irritation symptoms persist.

Eye contact: Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Get medical attention.

Note to physician: Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable media: Use dry chemical, CO₂, water spray (fog) or foam.

Not suitable: Do not use water jet.

Combustion products: Carbon monoxide, carbon dioxide.

Special protective equipment for fire-fighters: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus with a full face-piece operated in positive pressure mode.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Wear appropriate personal protection equipment (see section 8).

Environmental precautions: Recover free product. Use suitable adsorbent and dispose of material in accordance with all regulations. Keep product out of sewers and watercourses, prevent soil penetration. Advise authorities if large amounts of product enter waterways or extensive land areas.

7. HANDLING AND STORAGE

19950-B: BAKERLOK (Hardener)

Safety Data Sheet



Handling: Wear appropriate personal protection equipment (see section 8). Do not eat, drink or smoke when using. Wash thoroughly after handling. Follow good hygiene and housekeeping practices.

Storage: Store in cool dry area in original or equivalent container in accordance with all regulations. Do not expose to extreme heat or flame. Do not expose to extreme cold. Store at 5 – 40°C, away from strong oxidizers and acids.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters:

Chemical name	CAS no.	OSHA PEL	ACGIH TLV
Polyethylene polyamines	68131-73-7	not established	not established

Engineering controls: Use with adequate ventilation.

Eye/face protection: Safety glasses. Safety goggles where risk of splash exists. Ensure eye bath is to hand.

Hand protection: Protective gloves. Nitrile recommended.

Skin protection: No additional protection required beyond normal industrial attire is required.

Respiratory protection: Use a NIOSH approved respirator where air levels exceeding TWA may exist. Organic vapor cartridges.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and odor: Red liquid, amine odor

pH: No data

Flash point: > 93°C (PMCC)

Evaporation rate: No data

Upper flammability limit: No data

Lower flammability limit: No data

Vapor pressure: No data

Vapor density: > 1

Relative density: 1.02

Solubility: Insoluble in water, soluble in alcohols and petroleum distillates

Viscosity: 300-500 cps

10. STABILITY AND REACTIVITY

Chemical stability: Stable

Polymerization: Will not occur

Conditions to avoid: Extreme heat

Incompatible materials: Strong oxidizers

Hazardous decomposition products: Carbon oxides, other unknown products

19950-B: BAKERLOK (Hardener)

Safety Data Sheet



11. TOXICOLOGICAL INFORMATION

Potential acute health effects

Acute toxicity:	<i>Estimate based on similar substances:</i> LD50 oral – rat – 1000-2000 mg/kg
Eye damage/irritation:	Causes serious eye damage. Direct contact with eyes can cause irreversible damage including blindness.
Skin corrosion/irritation:	Contact may cause skin irritation with local redness.

Potential chronic health effects

Sensitization:	May cause allergic skin and respiratory reactions.
Repeated dose toxicity:	Except for skin and respiratory sensitization, none anticipated.
Carcinogenicity:	No ingredients listed as carcinogens.
Mutagenicity:	No ingredients listed as mutagens.
Reproductive toxicity:	No ingredients listed as reproductive toxins.
STOT repeated exposure:	No known effects.

12. ECOLOGICAL INFORMATION

Ecotoxicity:	No known significant effects or critical hazards.
Persistence/degradability:	No information available.
Bioaccumulative potential:	No information available.
Mobility in soil:	No information available.
Other adverse effects:	No information available.

13. DISPOSAL CONSIDERATIONS

Waste disposal:	Generation of waste should be avoided or minimized where possible. Empty containers may contain residue. Dispose of as hazardous waste via licensed waste disposal operator. Follow all applicable regulations.
------------------------	---

14. TRANSPORT INFORMATION

Transport information according to ADR, RID, ADN, IMDG, ICAO, IATA:	Not regulated
Transport information according to USDOT:	Not regulated.

15. REGULATORY INFORMATION

US Regulations

SARA 302 Extremely Hazardous Substances: None.
SARA 313 Components: None.

State Regulations

California Prop 65: No ingredients listed.
Massachusetts Right to Know: No ingredients listed.
New Jersey Right to Know: No ingredients listed.

19950-B: BAKERLOK (Hardener)

Safety Data Sheet



Pennsylvania RTK Hazardous Substances: No ingredients listed.

United States inventory (TSCA): All ingredients listed or exempt.

International regulations

Canada: WHMIS Classification: D1A: Material causing immediate and serious toxic effects (very toxic). D2A: Material causing other toxic effects (Very toxic). D2B: Material causing other toxic effects (toxic). **WHMIS:** This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

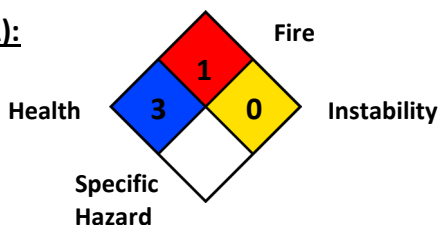
Canada DSL: All ingredients listed.

16. OTHER INFORMATION

Hazardous Material Information System (USA):

HEALTH	3*
FIRE	1
REACTIVITY	0
PERSONAL PROTECTION	B

National Fire Protection Association (USA):



Revision information: Original GHS issue 12 May 2015. Rev 1: corrected GHS classification terminology in Section 2; corrected hazardous components in Section 3 and associated information in Sections 8, 11 and 15. Rev 2: product name change in Section 1 and title. Rev 3: reviewed with no changes. Rev 4: updated date.

END OF SAFETY DATA SHEET

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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name : 4010® NM

SDS-Identcode : 504G

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Sub-
stance/Mixture : Industrial use, Thread Compound (Pipe Dope) and Jacking
grease for use in Offshore industries, Mining, (without offshore
industries)

Recommended restrictions
on use : Do not use on oxygen lines or in oxygen enriched atmos-
pheres.

1.3 Details of the supplier of the safety data sheet

Company : Bestolife Corporation INTERTEK FRANCE
2126 Vanco Drive 27400 HEUDEBOUVILLE
75061, FRANCE Irving

Telephone : 855-243-9164/972-865-8961 +33 385 991270

Telefax : 214-631-3047 +33 385 991288

E-mail address of person
responsible for the SDS : www.bestolife.com/christian.gimenez@intertek.com/if.reach@intertek.com

1.4 Emergency telephone number

CHEMTREC: +(44)-870-8200418; Interntnl: +1-703-527-3887 NHS Drct: +44 0845 4647 (Medical
only)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Eye irritation, Category 2 H319: Causes serious eye irritation.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal word : Warning

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according to Regulation (EC) No. 1907/2006



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Hazard statements : H319 Causes serious eye irritation.

Precautionary statements : **Prevention:**
P264 Wash skin thoroughly after handling.
P280 Wear eye protection/ face protection.

Response:
P337 + P313 If eye irritation persists: Get medical advice/ attention.

2.3 Other hazards

None known.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Calcium acetate	62-54-4 200-540-9	Acute Tox. 4; H302	$\geq 1 - < 10$
Calcium oxide	1305-78-8 215-138-9 01-2119475325-36	Skin Irrit. 2; H315 Eye Dam. 1; H318 STOT SE 3; H335	$\geq 1 - < 3$
Quartz	14808-60-7 238-878-4	Carc. 1A; H350i STOT RE 1; H372 (Lungs)	$\geq 0.1 - < 1$
Substances with a workplace exposure limit :			
Calcium fluoride	7789-75-5 232-188-7		$\geq 1 - < 10$

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : In the case of accident or if you feel unwell, seek medical advice immediately.
When symptoms persist or in all cases of doubt seek medical advice.

Protection of first-aiders : First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8).

If inhaled : If inhaled, remove to fresh air.
Get medical attention if symptoms occur.

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- | | | |
|-------------------------|---|--|
| In case of skin contact | : | In case of contact, immediately flush skin with plenty of water.
Remove contaminated clothing and shoes.
Get medical attention.
Wash clothing before reuse.
Thoroughly clean shoes before reuse. |
| In case of eye contact | : | In case of contact, immediately flush eyes with plenty of water
for at least 15 minutes.
If easy to do, remove contact lens, if worn.
Get medical attention. |
| If swallowed | : | If swallowed, DO NOT induce vomiting.
Get medical attention if symptoms occur.
Rinse mouth thoroughly with water. |

4.2 Most important symptoms and effects, both acute and delayed

- | | | |
|-------|---|--------------------------------|
| Risks | : | Causes serious eye irritation. |
|-------|---|--------------------------------|

4.3 Indication of any immediate medical attention and special treatment needed

- | | | |
|-----------|---|---|
| Treatment | : | Treat symptomatically and supportively. |
|-----------|---|---|

SECTION 5: Firefighting measures

5.1 Extinguishing media

- | | | |
|--------------------------------|---|--|
| Suitable extinguishing media | : | Water spray
Alcohol-resistant foam
Carbon dioxide (CO ₂)
Dry chemical |
| Unsuitable extinguishing media | : | None known. |

5.2 Special hazards arising from the substance or mixture

- | | | |
|---------------------------------------|---|---|
| Specific hazards during fire-fighting | : | Exposure to combustion products may be a hazard to health. |
| Hazardous combustion products | : | Carbon oxides
Metal oxides
Fluorine compounds
Oxides of phosphorus |

5.3 Advice for firefighters

- | | | |
|---|---|---|
| Special protective equipment for firefighters | : | In the event of fire, wear self-contained breathing apparatus.
Use personal protective equipment. |
| Specific extinguishing methods | : | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Use water spray to cool unopened containers. |

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Remove undamaged containers from fire area if it is safe to do so.
Evacuate area.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Use personal protective equipment.
Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).

6.2 Environmental precautions

Environmental precautions : Avoid release to the environment.
Prevent further leakage or spillage if safe to do so.
Retain and dispose of contaminated wash water.
Local authorities should be advised if significant spillages cannot be contained.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Sweep up or vacuum up spillage and collect in suitable container for disposal.
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

Advice on safe handling : For outdoor use only
Do not get on skin or clothing.
Do not swallow.
Do not get in eyes.
Wash skin thoroughly after handling.
Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment
Take care to prevent spills, waste and minimize release to the environment.

Hygiene measures : If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place. When using do not eat, drink or smoke. Wash contaminated clothing before re-use.

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7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep in properly labelled containers. Store in accordance with the particular national regulations.

Advice on common storage : Do not store with the following product types:
Strong oxidizing agents

7.3 Specific end use(s)

Specific use(s) : No data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Graphite	7782-42-5	TWA (inhalable dust)	10 mg/m ³	GB EH40
		TWA (Respirable dust)	4 mg/m ³	GB EH40
Talc	14807-96-6	TWA (Respirable dust)	1 mg/m ³	GB EH40
	Further information: For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/4 General methods for sampling and gravimetric analysis or respirable, thoracic and inhalable aerosols., Talc is defined as the mineral talc together with other hydrous phyllosilicates including chlorite and carbonate materials which occur with it, but excluding amphibole asbestos and crystalline silica., The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m-3 8-hour TWA of inhalable dust or 4 mg.m-3 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed to dust above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limits., Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system, and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'., Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/4., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used.			
Calcium carbonate	471-34-1	TWA (inhalable dust)	10 mg/m ³	GB EH40

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		Further information: For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/4 General methods for sampling and gravimetric analysis or respirable, thoracic and inhalable aerosols., The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m-3 8-hour TWA of inhalable dust or 4 mg.m-3 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed to dust above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limits., Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system, and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'. Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/4., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used.		
		TWA (Respirable dust)	4 mg/m3	GB EH40
		Further information: For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/4 General methods for sampling and gravimetric analysis or respirable, thoracic and inhalable aerosols., The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m-3 8-hour TWA of inhalable dust or 4 mg.m-3 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed to dust above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limits., Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system, and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'. Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/4., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used.		
Calcium fluoride	7789-75-5	TWA	2.5 mg/m3 (Fluorine)	2000/39/EC
		Further information: Indicative		
Titanium dioxide	13463-67-7	TWA (inhalable dust)	10 mg/m3	GB EH40
		Further information: For the purposes of these limits, respirable dust and in-		

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		halable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/4 General methods for sampling and gravimetric analysis or respirable, thoracic and inhalable aerosols., The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m-3 8-hour TWA of inhalable dust or 4 mg.m-3 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed to dust above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limits., Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system, and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'. Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/4., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used.		
		TWA (Respirable dust)	4 mg/m3	GB EH40
		Further information: For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/4 General methods for sampling and gravimetric analysis or respirable, thoracic and inhalable aerosols., The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m-3 8-hour TWA of inhalable dust or 4 mg.m-3 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed to dust above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limits., Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system, and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'. Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/4., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used.		
Calcium oxide	1305-78-8	TWA	2 mg/m3	GB EH40
		TWA (Respirable fraction)	1 mg/m3	2017/164/EU
		Further information: Indicative		
		STEL (Respirable fraction)	4 mg/m3	2017/164/EU
		Further information: Indicative		

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		TWA (Respirable fraction)	1 mg/m ³	GB EH40
		STEL (Respirable fraction)	4 mg/m ³	GB EH40
Quartz	14808-60-7	TWA (Respirable dust)	0.1 mg/m ³	2004/37/EC
Further information: Carcinogens or mutagens				
		TWA (Respirable fraction)	0.1 mg/m ³ (Silica)	GB EH40
Further information: Capable of causing cancer and/or heritable genetic damage.				

These substance(s) are inextricably bound in the product and therefore do not contribute to a dust inhalation hazard.

II Titanium dioxide

II Quartz

Occupational exposure limits of decomposition products

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Calcium carbonate	471-34-1	TWA (inhalable dust)	10 mg/m ³	GB EH40
Further information: For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/4 General methods for sampling and gravimetric analysis or respirable, thoracic and inhalable aerosols., The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m ⁻³ 8-hour TWA of inhalable dust or 4 mg.m ⁻³ 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed to dust above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limits., Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system, and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'. Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/4., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used.				
		TWA (Respirable dust)	4 mg/m ³	GB EH40
Further information: For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/4 General methods for sampling and gravimetric analysis or respirable, thoracic and inhalable aerosols., The COSHH definition of a substance				

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	hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m-3 8-hour TWA of inhalable dust or 4 mg.m-3 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed to dust above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limits., Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system, and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'. Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/4., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used.			
Acetone	67-64-1	TWA	500 ppm 1,210 mg/m3	2000/39/EC
	Further information: Indicative			
		TWA	500 ppm 1,210 mg/m3	GB EH40
		STEL	1,500 ppm 3,620 mg/m3	GB EH40

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
Graphite	Consumers	Inhalation	Long-term local effects	0.3 mg/m3
	Consumers	Ingestion	Long-term systemic effects	813 mg/kg bw/day
	Workers	Inhalation	Long-term local effects	1.2 mg/m3
Calcium carbonate	Workers	Inhalation	Long-term systemic effects	6.36 mg/m3
	Consumers	Ingestion	Acute systemic effects	6.1 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	1.06 mg/m3
	Consumers	Ingestion	Long-term systemic effects	6.1 mg/kg bw/day
Calcium(2+) 12-hydroxyoctadecanoate	Workers	Skin contact	Long-term local effects	0.172 mg/cm2
	Consumers	Skin contact	Long-term local effects	0.086 mg/cm2
Calcium acetate	Workers	Inhalation	Long-term systemic effects	1020.28 mg/m3
	Workers	Inhalation	Acute systemic effects	6121.68 mg/m3
	Workers	Skin contact	Long-term systemic	11.57 mg/kg

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			effects	bw/day
	Workers	Skin contact	Acute systemic effects	69.44 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	498.85 mg/m3
	Consumers	Inhalation	Acute systemic effects	2993.1 mg/m3
	Consumers	Skin contact	Long-term systemic effects	5.8 mg/kg bw/day
	Consumers	Skin contact	Acute systemic effects	34.72 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	5.8 mg/kg bw/day
	Consumers	Ingestion	Acute systemic effects	34.72 mg/kg bw/day
Calcium fluoride	Workers	Inhalation	Long-term systemic effects	5 mg/m3
	Consumers	Ingestion	Long-term systemic effects	0.02 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	0.5 mg/m3
Calcium oxide	Workers	Inhalation	Long-term local effects	1 mg/m3
	Workers	Inhalation	Acute local effects	4 mg/m3
	Consumers	Inhalation	Long-term local effects	1 mg/m3
	Consumers	Inhalation	Acute local effects	4 mg/m3

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
Distillates (petroleum), hydrotreated light naphthenic	Oral (Secondary Poisoning)	9.33 mg/kg food
Calcium carbonate	Sewage treatment plant	100 mg/l
Calcium(2+) 12-hydroxyoctadecanoate	Fresh water	0.1 mg/l
	Marine water	0.01 mg/l
	Intermittent use/release	1 mg/l
Calcium acetate	Fresh water	0.964 mg/l
	Marine water	0.096 mg/l
	Sewage treatment plant	0.7 g/l
	Fresh water sediment	0.726 mg/kg dry weight (d.w.)
	Marine sediment	0.073 mg/kg dry weight (d.w.)
	Soil	0.154 mg/kg dry weight (d.w.)
Calcium fluoride	Fresh water	0.9 mg/l
	Sewage treatment plant	51 mg/l
	Soil	11 mg/kg dry weight (d.w.)
Calcium oxide	Fresh water	0.37 mg/l
	Marine water	0.24 mg/l
	Intermittent use/release	0.37 mg/l

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	Sewage treatment plant	2.27 mg/l
	Soil	817.4 mg/kg dry weight (d.w.)

8.2 Exposure controls

Engineering measures

Processing may form hazardous compounds (see section 10).
Minimize workplace exposure concentrations.

Personal protective equipment

Eye protection	:	Wear the following personal protective equipment: Safety goggles Equipment should conform to BS EN 166
Hand protection	:	
Material	:	Chemical-resistant gloves
Remarks	:	Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work. Breakthrough time is not determined for the product. Change gloves often! For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.
Skin and body protection	:	Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential. Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).
Respiratory protection	:	If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection. Equipment should conform to BS EN 137
Filter type	:	Self-contained breathing apparatus

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	:	Viscous semi-solid
Colour	:	light grey
Odour	:	Petroleum
Odour Threshold	:	No data available
pH	:	Not applicable (not an aqueous solution)
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	208 °C Method: ASTM D 2887 Distillates (petroleum), hydrotreated light naphthenic
Flash point	:	160 °C Method: Cleveland open cup

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Distillates (petroleum), hydrotreated light naphthenic

Evaporation rate : Not applicable

Flammability (solid, gas) : Not classified as a flammability hazard

Upper explosion limit / Upper flammability limit : No data available

Lower explosion limit / Lower flammability limit : No data available

Vapour pressure : Not applicable

Relative vapour density : Not applicable

Relative density : 1.3

Density : No data available

Solubility(ies)

Water solubility : negligible

Partition coefficient: n-octanol/water : Not applicable

Auto-ignition temperature : 490 °C
Method: ASTM E 659

Decomposition temperature : No data available

Viscosity

Viscosity, dynamic : No data available

Viscosity, kinematic : 2.085 mm²/s (40 °C)
Distillates (petroleum), hydrotreated light naphthenic

20.85 cSt (40 °C)
Distillates (petroleum), hydrotreated light naphthenic

Flow time : No data available

Explosive properties : Not explosive

Oxidizing properties : The substance or mixture is not classified as oxidizing.

9.2 Other information

Molecular weight : No data available

Particle size : No data available

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SECTION 10: Stability and reactivity

10.1 Reactivity

Not classified as a reactivity hazard.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions : Can react with strong oxidizing agents.
Hazardous decomposition products will be formed at elevated temperatures.

10.4 Conditions to avoid

Conditions to avoid : None known.

10.5 Incompatible materials

Materials to avoid : Oxidizing agents

10.6 Hazardous decomposition products

Thermal decomposition : Calcium carbonate
Acetone

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Information on likely routes of exposure : Skin contact
Ingestion
Eye contact

Acute toxicity

Not classified based on available information.

Product:

Acute oral toxicity : Acute toxicity estimate: > 2,000 mg/kg
Method: Calculation method

Components:

Calcium acetate:

Acute oral toxicity : LD50 (Rat): 1,943 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): > 5.6 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg

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Remarks: Based on data from similar materials

Calcium oxide:

Acute oral toxicity	: LD50 (Rat): > 2,000 mg/kg Method: OECD Test Guideline 425
Acute inhalation toxicity	: (Rat): > 5 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 436 Remarks: Based on data from similar materials
Acute dermal toxicity	: LD50 (Rabbit): > 2,500 mg/kg Method: OECD Test Guideline 402 Assessment: The substance or mixture has no acute dermal toxicity Remarks: Based on data from similar materials

Quartz:

Acute oral toxicity	: LD50 (Rat): > 5,000 mg/kg
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Calcium fluoride:

Acute oral toxicity	: LD50 (Rat): > 2,000 mg/kg Method: OECD Test Guideline 423 Assessment: The substance or mixture has no acute oral toxicity
Acute inhalation toxicity	: LC50 (Rat): > 5.07 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403 Assessment: The substance or mixture has no acute inhalation toxicity

Skin corrosion/irritation

Not classified based on available information.

Components:

Calcium acetate:

Species	: Rabbit
Result	: No skin irritation

Calcium oxide:

Species	: Rabbit
Method	: OECD Test Guideline 404
Result	: Skin irritation
Remarks	: Based on data from similar materials

Calcium fluoride:

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Species	: Rabbit
Method	: OECD Test Guideline 404
Result	: No skin irritation

Serious eye damage/eye irritation

Causes serious eye irritation.

Components:

Calcium acetate:

Species	: Rabbit
Result	: No eye irritation

Calcium oxide:

Species	: Rabbit
Method	: OECD Test Guideline 405
Result	: Irreversible effects on the eye

Calcium fluoride:

Species	: Rabbit
Method	: OECD Test Guideline 405
Result	: No eye irritation

Respiratory or skin sensitisation

Skin sensitisation

Not classified based on available information.

Respiratory sensitisation

Not classified based on available information.

Components:

Calcium oxide:

Test Type	: Local lymph node assay (LLNA)
Exposure routes	: Skin contact
Species	: Mouse
Method	: OECD Test Guideline 429
Result	: negative
Remarks	: Based on data from similar materials

Calcium fluoride:

Test Type	: Local lymph node assay (LLNA)
Exposure routes	: Skin contact
Species	: Mouse
Method	: OECD Test Guideline 429
Result	: negative

Germ cell mutagenicity

Not classified based on available information.

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Components:

Calcium acetate:

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro
Result: negative
Remarks: Based on data from similar materials

Genotoxicity in vivo : Species: Mouse
Application Route: Ingestion
Result: negative
Remarks: Based on data from similar materials

Calcium oxide:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: negative

Test Type: Chromosome aberration test in vitro
Method: OECD Test Guideline 473
Result: negative
Remarks: Based on data from similar materials

Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: negative
Remarks: Based on data from similar materials

Calcium fluoride:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: negative
Remarks: Based on data from similar materials

Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: negative
Remarks: Based on data from similar materials

Test Type: Chromosome aberration test in vitro
Method: OECD Test Guideline 473
Result: negative
Remarks: Based on data from similar materials

Carcinogenicity

Not classified based on available information.

Product:

Carcinogenicity - Assessment : Petroleum distillates have been classified as not carcinogenic based on DMSO extract content < 3% (Regulation (EC) 1272/2008, Annex VI, Part 3, Note L).

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Components:

Calcium oxide:

Species	: Rat
Application Route	: Ingestion
Exposure time	: 104 weeks
Result	: negative
Remarks	: Based on data from similar materials

Quartz:

Species	: Humans
Application Route	: inhalation (dust/mist/fume)
Result	: positive
Remarks	: These substance(s) are inextricably bound in the product and therefore do not contribute to a dust inhalation hazard.

Carcinogenicity - Assessment	: Positive evidence from human epidemiological studies (inhalation)
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Calcium fluoride:

Species	: Mouse
Application Route	: Ingestion
Result	: negative
Remarks	: Based on data from similar materials

Reproductive toxicity

Not classified based on available information.

Components:

Calcium acetate:

Effects on fertility	: Test Type: One-generation reproduction toxicity study Species: Rat Application Route: Ingestion Result: negative Remarks: Based on data from similar materials
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Effects on foetal development	: Test Type: Embryo-foetal development Species: Mouse Application Route: Ingestion Result: negative Remarks: Based on data from similar materials
-------------------------------	---

Calcium oxide:

Effects on fertility	: Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test Species: Rat Application Route: Ingestion Method: OECD Test Guideline 422 Result: negative Remarks: Based on data from similar materials
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Effects on foetal development : Test Type: Embryo-foetal development
Species: Mouse
Application Route: Ingestion
Method: OECD Test Guideline 414
Result: negative

Calcium fluoride:

Effects on fertility : Test Type: Two-generation reproduction toxicity study
Species: Rat
Application Route: Ingestion
Result: negative
Remarks: Based on data from similar materials

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: Ingestion
Result: negative
Remarks: Based on data from similar materials

STOT - single exposure

Not classified based on available information.

Components:

Calcium oxide:

Assessment : May cause respiratory irritation.

STOT - repeated exposure

Not classified based on available information.

Components:

Quartz:

Exposure routes : inhalation (dust/mist/fume)
Target Organs : Lungs
Assessment : Shown to produce significant health effects in animals at concentrations of 0.02 mg/l/6h/d or less.

Calcium fluoride:

Assessment : No significant health effects observed in animals at concentrations of 0.2 mg/l/6h/d or less.

Repeated dose toxicity

Components:

Calcium acetate:

Species : Rat
NOAEL : $\geq 3,600$ mg/kg
Application Route : Ingestion
Exposure time : 28 Days

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Remarks : Based on data from similar materials

Calcium oxide:

Species	: Rat
NOAEL	: ≥ 0.399 mg/l
Application Route	: inhalation (dust/mist/fume)
Exposure time	: 90 Days
Method	: OECD Test Guideline 413

Quartz:

Species	: Humans
LOAEL	: 0.053 mg/m ³
Application Route	: inhalation (dust/mist/fume)
Remarks	: These substance(s) are inextricably bound in the product and therefore do not contribute to a dust inhalation hazard.

Calcium fluoride:

Species	: Rat
NOAEL	: 0.007 mg/kg
Application Route	: inhalation (dust/mist/fume)
Exposure time	: 28 Days
Method	: OECD Test Guideline 412
Remarks	: Based on data from similar materials

Aspiration toxicity

Not classified based on available information.

SECTION 12: Ecological information

12.1 Toxicity

Components:

Calcium acetate:

Toxicity to fish	: LC50 (Danio rerio (zebra fish)): > 100 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates	: EC50 (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 48 h Method: OECD Test Guideline 202 Remarks: Based on data from similar materials
Toxicity to algae/aquatic plants	: ErC50 (Skeletonema costatum (marine diatom)): > 100 mg/l Exposure time: 72 h Remarks: Based on data from similar materials
	NOEC (Skeletonema costatum (marine diatom)): > 100 mg/l Exposure time: 72 h

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	Remarks: Based on data from similar materials
Toxicity to microorganisms	: EC50 (<i>Pseudomonas putida</i>): > 100 mg/l Exposure time: 16 h Method: DIN 38 412 Part 8 Remarks: Based on data from similar materials
Calcium oxide:	
Toxicity to fish	: LC50 (<i>Oncorhynchus mykiss</i> (rainbow trout)): > 100 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates	: EC50 (<i>Daphnia magna</i> (Water flea)): > 100 mg/l Exposure time: 96 h Method: OECD Test Guideline 202 Remarks: Based on data from similar materials
Toxicity to algae/aquatic plants	: ErC50 (<i>Pseudokirchneriella subcapitata</i> (green algae)): > 100 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: Based on data from similar materials
	EC10 (<i>Pseudokirchneriella subcapitata</i> (green algae)): > 1 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: Based on data from similar materials
Toxicity to microorganisms	: EC50 : > 100 mg/l Exposure time: 3 h Method: OECD Test Guideline 209 Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	: NOEC: > 1 mg/l Exposure time: 14 d Species: <i>Crangon crangon</i> (shrimp) Remarks: Based on data from similar materials

Quartz:

Ecotoxicology Assessment

Acute aquatic toxicity	: No toxicity at the limit of solubility
Chronic aquatic toxicity	: No toxicity at the limit of solubility

Calcium fluoride:

Toxicity to fish	: LC50 : > 100 mg/l Exposure time: 96 h Remarks: Based on data from similar materials
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Toxicity to daphnia and other aquatic invertebrates	: EC50 (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 48 h Remarks: Based on data from similar materials
Toxicity to algae/aquatic plants	: EbC50 : > 10 - 100 mg/l Exposure time: 96 h Remarks: Based on data from similar materials NOEC : > 1 mg/l Exposure time: 96 h Remarks: Based on data from similar materials
Toxicity to microorganisms	: NOEC (Protozoa): > 10 - 100 mg/l Exposure time: 20 h Remarks: Based on data from similar materials
Toxicity to fish (Chronic toxicity)	: NOEC: > 1 - 10 mg/l Exposure time: 21 d Species: Oncorhynchus mykiss (rainbow trout) Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	: NOEC: > 1 - 10 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Remarks: Based on data from similar materials

12.2 Persistence and degradability

Components:

Calcium acetate:

Biodegradability	: Result: Readily biodegradable. Remarks: Based on data from similar materials
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12.3 Bioaccumulative potential

Components:

Calcium acetate:

Partition coefficient: n-octanol/water	: log Pow: -1.38
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12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

Not relevant

12.6 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

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Product	: Dispose of in accordance with local regulations. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.
Contaminated packaging	: Empty containers should be taken to an approved waste handling site for recycling or disposal. Empty containers retain residue and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury and/or death. If not otherwise specified: Dispose of as unused product.

SECTION 14: Transport information

14.1 UN number

Not regulated as a dangerous good

14.2 UN proper shipping name

Not regulated as a dangerous good

14.3 Transport hazard class(es)

Not regulated as a dangerous good

14.4 Packing group

Not regulated as a dangerous good

14.5 Environmental hazards

Not regulated as a dangerous good

14.6 Special precautions for user

Not applicable

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Remarks : Not applicable for product as supplied.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII)	: Not applicable
REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).	: Not applicable
REACH - List of substances subject to authorisation (Annex XIV)	: Not applicable
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer	: Not applicable
Regulation (EU) 2019/1021 on persistent organic pollutants (recast)	: Not applicable
Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals	: Not applicable

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Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

Not applicable

The components of this product are reported in the following inventories:

DSL : All components of this product are on the Canadian DSL

TSCA : All chemical substances in this product are either listed on the TSCA Inventory or are in compliance with a TSCA Inventory exemption.

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

Other information : Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

Full text of H-Statements

H302 : Harmful if swallowed.
H315 : Causes skin irritation.
H318 : Causes serious eye damage.
H335 : May cause respiratory irritation.
H350i : May cause cancer by inhalation.
H372 : Causes damage to organs through prolonged or repeated exposure if inhaled.

Full text of other abbreviations

Acute Tox. : Acute toxicity
Carc. : Carcinogenicity
Eye Dam. : Serious eye damage
Skin Irrit. : Skin irritation
STOT RE : Specific target organ toxicity - repeated exposure
STOT SE : Specific target organ toxicity - single exposure
2000/39/EC : Europe. Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values
2004/37/EC : Europe. Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens or mutagens at work
2017/164/EU : Europe. Commission Directive 2017/164/EU establishing a fourth list of indicative occupational exposure limit values
GB EH40 : UK. EH40 WEL - Workplace Exposure Limits
2000/39/EC / TWA : Limit Value - eight hours
2004/37/EC / TWA : Long term exposure limit
2017/164/EU / STEL : Short term exposure limit
2017/164/EU / TWA : Limit Value - eight hours
GB EH40 / TWA : Long-term exposure limit (8-hour TWA reference period)
GB EH40 / STEL : Short-term exposure limit (15-minute reference period)

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ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

Sources of key data used to compile the Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, <http://echa.europa.eu/>

Classification of the mixture:

Eye Irrit. 2

H319

Classification procedure:

Calculation method

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

GB / EN

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This safety data sheet was created pursuant to the requirements of:
REACH Regulation (EC) 1907/2006 amended by Regulation (UK) SI 2019/758

Revision date 27-Feb-2024

Revision Number 4

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product Code(s) 5101084
Product Name BOL 4010 NM

Pure substance/mixture Mixture

Contains Distillates (petroleum), hydrotreated light naphthenic, Calcium carbonate, Titanium dioxide

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended use Lubricant and sealant used for threaded connections
Uses advised against Do not use on oxygen lines or in oxygen enriched atmospheres.

1.3. Details of the supplier of the safety data sheet

Manufacturer

Bestolife Corporation
2126 Vanco Drive
Irving TX 75061
855-243-9164/972-865-8961
Telefax 214-631-3047

ITS TESTING SERVICES (UK) Ltd.
Caleb Brett House
734 London Road
West Thurrock, Grays Essex RM20 3NL
United Kingdom

Email address: lorraine.dene@intertek.com

1.4. Emergency telephone number

Emergency Telephone For chemical emergency call CHEMTREC Day & Night: +1 703-527-3887

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Carcinogenicity	Category 2 - (H351)
Aspiration hazard	Category 1 - (H304)

Adverse physiochemical, human health and environment effects

H304 - May be fatal if swallowed and enters airways

H351 - Suspected of causing cancer

2.2. Label elements

Contains Distillates (petroleum), hydrotreated light naphthenic, Calcium carbonate, Titanium dioxide

**Signal word**

Danger

Hazard statements

H304 - May be fatal if swallowed and enters airways

H351 - Suspected of causing cancer

Precautionary statements

P201 - Obtain special instructions before use

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor

P312 - Call a POISON CENTER or doctor if you feel unwell

P331 - Do NOT induce vomiting

Unknown acute toxicity**Unknown aquatic toxicity**

Contains 0 % of components with unknown hazards to the aquatic environment.

Additional information

This product requires tactile warnings if supplied to the general public.

2.3. Other hazards

PBT & vPvB This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

No information available.

SECTION 3: Composition/information on ingredients
3.1 Substances

Not applicable

3.2 Mixtures

Chemical name	Weight-%	EC No (EU Index No)	UK REACH registration number	Classification according to GB CLP (SI 2020/1567 as amended)	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
Distillates (petroleum), hydrotreated light naphthenic 64742-53-6	>= 30 - < 50	(649-466-00-2) 265-156-6	UK-01-7893359663-3	-	-	-	-
Graphite 7782-42-5	>= 10 - < 20	231-955-3	-	-	-	-	-
Talc 14807-96-6	>= 5 - < 10	238-877-9	-	-	-	-	-

Calcium carbonate 471-34-1	>= 5 - < 10	207-439-9	-	-	-	-	-
Calcium acetate 62-54-4	>= 5 - < 10	200-540-9	-	-	-	-	-
Calcium fluoride 7789-75-5	>= 5 - < 10	232-188-7	-	-	-	-	-
Dolomite 16389-88-1	>= 1 - < 5	240-440-2	-	-	-	-	-
Titanium dioxide 13463-67-7	>= 1 - < 5	(022-006-00 -2) 236-675-5	-	-	-	-	-
Calcium oxide 1305-78-8	>= 1 - < 5	215-138-9	UK-01-6025516321-8	-	-	-	-
Quartz 14808-60-7	>= 0 - < 1.0	238-878-4	-	-	-	-	-

Full text of H- and EUH-phrases: see section 16

Additional information

NOTE: As per Note L, the carcinogen classification does NOT apply to this preparation because the producer of "Petroleum distillates, hydrotreated heavy naphthenic" declares that it contains less than 3% DMSO extractable material by IP-346

These substance(s) are inextricably bound in the product and therefore do not contribute to a dust inhalation hazard

This product does not contain candidate substances of very high concern at a concentration >= 0.1% (UK REACH Article 59)

4.1. Description of first aid measures

General advice	IF exposed or concerned: Get medical advice/attention. Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.
Inhalation	Aspiration into lungs can produce severe lung damage. If breathing has stopped, give artificial respiration. Get medical attention immediately. Remove to fresh air. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. If breathing is difficult, (trained personnel should) give oxygen. Get immediate medical attention. Delayed pulmonary edema may occur.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Skin contact	Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.
Ingestion	ASPIRATION HAZARD IF SWALLOWED - CAN ENTER LUNGS AND CAUSE DAMAGE. Do NOT induce vomiting. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. Rinse mouth. Never give anything by mouth to an unconscious person. Get immediate medical attention.
Self-protection of the first aider	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Use personal protective equipment as required. Avoid breathing dust/fume/gas/mist/vapors/spray. See section 8 for more information.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms	Difficulty in breathing. Coughing and/ or wheezing. Dizziness.
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4.3. Indication of any immediate medical attention and special treatment needed

Note to physicians Because of the danger of aspiration, emesis or gastric lavage should not be employed unless the risk is justified by the presence of additional toxic substances.

SECTION 5: Firefighting measures**5.1. Extinguishing media**

Suitable Extinguishing Media Dry chemical, CO₂, water spray or alcohol-resistant foam.

Large Fire CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media Do not scatter spilled material with high pressure water streams.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical No information available.

Hazardous combustion products Metal oxides. Fluorine compounds. Carbon oxides. Phosphorus oxides.

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Personal precautions Ensure adequate ventilation. Use personal protective equipment as required. Avoid generation of dust. Do not breathe dust.

Other information Refer to protective measures listed in Sections 7 and 8.

For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Use appropriate personal protective equipment (PPE). Carefully shovel or sweep up spilled material and place in suitable container. Avoid generating dust.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

Advice on safe handling	Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Remove contaminated clothing and shoes. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid generation of dust. Ensure adequate ventilation.
General hygiene considerations	Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid contact with skin, eyes or clothing. Contaminated work clothing should not be allowed out of the workplace. Take off contaminated clothing and wash before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions	Store locked up. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers. Store in accordance with the particular national regulations.
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7.3. Specific end use(s)

Specific use(s)

See section 1 for more information.

Risk Management Methods (RMM) The information required is contained in this Safety Data Sheet.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits

Chemical name	United Kingdom
Graphite 7782-42-5	TWA: 10 mg/m ³ TWA: 4 mg/m ³ STEL: 30 mg/m ³ STEL: 12 mg/m ³
Talc 14807-96-6	TWA: 1 mg/m ³ STEL: 3 mg/m ³
Calcium carbonate 471-34-1	TWA: 10 mg/m ³ TWA: 4 mg/m ³ STEL: 30 mg/m ³ STEL: 12 mg/m ³
Calcium fluoride 7789-75-5	TWA: 2.5 mg/m ³ STEL: 7.5 mg/m ³
Titanium dioxide 13463-67-7	TWA: 10 mg/m ³ TWA: 4 mg/m ³ STEL: 30 mg/m ³ STEL: 12 mg/m ³
Calcium oxide 1305-78-8	TWA: 1 mg/m ³ TWA: 2 mg/m ³ STEL: 4 mg/m ³ STEL: 6 mg/m ³
Quartz 14808-60-7	TWA: 0.1 mg/m ³ STEL: 0.3 mg/m ³

Other information

These substance(s) are inextricably bound in the product and therefore do not contribute to a dust inhalation hazard

Biological occupational exposure limits

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Derived No Effect Level (DNEL) - Workers

Chemical name	Oral	Dermal	Inhalation
Distillates (petroleum), hydrotreated light naphthenic 64742-53-6		0.97 mg/kg bw/day [4] [6]	2.73 mg/m ³ [4] [6] 5.58 mg/m ³ [5] [6]
Graphite 7782-42-5			1.2 mg/m ³ [4] [6] 1.2 mg/m ³ [5] [6]
Talc 14807-96-6		43.2 mg/kg bw/day [4] [6] 4.54 mg/cm ² [5] [6]	2.16 mg/m ³ [4] [6] 2.16 mg/m ³ [4] [7] 3.6 mg/m ³ [5] [6] 3.6 mg/m ³ [5] [7]
Calcium carbonate 471-34-1			6.36 mg/m ³ [5] [6]
Calcium(2+) 12-hydroxyoctadecanoate 3159-62-4		0.172 mg/cm ² [5] [6]	
Calcium acetate 62-54-4		11.57 mg/kg bw/day [4] [6] 69.44 mg/kg bw/day [4] [7]	1020.28 mg/m ³ [4] [6] 6121.68 mg/m ³ [4] [7]
Calcium fluoride 7789-75-5			5 mg/m ³ [4] [6]
Calcium oxide 1305-78-8			1 mg/m ³ [5] [6] 4 mg/m ³ [5] [7]
Stearic acid 57-11-4		10 mg/kg bw/day [4] [6]	17.632 mg/m ³ [4] [6]
Glycerine 56-81-5			56 mg/m ³ [5] [6]

Notes

[4]	Systemic health effects.
[5]	Local health effects.
[6]	Long term.
[7]	Short term.

Derived No Effect Level (DNEL) - General Public

Chemical name	Oral	Dermal	Inhalation
Distillates (petroleum), hydrotreated light naphthenic 64742-53-6	0.74 mg/kg bw/day [4] [6]		1.19 mg/m ³ [5] [6]
Graphite 7782-42-5	813 mg/kg bw/day [4] [6]		0.3 mg/m ³ [5] [6]
Talc 14807-96-6	160 mg/kg bw/day [4] [6] 160 mg/kg bw/day [4] [7]	2.27 mg/cm ² [5] [6]	1.08 mg/m ³ [4] [6] 1.08 mg/m ³ [4] [7] 1.8 mg/m ³ [5] [6] 1.8 mg/m ³ [5] [7]
Calcium carbonate 471-34-1	6.1 mg/kg bw/day [4] [6] 6.1 mg/kg bw/day [4] [7]		1.06 mg/m ³ [5] [6]
Calcium(2+) 12-hydroxyoctadecanoate 3159-62-4		0.086 mg/cm ² [5] [6]	
Calcium acetate 62-54-4	5.8 mg/kg bw/day [4] [6] 34.72 mg/kg bw/day [4] [7]	34.72 mg/kg bw/day [4] [6] 34.72 mg/kg bw/day [4] [7]	498.85 mg/m ³ [4] [6] 2993.1 mg/m ³ [4] [7]
Calcium fluoride 7789-75-5	0.02 mg/kg bw/day [4] [6]		1 mg/m ³ [4] [6]
Calcium oxide 1305-78-8			1 mg/m ³ [5] [6] 4 mg/m ³ [5] [7]

Chemical name	Oral	Dermal	Inhalation
Stearic acid 57-11-4	2.5 mg/kg bw/day [4] [6]		4.348 mg/m ³ [4] [6]
Glycerine 56-81-5	229 mg/kg bw/day [4] [6]		33 mg/m ³ [5] [6]

Notes

[4]	Systemic health effects.
[5]	Local health effects.
[6]	Long term.
[7]	Short term.

Predicted No Effect Concentration (PNEC)

Chemical name	Freshwater	Freshwater (intermittent release)	Marine water	Marine water (intermittent release)	Air
Talc 14807-96-6	597.97 mg/L	597.97 mg/L	141.26 mg/L	141.26 mg/L	10 mg/m ³
Calcium(2+) 12-hydroxyoctadecanoate 3159-62-4	0.1 mg/L	1 mg/L	0.01 mg/L		
Calcium acetate 62-54-4	0.964 mg/L		0.0964 mg/L		
Calcium fluoride 7789-75-5	0.37 mg/L	0.17 mg/L	0.0216 mg/L		
Calcium oxide 1305-78-8	0.37 mg/L	0.37 mg/L	0.24 mg/L	0.24 mg/L	
Glycerine 56-81-5	0.885 mg/L	8.85 mg/L	0.0885 mg/L		

Chemical name	Freshwater sediment	Marine sediment	Sewage treatment	Soil	Food chain
Distillates (petroleum), hydrotreated light naphthenic 64742-53-6					9.33 mg/kg food
Talc 14807-96-6	31.33 mg/kg sediment dw	3.13 mg/kg sediment dw			
Calcium carbonate 471-34-1			100 mg/L		
Calcium acetate 62-54-4	0.726 mg/kg sediment dw	0.0726 mg/kg sediment dw	0.7 g/L	0.154 mg/kg soil dw	
Calcium fluoride 7789-75-5			104.75 mg/L	21.8 mg/kg soil dw	
Calcium oxide 1305-78-8			2.27 mg/L	817.4 mg/kg soil dw	
Glycerine 56-81-5	3.3 mg/kg sediment dw	0.33 mg/kg sediment dw	1000 mg/L	0.141 mg/kg soil dw	

8.2. Exposure controls

Engineering controls No information available.

Personal protective equipment

Eye/face protection	If splashes are likely to occur, wear safety glasses with side-shields.
Hand protection	Wear suitable gloves. PPE16 - Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training.
Skin and body protection	Wear suitable protective clothing.
Respiratory protection	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.
General hygiene considerations	Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid contact with skin, eyes or clothing. Contaminated work clothing should not be allowed out of the workplace. Take off contaminated clothing and wash before reuse.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Solid	
Appearance	Viscous semi-solid	
Color	Light gray	
Odor	Petroleum.	
Odor threshold		
Property	Values	Remarks • Method
Melting point / freezing point	No data available	None known
Initial boiling point and boiling range	>= 208 °C	Method: ASTM D 2887 Distillates (petroleum), hydrotreated light naphthenic
Flammability		None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Flash point	>= 160 °C	Method ASTM D 92, Cleveland open cup Distillates (petroleum), hydrotreated heavy naphthenic
Autoignition temperature	490 °C	Method: ASTM E 659
Decomposition temperature		None known
pH	No data available	None known
pH (as aqueous solution)	No data available	None known
Kinematic viscosity		None known
Dynamic viscosity		None known
Water solubility	Negligible	None known
Solubility(ies)		None known
Partition coefficient		None known
Vapor pressure		None known
Relative density	1.3	None known
Bulk density		
None known		Relative vapor density No data available
		Particle characteristics
		Particle Size
		Particle Size
		Distribution
Explosive properties	No information available	
Oxidizing properties	No information available	

9.2. Other information

SECTION 10: Stability and reactivity**10.1. Reactivity**

Reactivity Not classified as a reactivity hazard.

10.2. Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Can react with strong oxidizing agents.

10.4. Conditions to avoid

Conditions to avoid Excessive heat.

10.5. Incompatible materials

Incompatible materials Strong oxidizing agents.

10.6. Hazardous decomposition products

Hazardous decomposition products None known based on information supplied.

SECTION 11: Toxicological information**11.1. Information on toxicological effects****Information on likely routes of exposure****Product Information**

Inhalation	Specific test data for the substance or mixture is not available. Aspiration into lungs can produce severe lung damage. May cause pulmonary edema. Pulmonary edema can be fatal. May cause irritation of respiratory tract. (based on components).
Eye contact	Specific test data for the substance or mixture is not available. May cause irritation.
Skin contact	Repeated exposure may cause skin dryness or cracking.
Ingestion	Specific test data for the substance or mixture is not available. Potential for aspiration if swallowed. May cause lung damage if swallowed. Aspiration may cause pulmonary edema and pneumonitis. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Difficulty in breathing. Coughing and/ or wheezing. Dizziness.

Acute toxicity**Numerical measures of toxicity**

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral) 4,015.40 mg/kg

ATEmix (dermal) 2,104.50 mg/kg
 ATEmix (inhalation-dust/mist) 3.30 mg/l

Unknown acute toxicity**Component Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Distillates (petroleum), hydrotreated light naphthenic	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	= 2180 mg/m ³ (Rat) 4 h
Graphite	-	-	> 2000 mg/m ³ (Rat) 4 h
Calcium carbonate	= 6450 mg/kg (Rat)	> 2000 mg/kg (Rat)	> 3 mg/L (Rat) 4 h
Calcium acetate	= 4280 mg/kg (Rat)	> 20000 mg/kg (Rabbit)	> 5.6 mg/L (Rat) 4 h
Calcium fluoride	= 4250 mg/kg (Rat)	-	> 5070 mg/m ³ (Rat) 4 h
Titanium dioxide	> 10000 mg/kg (Rat)	-	= 5.09 mg/L (Rat) 4 h
Calcium oxide	= 500 mg/kg (Rat)	-	> 6.04 mg/L (Rat) 4 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation No information available.

Serious eye damage/eye irritation No information available.

Respiratory or skin sensitization No information available.

Germ cell mutagenicity No information available.

Carcinogenicity Contains a known or suspected carcinogen. Classification based on data available for ingredients. Suspected of causing cancer.

NOTE: As per Note L, the carcinogen classification does NOT apply to this preparation because the producer of "Petroleum distillates, hydrotreated heavy naphthenic" declares that it contains less than 3% DMSO extractable material by IP-346

These substance(s) are inextricably bound in the product and therefore do not contribute to a dust inhalation hazard

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	United Kingdom
Distillates (petroleum), hydrotreated light naphthenic	Carc. 1B
Titanium dioxide	Carc. 2

Reproductive toxicity Contains a known or suspected reproductive toxin. Classification based on data available for ingredients.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Aspiration hazard May be fatal if swallowed and enters airways.

Other adverse effects

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity The environmental impact of this product has not been fully investigated.

Unknown aquatic toxicity Contains 0 % of components with unknown hazards to the aquatic environment.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Distillates (petroleum), hydrotreated light naphthenic	-	LC50: >5000mg/L (96h, Oncorhynchus mykiss)	-	EC50: >1000mg/L (48h, Daphnia magna)
Graphite	-	LC50: >100mg/L (96h, Danio rerio)	-	-
Talc	-	LC50: >100g/L (96h, Brachydanio rerio)	-	-
Calcium oxide	-	LC50: =1070mg/L (96h, Cyprinus carpio)	-	-

12.2. Persistence and degradability

Persistence and degradability

12.3. Bioaccumulative potential

Bioaccumulation There is no data for this product.

12.4. Mobility in soil

Mobility in soil

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment The product does not contain any substance(s) classified as PBT or vPvB above the threshold of declaration.

Chemical name	PBT and vPvB assessment
Distillates (petroleum), hydrotreated light naphthenic	The substance is not PBT / vPvB
Graphite	The substance is not PBT / vPvB
Talc	The substance is not PBT / vPvB
Calcium carbonate	The substance is not PBT / vPvB
Calcium acetate	The substance is not PBT / vPvB
Calcium fluoride	The substance is not PBT / vPvB
Titanium dioxide	The substance is not PBT / vPvB
Calcium oxide	The substance is not PBT / vPvB

12.6. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products	Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
Contaminated packaging	Do not reuse empty containers. Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14: Transport information**IATA**

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	
Special Provisions	None

IMDG

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	
Special Provisions	None
14.7 Maritime transport in bulk according to IMO instruments	

RID

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	
Special Provisions	None

ADR

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	
Special Provisions	None

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulations****Authorizations and/or restrictions on use:**

This product contains one or more substances subject to restriction (UK REACH - Annex XVII).

Chemical name	Restricted substance per REACH Annex XVII	Substance subject to authorization per REACH Annex XIV
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Distillates (petroleum), hydrotreated light naphthenic - 64742-53-6	Use restricted. See item 28. Restricted Carcinogen 1B	-
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Persistent Organic Pollutants

Not applicable

Export Notification requirements

Not applicable

Named dangerous substances per COMAH (SI 2015/483 as amended)

Not applicable

The Ozone-Depleting Substances Regulations 2015

Not applicable

The Biocidal Products Regulations 2001 (as amended)

Chemical name	The Biocidal Products Regulations 2001 (as amended)
Calcium oxide - 1305-78-8	Product-type 2: Disinfectants and algacides not intended for direct application to humans or animals Product-type 3: Veterinary hygiene

The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 (as amended)

Not applicable

Poisons Act 1972 (Explosive Precursors) Regulations (as amended)

Not applicable

International Inventories**TSCA**

All chemical substances in this product are either listed on the TSCA Inventory or are in compliance with a TSCA Inventory exemption

DSL/NDL

All components of this product are on the Canadian DSL

EINECS/ELINCS

Contact supplier for inventory compliance status

ENCS

Contact supplier for inventory compliance status

IECSC

Contact supplier for inventory compliance status

KECI

Contact supplier for inventory compliance status

PICCS

Contact supplier for inventory compliance status

AIIC

All components are listed on AICIS, or are exempt.

NZIoC

Contact supplier for inventory compliance status

Legend:**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory**DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances**ENCS** - Japan Existing and New Chemical Substances**IECSC** - China Inventory of Existing Chemical Substances**KECL** - Korean Existing and Evaluated Chemical Substances**PICCS** - Philippines Inventory of Chemicals and Chemical Substances**AIIC** - Australian Inventory of Industrial Chemicals**NZIoC** - New Zealand Inventory of Chemicals**15.2. Chemical safety assessment****Chemical Safety Report****SECTION 16: Other information****Key or legend to abbreviations and acronyms used in the safety data sheet**

Full text of H-Statements referred to under section 3

H351i - Suspected of causing cancer if inhaled

Legend

SVHC: Substances of Very High Concern for Authorization:

Legend Section 8: Exposure controls/personal protection

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	Sk*	Skin designation
+	Sensitizers		

Classification procedure

Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - vapor	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	Calculation method
Respiratory sensitization	Calculation method
Skin sensitization	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	Calculation method
Reproductive toxicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration hazard	Calculation method
Ozone	Calculation method

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
 U.S. Environmental Protection Agency ChemView Database
 European Food Safety Authority (EFSA)
 European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
 European Chemicals Agency (ECHA) (ECHA_API)
 EPA (Environmental Protection Agency)
 Acute Exposure Guideline Level(s) (AEGL(s))
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
 U.S. Environmental Protection Agency High Production Volume Chemicals
 Food Research Journal
 Hazardous Substance Database
 International Uniform Chemical Information Database (IUCLID)
 National Institute of Technology and Evaluation (NITE)
 Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
 NIOSH (National Institute for Occupational Safety and Health)
 National Library of Medicine's ChemID Plus (NLM CIP)
 National Library of Medicine's PubMed database (NLM PUBMED)
 National Toxicology Program (NTP)
 New Zealand's Chemical Classification and Information Database (CCID)
 Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
 Organization for Economic Co-operation and Development High Production Volume Chemicals Program
 Organization for Economic Co-operation and Development Screening Information Data Set
 World Health Organization

Revision date 27-Feb-2024

This safety data sheet was created pursuant to the requirements of: UK REACH Regulations (SI 2019/758 as amended)

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

UK SDS version information - XGHS

UL release:

GHS Revision 7

2022 Q3

United Kingdom

Full process, including GHS and Transportation Wizards

Full text of H-Statements referred to under H351i - Suspected of causing cancer if inhaled
section 3

C-Dye 530



1. Identification Of The Substance / Preparation And The Company / Undertaking

1.1 Product Identifier

C-Dye 530

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use as leak tracing and hydro testing chemical, laboratory use. For use in offshore or onshore oil and gas industry and industrial use.

1.3 Details of the supplier of the safety data sheet

Supplier.

Ocean Tools House
Claymore Drive
Aberdeen
AB23 8GD, UK.

Email mail@oceantools.co.uk
Telephone +44 1224 709606

Manufacturer

Subsea Chemistry Ltd
Aspul Court
Moss Industrial Estate
Leigh, Lancashire
WN7 3PT, UK

Email tech@subseafluids.com
Telephone +44 8452 967751

1.4 Emergency telephone number

Telephone +44 8452 967751 (office hours)
Public Health England +44 344 8920555 (24 hours)

2. Hazards Identification

2.1 Classification of substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP].

STOT RE 2, H373. (Kidneys)(oral)

2.2 Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP].

Hazard
Pictograms



Signal Word

Warning

Hazard Statements

H373 – May cause damage to organs through prolonged or repeated exposure (kidneys).

Precautionary Statements

Prevention

P260 – Do not breathe vapour.

Response

P314 – Get medical attention if you feel unwell.

Storage

Not applicable.

Disposal

P501 – Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazardous Ingredients

Ethylene Glycol

Supplemental Label Elements

None

C-Dye 530

Supplemental Packaging Requirements.

Containers to be fitted with child resistant fastenings. Not applicable.

Tactile Warning of danger Not applicable.

Supplemental Hazard Information None

2.3 Other Hazards

Other hazards which do not result in classification

Results of PBT and vPvB Assessment

Product does not meet the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

Physical-Chemical Properties

Contaminated surfaces may be stained due to intense colour of product.

High Pressure Applications

Injections through the skin as a result of contact with the product at high pressures constitute a major medical emergency. See notes to physician in section 4.3 of this safety data sheet.

3. Composition / Information On Ingredients

3.2 Mixture

Ingredient Name	Identifiers	Conc. (%)	Regulation (EC) No 1272/2008 (CLP) Classification	Type
Ethanediol	CAS 107-21-1 EC 203-473-3 Index 603-027-00-1	15 - 25%	AcuteTox.4, H302 STOT RE 2, H373 (kidneys)(oral)	(1)(2)
Acetic Acid	CAS 64-19-7 EC 200-580-7 Index 607-002-00-6	<2%	Flam.Liq.3, H226 SkinCorr.1A, H314	(1)(2)
Dye	Confidential	<10%	Eye Irrit.2, H319 Skin Irrit.2, H315	(1)

Type

[1] Substance classified with a health or environmental hazard.

[2] Substance with a workplace exposure limit.

[3] Substance meets the criteria for PBT according to Regulation (EC) No 1907/2006, Annex XIII.

[4] Substance meets the criteria for vPvB according to Regulation (EC) No 1907/2006, Annex XIII. If REACH registration numbers do not appear the substance is either exempt from registration, does not meet the minimum volume threshold for registration, the registration date has not yet come due or this information is proprietary.

See section 8 for Occupational Exposure Limits, if available.

See sections 11 and 12 for detailed information on health effects, symptoms and environmental hazards.

For the full text of the EU H-Statements in this section, see section 16.

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4. First Aid Measures

4.1 Description of first aid measures

General Advice

Seek medical advice if irritation or symptoms persist and show this safety data sheet.

Skin contact

Wash off immediately with plenty of soap and water. Remove contaminated clothing. Seek medical attention if irritation or symptoms persist.

Eye contact

Rinse immediately with plenty of water for 15 minutes holding the eyelids open. Seek medical attention if irritation or symptoms persist.

Inhalation

Move the exposed person to fresh air

Ingestion

DO NOT INDUCE VOMITING. Never give anything to an unconscious person. If swallowed, seek medical advice immediately and show this container or label. Contains ethanediol for which ingestion may cause nausea and vomiting. Ingestion of ethanediol is irritating to the respiratory tract and may cause damage to the central nervous system.

Protection of First Aiders

No action should be taken without suitable training or which involves any personal risk. It may be dangerous to the person providing aid to give mouth to mouth resuscitation.

4.2 Most important symptoms and effects, both acute and delayed

See Section 11 for more detailed information on health effects and symptoms.

4.3 Indication of any immediate medical attention and special treatment needed

Note to Physician

Symptoms may be delayed in the case of inhalation of decomposition products in a fire, and the exposed person may need to be kept under medical surveillance for 48 hours. Treatment should be symptomatic and directed to relieving any effects in general.

If significant quantities have been ingested in the previous 4 hours, gastric lavage is indicated. The metabolism of ethanediol to oxalic acid may be delayed by intravenous administration of ethanol (as a 5% solution in physiological saline to maintain a blood level of 1–2 mg/ml). This treatment has been shown to be effective provided treatment is started within about 6 hours of exposure. Ethanediol may be removed by dialysis, however oxalates are not readily removed.

High Pressure Applications

Injections through the skin due to contact with the product at high pressure constitute a major medical emergency. Injuries may not appear serious immediately, but within a few hours tissue can become discoloured, swollen, and painful with extensive subcutaneous necrosis. Surgical exploration should be undertaken without delay. Extensive and thorough debridement of the wound and underlying tissue is necessary to minimise tissue loss and to limit or prevent permanent damage. It should be noted that high pressure may force the product a considerable distance along tissue planes.

5. Fire Fighting Measures

5.1 Extinguishing media

Suitable extinguishing media

Use extinguishing media appropriate to the surrounding fire conditions: Carbon Dioxide (CO₂), dry chemical, foam, water fog.

Unsuitable extinguishing media

Do not use solid water stream as it may scatter and spread fire.

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5.2 Special Hazards arising from the substance or mixture

Hazardous Combustion Products

Burning produces irritating, toxic and obnoxious fumes including carbon, sulphur and nitrogen oxides.

5.3 Advice for Fire-fighters

Fire fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face piece operating in positive pressure mode. Clothing conforming to European Standard EN469 will give a basic level of protection for chemical incidents. Use water spray to cool unopened containers.

6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

For Non-Emergency Personnel

Contact emergency personnel. No action should be taken without suitable training or involving personal risk. Evacuate surrounding areas and keep unnecessary and unprotected personnel from entering. Ensure adequate ventilation of the working area. Wear suitable protective equipment. Contaminated surfaces will be extremely slippery. Remove all sources of ignition. Do not breathe vapour or mist. Do not touch or walk through spilt material.

For Emergency Responders

Wear a suitable chemical protective suit, gloves and chemical boots. See also information in "For non-emergency personnel".

6.2 Environmental precautions

Avoid dispersal of spilt and runoff and contact with soil, drains, sewers or waterways. Prevent further spillage if safe. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil).

6.3 Methods and material for containment and cleaning up

Small Spill

Stop leak if possible without risk. Move containers from the spill area. Absorb with inert, absorbent material, transfer to suitable, labelled containers for disposal. Dispose of via a licensed water disposal contractor.

Large Spill

Contact emergency personnel immediately. Stop leak if possible without risk. Move containers from the spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements and confined areas. Collect and contain spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and transfer to suitable, labelled containers for disposal. Dispose of via a licensed water disposal contractor.

6.4 Reference to other sections

For personal protective equipment refer to Section 8. For disposal refer to Section 13.

7. Handling And Storage

7.1 Precautions for safe handling

Advice for safe handling

Wear suitable personal protective equipment. Avoid contact with eyes and skin and clothing. Avoid breathing vapours or spray mist. Keep in the original container or an approved alternative made from a compatible material and keep tightly closed when not in use. Do not reuse containers.

Advice on General Occupational Hygiene

Smoking, eating and drinking should be prohibited in areas where this material is handled, stored or processed. Wash thoroughly after use. Contaminated clothing and personal protective

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equipment should be removed before entering eating areas. Ensure that eyewash stations and chemical safety showers are close to the working location.

7.2 Conditions for safe storage, including any incompatibilities

Store in correctly labelled containers. Store in a cool, dry, well-ventilated area away from heat and direct sunlight. Keep containers tightly closed until ready for use. Where possible, design the installations in order to avoid accidental emissions of product (due to seal breakage, for example) onto hot casings or electrical contacts. Protect from moisture and frost. Store in accordance with local regulations, away from incompatible materials, and store locked up (see section 10).

7.3 Specific end uses

Refer to section 1.2 and exposure scenarios in annex if applicable.

8. Exposure Controls / Personal Protection

8.1 Control Parameters

Occupational Exposure Limits

Component	CAS No	Value	Control Parameters	Basis
Ethanediol	107-21-1	TWA	20 ppm 52 mg/m ³	European Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values.
		Indicates the possibility of significant uptake through the skin. Indicative Values		
		STEL	40 ppm 104 mg/m ³	European Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values.
		Indicates the possibility of significant uptake through the skin. Indicative Values		
Acetic Acid	64-19-7	TWA	10 ppm 25 mg/m ³	Commission Directive (EU) 2017/164 establishing a fourth list of indicative occupational exposure limit values pursuant to Council Directive 98/24/EC, and amending Commission Directives 91/322/EEC, 2000/39/EC and 2009/161/EU
	Remarks	Indicative Values		
		STEL	20 ppm 50 mg/m ³	Commission Directive (EU) 2017/164 establishing a fourth list of indicative occupational exposure limit values pursuant to Council Directive 98/24/EC, and amending Commission Directives 91/322/EEC, 2000/39/EC and 2009/161/EU
		Indicative Values		

Whilst specific OELs for certain components may be listed in this section, other components may be present in any vapour, mist or dust produced. Thus the specific OELs may not be applicable to the product as a whole and are provided for guidance only.

Recommended Monitoring Procedures

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or necessity to use respiratory protective equipment. Reference should be made to European Standard EN689 for methods of assessment of exposure by inhalation to

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chemical agents and national guidance documents for methods for the determination of hazardous substances.

Derived No effect Level

Ethylene Glycol	End Use: Workers Exposure routes: Dermal Potential health effects: Long-term systemic effects Value: 106 mg/cm ²
	End Use: Workers Exposure routes: Inhalation Potential health effects: Chronic – local effects Value: 35 mg/m ³

Predicted No effect Concentration

Compartment	Ethylene Glycol	Acetic Acid
Soil	1.53 mg / kg	0.47 mg / kg
Marine Water	1 mg / L	0.306 mg / L
Fresh water	10 mg / L	3.058 mg / L
Marine Sediment	3.7 mg / kg sediment	11.36 mg / kg sediment
Fresh Water Sediment	37 mg / kg sediment	1.136 mg / kg sediment
Sewage Treatment Plant	199.5 mg / L	85 mg / L
Aquatic Intermittent release	10 mg / L	30.58 mg / L

8.2 Exposure Controls

Individual Protection Measures

Eye / Face Protection

Safety glasses with side shields are considered minimum protection.

Respiratory protection

Not normally required where there is adequate ventilation to control exposure. In case of insufficient ventilation, use suitable respiratory equipment.

Skin Protection

Hand protection

Wear chemical resistant gloves. Nitrile gloves with a minimum thickness of 0.4mm are recommended. Most gloves provide only a short time of protection before they should be discarded and replaced. Gloves should be chosen in consultation with the supplier / manufacturer and with a full assessment of the working conditions. This information does not replace suitability tests since glove protection varies depending on the conditions under which the product is used.

Body Protection

Use of protective clothing is good industrial practice. Personal protective equipment for the body should be selected based on the task being performed. Cotton or polyester/cotton overalls will only provide protection against light superficial contamination that does not soak through to the skin. Overalls should be washed regularly. When the risk of exposure is high (e.g. if cleaning spillages or when at risk of splashing), chemical resistant aprons and or imperious chemical suits and boots will be required.

Environmental Exposure Controls

Emission from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels below their respective threshold limit value.

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9. Physical And Chemical Properties

9.1 Information on basic physical and chemical properties

(a) Appearance	Liquid
(b) Odour	Pungent
(c) Odour Threshold	No data available
(d) pH	3-4
(e) Melting / freezing point	< -15°C
(f) Initial boiling point and boiling range	>100 °C
(g) Flash Point	>100 °C
(h) Evaporation rate	Below 110 kPa (1.1 Bar)
(i) Flammability (solid, gas)	No data available
(j) Upper / Lower Explosion Limit	No data available
(k) Vapour Pressure	No data available
(l) Vapour density	No data available
(m) Relative density	1.04 gcm ⁻³ @ 20 °C
(n) Water solubility	soluble.
(o) Partition coefficient n-octanol / water	No data available
(p) Auto ignition temperature.	No data available
(q) Decomposition temperature	No data available
(r) Viscosity	2.5 cSt @ 20 °C
(s) Explosive properties	No data available
(t) Oxidising properties	No data available

9.2 Other information

No additional information.

10. Stability And Reactivity

10.1 Reactivity

No data available.

10.2 Chemical Stability

Stable under normal operating conditions.

10.3 Possibility of hazardous reactions

None expected under normal operating conditions.

10.4 Conditions to avoid

No specific data.

10.5 Incompatible materials

No data available.

10.6 Hazardous decomposition products

Stable under normal conditions. Decomposition products may include carbon, sulphur and nitrogen oxides.

11. Toxicological Information

11.1 Information on toxicological effects

Information on likely routes of exposure

Routes of anticipated entry: Inhalation, Dermal.

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Product Information

Potential Acute Health Effects

Inhalation	Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
Ingestion	Contains ethanediol which is harmful if swallowed and may cause metabolic acidosis, kidney damage, central nervous system depression and convulsions. The estimated human lethal dose is approximately 100ml (3.4 ounces for adults)
Skin Contact	Defatting to the skin, may cause skin irritation and dryness.
Eye Contact	No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation	No known significant effects or critical hazards.
Ingestion	No known significant effects or critical hazards.
Skin Contact	Adverse symptoms may include irritation dryness, cracking and discolouration (staining) of skin.
Eye Contact	No known significant effects or critical hazards.

Delayed and immediate effects and also chronic effects from short and long term exposure

Inhalation	Overexposure to inhalation of airborne droplets may cause irritation of the respiratory tract.
Ingestion	Ingestion of large quantities may cause nausea and diarrhoea.
Skin Contact	Prolonged or repeated contact may lead to irritation and/or dermatitis.
Eye Contact	Potential risk of transient stinging or redness if accidental eye contact occurs.

Potential Chronic Health Effects

General	May cause damage to organs through prolonged or repeated exposure (kidney).
Carcinogenicity	No known significant effects or critical hazards.
Mutagenicity	No known significant effects or critical hazards.
Developmental effects	Birth defects and decreased foetal weight have been observed in laboratory animals fed ethylene glycol in large amounts repeatedly during pregnancy.
Fertility effects	No known significant effects or critical hazards.
Acute Toxicity	No known significant effects or critical hazards.
Skin Corrosion / Irritation	No known significant effects or critical hazards.
Serious Eye-Damage / Irritation	No known significant effects or critical hazards.
Respiratory or skin sensitisation	No known significant effects or critical hazards.
Germ Cell Mutagenicity	No known significant effects or critical hazards.
Carcinogenicity	No known significant effects or critical hazards.
Reproductive Toxicity	No known significant effects or critical hazards.
Target Organ effects (STOT) – Single Exposure	No known significant effects or critical hazards.
Target Organ effects (STOT) – Repeated Exposure	No known significant effects or critical hazards.
Aspiration Hazard	No known significant effects or critical hazards.

Component Information

Acute Toxicity

Ethanediol

Lethal dose in humans is approximately 1.6g/kg (ethanediol)

LD50 Oral Rat 4700mg/kg

LD50 Dermal Rabbit 10626mg/kg

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Acetic Acid

LD50 Oral Rat 3310mg/kg
LD50 Inhalation Mouse –1h– 5620mg/kg
LD50 Inhalation Rat– 4h–11.4mg/L
LD50 Dermal Rabbit 1112 mg/kg

12. Ecological Information

12.1 Toxicity

All components are classified as non hazardous for the environment.

12.2 Persistence and degradability

All components are readily biodegradable.

12.3 Bioaccumulative potential

All components are not considered bioaccumulative.

12.4 Mobility in soil

Soil / Water partition coefficient (Koc) Not Available.

Mobility Not Available.

12.5 Results of PBT and vPvB assessment

All components are not considered to be PBT or vPvB.

12.6 Other adverse effects

No known significant effects or critical hazards.

13. Disposal Considerations

13.1 Waste Treatment methods

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

Waste from Residues / Unused Product

Dispose of through a licensed disposal company in accordance with the European Directives on waste and hazardous waste. Where possible recycling is preferred to disposal or incineration. using a licensed disposal company.

Soiled packaging:

Empty containers completely. Retain label(s) on container. Dispose of through a licensed disposal company in accordance with the European Directives on waste and hazardous waste. Where possible recycling is preferred to disposal or incineration.

EWC Waste Disposal No:

The following waste codes are only suggestions: - 16 10 03 – aqueous concentrates containing dangerous substances.

According to the European Waste Catalogue, Waste Codes are not product specific. Waste codes should be assigned by the user based on the application for which the product was used.

Waste Treatment – relevant information.

Product will discolour water due to intense colour at low contamination levels.

Sewage Treatment – relevant information.

Waste should not be disposed of by release to sewers. Product will discolour water due to intense colour at low contamination levels.

Other waste Disposal recommendations.

None.

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14. Transport Information

14.1 UN Number	Not regulated under ADR/RID, ADN, IMDG or IATA.
14.2 UN Proper Shipping Name	Not regulated under ADR/RID, ADN, IMDG or IATA.
14.3 Transport hazard class(es)	Not regulated under ADR/RID, ADN, IMDG or IATA.
14.4 Packing group	Not regulated under ADR/RID, ADN, IMDG or IATA.
14.5 Environmental hazards	Not hazardous.
14.6 Special Precautions for user	None.
14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code.	Not regulated

15. Regulatory Information

15.1 Safety Health and environmental regulations / legislation specific for the substance / mixture
EU regulation (EC) No. 1907/2006 (REACH).

Annex XIV – List of Substances subject to Authorisation

Substances of very high concern

None of the components are listed.

Annex XVII – Restrictions on the manufacture, placing of the market and use of certain dangerous substances, mixtures and articles

Not applicable.

15.2 Chemical Safety assessment

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier as this product contains substances for which Chemical Safety Assessments are still required.

16. Other Information

Full Text of Classifications [CLP/GHS]

Acute Tox.4, H302	ACUTE TOXICITY: ORAL– Category4
Flam. Liq. 3, H226	FLAMMABLE LIQUID – Category3
Skin Corr. 1A, H314	SKIN CORROSION – Category 1 A
Eye Irrit. 2, H319	SERIOUS EYE DAMAGE / IRRITATION – Category 2
Skin Corr. 2, H315	SKIN CORROSION / IRRITATION – Category 2
STOT RE 2, H373	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (kidneys) (oral) – Category 2

Full Text of abbreviated H statements

H302	Harmful if swallowed
H226	Flammable liquid and vapour
H314	Causes severe burns and eye damage
H314	Causes severe burns and eye damage
H319	Causes serious eye irritation
H315	Causes skin irritation
H373 (kidneys)	May cause damage to organs through prolonged or repeated exposure if swallowed. (kidneys).

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Abbreviations and Acronyms.

ADN	European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway.
ADR	The European Agreement concerning the International Carriage of Dangerous Goods by Road.
AICS	Australian Inventory of Chemical Substances.
ATE	Acute Toxicity Estimate.
BCF	Bioconcentration Factor.
CAS	Chemicals Abstract Service.
CSA	Chemical Safety Assessment.
CSR	Chemical Safety Report.
CLP	Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008].
DMEL	Derived Minimal effect Level
DNEL	Derived No effect Level.
EC	European Commission.
EINECS	European Inventory of Existing Commercial chemical Substances.
ENCS	Existing and New Chemical Substances.
ES	Exposure Scenario.
EU	European Union.
EU H Statement	CLP Specific Hazard Statement.
EWG	European Waste Catalogue.
GHS	Globally Harmonised System of Classification and Labelling of Chemicals.
IATA	International Air Transport Association.
IBC	Intermediate Bulk Container.
IESCS	Inventory of Existing Chemical Substances Produced or Imported in China.
IMDG	International Maritime Dangerous Goods.
KECI	Korea Existing Chemicals Inventory.
Koc	Soil Organic Carbon-Water Partitioning Coefficient.
MARPOL	Marine Pollution.
MARPOL 73/78	International Convention for the Prevention of Pollution From Ships 1973 as modified by the protocol of 1978.
OECD	Organisation for Economic Cooperation and Development.
PBT	Persistent, Bioaccumulative and Toxic.
PICCS	Philippines Inventory of Chemicals and Chemical Substances.
PNEC	Predicted No Effect Concentration.
REACH	Registration, Evaluation, Authorisation and restriction of Chemicals.
RID	The Regulations concerning the International Carriage of Dangerous Goods by Rail.
STOT-RE	Specific Target Organ Toxicity – Repeated Exposure.
STOT-SE	Specific Target Organ Toxicity – Single Exposure.
SVHC	Substance of Very High Concern.
TSCI	Taiwan Chemical Substance Inventory.
TWA	Time Weighted Average.
UN	United Nations.
UVCB	Chemical Substances of Unknown or Variable Composition, Complex Reaction Products and Biological Materials.
VOC	Volatile Organic Compound.
vPvB	Very Persistent and Very Toxic.

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Key Literature and sources for data.

Regulations (EC) No. 1907/2006 (REACH), 1272/28808 (CLP), 453/2010, 2015/830 as amended in each case.

EC Directives 2000/39/EC, 2006/15/EC and 2009 161/EC, 2017/164/EU, 2019/1831/EU.

National Threshold Limit Values of the corresponding countries amended in each case.

Transport regulations according to ADR, RID, IMDG, IATA as amended in each case.

Safety Data Sheets and REACH registration data for individual components.

Internal company information.

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]

Calculation method.

Revision Date 13th January 2021

Author D. Gleeson

Further information

The information supplied in this Safety Data Sheet is designed only as guidance for the safe use, storage and handling of the product. This information is correct to the best of our knowledge and belief at the date of publication however no guarantee is made to its accuracy. This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any other process.

A safety data sheet is not required for this product under Article 31 of REACH

Revision date 28-Nov-2023

Version 1.2

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product Code NDF00127

Product Name CMC LV-S

Pure substance/mixture Substance

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use filtration control agent

Uses advised against No information available

1.3. Details of the supplier of the safety data sheet

Supplier

Newpark Drilling Fluids S.r.l.

Via Salaria 1313/C

00138 ROMA (Italy)

For further information, please contact

Contact Point Telephone: + 39 06 8856111

Fax: +39 06 8889363

Website: www.newpark.com

E-mail address hse-hqit@newpark.com

1.4. Emergency telephone number

Emergency Telephone - §45 - (EC)1272/2008	
Europe	112
Croatia	+385 1 7776 920 ; +385 01 2348 342 (Centar za kontrolu otrovanja, 24 sata)
Cyprus	1401
France	+(33)-975181407
Germany	0800-181-7059; +(49)- 69643508409
Hungary	+(36)-18088425
Italy	800-789-767; +(39)-0245557031 Milano 24/24 Ospedale Niguarda Ca'grande Piazza ospedale maggiore 3 +39 0266101029 Roma 24/24 Policlinico Gemelli Largo Agostino Gemelli 8 +39 063054343
Netherlands	+(31)-858880596

Romania	+40213183606, Institutul Național de Sănătate Publică (L-V între 08.00-15.00)
Spain	900-868538; +(34)-931768545
Switzerland	145, (+41) 435082011
United Kingdom	+(44)-870-8200418

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

This substance is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

2.2. Label elements

This substance is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

Hazard statements

This substance is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

2.3. Other hazards

May be harmful in contact with skin.

SECTION 3: Composition/information on ingredients

3.1 Substances

Full text of H- and EUH-phrases: see section 16

Acute Toxicity Estimate

No information available

This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (Regulation (EC) No. 1907/2006 (REACH), Article 59)

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	Remove to fresh air.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Skin contact	In the case of skin irritation or allergic reactions see a physician. Wash skin with soap and water.
Ingestion	Rinse mouth.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms No information available.

4.3. Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Large Fire CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media Do not scatter spilled material with high pressure water streams.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical No information available.

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation.

For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Take up mechanically, placing in appropriate containers for disposal.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling Ensure adequate ventilation.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed in a dry and well-ventilated place.

7.3. Specific end use(s)

Risk Management Methods (RMM) The information required is contained in this Safety Data Sheet.

SECTION 8: Exposure controls/personal protection**8.1. Control parameters**

Exposure Limits This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Biological occupational exposure limits

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Derived No Effect Level (DNEL) No information available.
Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Engineering controls No information available.

Personal protective equipment

Eye/face protection No special protective equipment required.

Skin and body protection No special protective equipment required.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls No information available.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state	Solid
Appearance	Powder
Color	White to Pale yellow
Odor	Odorless;
Odor threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Melting point / freezing point		No information available
Boiling point / boiling range		No information available
Flammability (solid, gas)	280 - 360	
Flammability Limit in Air		No information available
Upper flammability limit:	60 g/cm ³	
Lower flammability limit:		
Flash point		No information available
Autoignition temperature	170 °C	
Decomposition temperature		No information available
pH	6 - 8.5	

pH (as aqueous solution)		No information available
Kinematic viscosity		No information available
Dynamic viscosity		No information available
Water solubility	Soluble in water	
Solubility(ies)	Soluble in water	
Partition coefficient		No information available
Vapor pressure	<10 E – 06 mm/Hg	
Relative density		No information available
Bulk density	0.5 - 0.8	
Liquid Density		
Vapor density		No information available
Particle characteristics		No information available
Particle Size		
Particle Size Distribution		

9.2. Other information*9.2.1. Information with regard to physical hazard classes*

Not applicable

9.2.2. Other safety characteristics

No information available

SECTION 10: Stability and reactivity**10.1. Reactivity**

Reactivity No information available.

Remarks Not reactive under normal conditions.

10.2. Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

10.4. Conditions to avoid

Conditions to avoid None known based on information supplied.

10.5. Incompatible materials

Incompatible materials None known based on information supplied.

10.6. Hazardous decomposition products

Hazardous Decomposition Products None known based on information supplied.

SECTION 11: Toxicological information**11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008****Information on likely routes of exposure****Product Information**

Inhalation	Specific test data for the substance or mixture is not available.
Eye contact	Specific test data for the substance or mixture is not available.
Skin contact	Specific test data for the substance or mixture is not available.
Ingestion	Specific test data for the substance or mixture is not available.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms No information available.

Numerical measures of toxicity

No information available

Acute toxicity

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (dermal) 2,002.00 mg/kg

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation No information available.

Serious eye damage/eye irritation No information available.

Respiratory or skin sensitization No information available.

Germ cell mutagenicity No information available.

Carcinogenicity No information available.

Reproductive toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Aspiration hazard No information available.

11.2. Information on other hazards**11.2.1. Endocrine disrupting properties**

Endocrine disrupting properties No information available.

11.2.2. Other information

Other adverse effects No information available.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity	The environmental impact of this product has not been fully investigated.
Unknown aquatic toxicity	Contains 100 % of components with unknown hazards to the aquatic environment.

12.2. Persistence and degradability

Persistence and degradability	No information available.
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12.3. Bioaccumulative potential

Bioaccumulation	No information available.
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12.4. Mobility in soil

Mobility in soil	No information available.
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12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment	No information available.
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12.6. Endocrine disrupting properties

Endocrine disrupting properties	No information available.
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12.7. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products	Dispose of waste in accordance with environmental legislation. Dispose of in accordance with local regulations.
Contaminated packaging	Do not reuse empty containers.
Waste codes / waste designations according to EWC / AVV	Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14: Transport information

IATA

14.1 UN number or ID number	Not regulated
14.2 Proper shipping name	Not Regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	None

IMDG

14.1 UN number or ID number	Not regulated
14.2 Proper shipping name	Not Regulated

14.3 Transport hazard class(es)	Not regulated
14.4 Packing Group	Not Regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	None
14.7 Maritime transport in bulk according to IMO instruments	No information available

RID

14.1 UN/ID no	Not Regulated
14.2 Proper shipping name	Not Regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing Group	Not Regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	None

ADR

14.1 UN number or ID number	Not regulated
14.2 Proper shipping name	Not Regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing Group	Not Regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	None

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****France****Germany****Italy**

-D. LGs. 81/2008 (single text on the protection of health and safety in the workplace) and subsequent amendments and Directive 2009/161/EU-assessment of chemical risk under title IX

-Legislative Decree 3 April 2006, no 152 (environmental standards)

-"Seveso III Directive" – Legislative Decree of 26 June 2015, n° 105 (Implementation of the Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances)

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Authorizations and/or restrictions on use:

This product does not contain substances subject to authorization (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Persistent Organic Pollutants

Not applicable

Ozone-depleting substances (ODS) regulation (EC) 1005/2009

Not applicable

International Inventories

TSCA	Complies
DSL/NDL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies
NZIoC	Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

15.2. Chemical safety assessment

Chemical Safety Report No information available

SECTION 16: Other information**Key or legend to abbreviations and acronyms used in the safety data sheet****Legend**

SVHC: Substances of Very High Concern for Authorization:

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
+	Sensitizers		

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
 U.S. Environmental Protection Agency ChemView Database
 European Food Safety Authority (EFSA)
 European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
 European Chemicals Agency (ECHA) (ECHA_API)
 EPA (Environmental Protection Agency)
 Acute Exposure Guideline Level(s) (AEGL(s))
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
 U.S. Environmental Protection Agency High Production Volume Chemicals
 Food Research Journal
 Hazardous Substance Database
 International Uniform Chemical Information Database (IUCLID)
 Japan GHS Classification
 Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
 NIOSH (National Institute for Occupational Safety and Health)
 National Library of Medicine's ChemID Plus (NLM CIP)
 National Library of Medicine's PubMed database (NLM PUBMED)
 National Toxicology Program (NTP)
 New Zealand's Chemical Classification and Information Database (CCID)
 Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
 Organization for Economic Co-operation and Development High Production Volume Chemicals Program

Organization for Economic Co-operation and Development Screening Information Data Set
World Health Organization

Revision date 28-Nov-2023

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

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End of Safety Data Sheet

Productname :	DRY PTFE LUBE FG	Creationdate :	20.02.20 Version : 1.4
Ref.Nr.:	UDS000294_3_20200220 (EN)	Replaces:	UDS000294_20191115

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

DRY PTFE LUBE FG
Aerosol

1.2. Relevant identified uses of the substance or mixture and uses advised against

Lubricants

1.3. Details of the supplier of the safety data sheet

CRC Industries UK Ltd.
Wylds Road
Castlefield Industrial Estate
TA6 4DD Bridgwater Somerset
United Kingdom
Tel.: +44 1278 727200
Fax.: +44 1278 425644
E-mail : hse.uk@crcind.com

1.4. Emergency telephone number

(+44)(0)1278 72 7200 (office hours)

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008**

Physical:	Aerosols, category 1 Extremely flammable aerosol. Pressurised container: May burst if heated.
Classification is based on test data.	
Health:	Skin irritation, category 2 Causes skin irritation. Specific target organ toxicity - single exposure, category 3 May cause drowsiness or dizziness.
Classification based on calculation method.	
Environment:	Hazardous to the aquatic environment, chronic category 2 Toxic to aquatic life with long lasting effects.
Classification based on calculation method.	

Productname : DRY PTFE LUBE FG
Ref.Nr.: UDS000294_3_20200220 (EN)
Creationdate : 20.02.20 Version : 1.4
Replaces: UDS000294_20191115

2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008

Product identifier:	Contains: hydrocarbons
Hazard pictogram(s):	  
Signal word:	Danger
Hazard statement(s):	H222 : Extremely flammable aerosol. H229 : Pressurised container: May burst if heated. H315 : Causes skin irritation. H336 : May cause drowsiness or dizziness. H411 : Toxic to aquatic life with long lasting effects.
Precautionary statement(s):	P102 : Keep out of reach of children. P210 : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P211 : Do not spray on an open flame or other ignition source. P251 : Do not pierce or burn, even after use. P261 : Avoid breathing dust/fume/gas/mist/vapours/spray. P271 : Use only outdoors or in a well-ventilated area. P410/412 : Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F. P501-2 : Dispose of contents/container to an authorised waste collection point.

2.3. Other hazards

No information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable.

3.2. Mixtures

Hazardous ingredient	Registration number	CAS-nr.	EC-nr	w/w %	Hazard Class and Category	Hazard statement	Notes
Hydrocarbons,C3-4-rich, petroleum distillate Petroleumgas (1,3-butadiene < 0.1%)	01-2119485926-20	68512-91-4	270-990-9	60-100	Press. Gas, Flam. Gas 1	H280,H220	K,G
hydrocarbons,C6,isoalkanes,< 5% n-hexane	01-2119484651-34	-	(931-254-9)	10-30	Flam. Liq. 2, Skin Irrit. 2, STOT SE 3, Asp. Tox. 1, Aquatic Chronic 2	H225,H315,H336,H304,H411	Q
Hydrocarbons, C7-C9, isoalkanes	01-2119471305-42	-	(921-728-3)	5-10	Flam. Liq. 2, Skin Irrit. 2, STOT SE 3, Asp. Tox. 1, Aquatic Chronic 2	H225,H315,H336,H304,H411	Q

Productname : DRY PTFE LUBE FG
Ref.Nr.: UDS000294_3_20200220 (EN)

Creationdate : 20.02.20 Version : 1.4
Replaces: UDS000294_20191115

Explanation notes

G : exempted from the obligation to register in accordance with art.2(7) of REACH Regulation No 1907/2006

K : not classified as carcinogen, less than 0.1% w/w 1,3-butadiene (Einecs-nr. 203-450-8)

Q : The CAS-no is only an indicative identifier to be used outside the EU for global inventory entries.

(* Explanation phrases : see chapter 16)

SECTION 4: First aid measures**4.1. Description of first aid measures**

Contact with eyes :	If substance has got into eyes, immediately wash out with plenty of water If eye irritation persists: Get medical advice/attention.
Contact with skin :	Take off contaminated clothing and wash before reuse. IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.
Inhalation :	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
Ingestion :	If swallowed do not induce vomiting because of risk of aspiration into the lungs. If aspiration is suspected obtain immediate medical attention

4.2. Most important symptoms and effects, both acute and delayed

Inhalation :	Excessive inhalation of solvent vapours may give rise to nausea, headaches and dizziness
Ingestion :	After vomiting of swallowed product aspiration into lungs is likely. Solvents may induce chemical pneumonia. Symptoms : sore throat, abdominal pain, nausea, vomiting
Skin contact :	Irritating to skin Symptoms : redness and pain
Eye contact :	May cause irritation. Symptoms : redness and pain

4.3. Indication of any immediate medical attention and special treatment needed

General Advice :	If you feel unwell, seek medical advice (show the label where possible) If symptoms persist always call a doctor
-------------------------	---

SECTION 5: Firefighting measures**5.1. Extinguishing media**

foam, carbon dioxide or dry agent

5.2. Special hazards arising from the substance or mixture

Aerosols may explode if heated above 50°C
Forms hazardous decomposition products
CO, CO₂

Productname : DRY PTFE LUBE FG
Ref.Nr.: UDS000294_3_20200220 (EN)

Creationdate : 20.02.20 Version : 1.4
Replaces: UDS000294_20191115

5.3. Advice for firefighters

Keep container(s) exposed to fire cool, by spraying with water
In case of fire, do not breathe fumes

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Shut off all ignition sources
Ensure adequate ventilation
Wear suitable protective clothing and gloves.

6.2. Environmental precautions

Do not allow to enter public sewers and watercourses

6.3. Methods and material for containment and cleaning up

Absorb spillage in suitable inert material

6.4. Reference to other sections

For further information see section 8

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Keep away from heat and sources of ignition
Take precautionary measures against static discharges
Equipment should be earthed
Use explosion-proof electrical/ventilating/lighting/.../equipment.
Use only non-sparking tools.
Do not breathe aerosols or vapours.
Ensure adequate ventilation
Avoid contact with skin and eyes.
Wash thoroughly after use
Wear protective gloves/protective clothing/eye protection/face protection.

7.2. Conditions for safe storage, including any incompatibilities

Pressurized container : protect from sunlight and do not expose to temperatures exceeding 50°C.
Keep out of reach of children.

7.3. Specific end use(s)

Lubricants

Productname :	DRY PTFE LUBE FG	Creationdate :	20.02.20 Version : 1.4
Ref.Nr.:	UDS000294_3_20200220 (EN)	Replaces:	UDS000294_20191115

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits :

No information available

8.2. Exposure controls

Control procedures :	Ensure adequate ventilation Keep away from heat and sources of ignition Take precautionary measures against static discharges
Personal protection :	Take precautions to avoid contact with skin and eyes when handling the product. In all cases handle and use the product in accordance with good industrial hygiene practices. Ensure adequate ventilation
inhalation :	In case of insufficient ventilation, wear suitable respiratory equipment.
recommended respiratory protection:	Air purifying respirator equipped with organic gas/vapor cartridge (type AX)
hands and skin :	When handling the product wear chemical-resistant gloves (standard EN 374). Use a reusable glove with a minimum breakthrough time of 30 minutes. The breakthrough time of the glove should be longer than the total duration of product use. If work lasts longer than the breakthrough time, gloves should be changed part-way through.
Recommended gloves:	Nitrile
eyes :	Wear safety eyewear according to EN 166.
Environmental protection:	Avoid release to the environment. Collect spillage.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

(for aerosols data for the product without propellant)

Appearance : physical state :	Propane/butane propelled liquid.
colour :	White.
odour :	Characteristic odor.
pH :	Not applicable.
Boiling point/range :	55 °C
Flash point :	- 26 °C
Explosion limits : upper limit :	9.4 %
lower limit :	1.1 %
Relative density :	0.73 g/cm ³ (@ 20°C).
Solubility in water :	Insoluble in water
Auto-ignition :	> 200 °C
Viscosity :	Not available.

Productname : DRY PTFE LUBE FG
Ref.Nr.: UDS000294_3_20200220 (EN)

Creationdate : 20.02.20 Version : 1.4
Replaces: UDS000294_20191115

9.2. Other information

VOC = volatile organic compounds 584 g/l

SECTION 10: Stability and reactivity

10.1. Reactivity

No hazardous reactions known if used for its intended purpose

10.2. Chemical stability

Stable

10.3. Possibility of hazardous reactions

No hazardous reactions known if used for its intended purpose

10.4. Conditions to avoid

Avoid overheating

10.5. Incompatible materials

Strong oxidising agent

10.6. Hazardous decomposition products

CO,CO2

SECTION 11: Toxicological information

11.1. Information on toxicological effects

acute toxicity:	based on available data the classification criteria are not met
skin corrosion/irritation:	Causes skin irritation.
serious eye damage/irritation:	based on available data the classification criteria are not met
respiratory or skin sensitisation:	based on available data the classification criteria are not met
germ cell mutagenicity:	based on available data the classification criteria are not met
carcinogenicity:	based on available data the classification criteria are not met
toxicity for reproduction:	based on available data the classification criteria are not met
STOT-single exposure:	May cause drowsiness or dizziness.
STOT repeated exposure:	based on available data the classification criteria are not met
aspiration hazard:	based on available data the classification criteria are not met

Information on likely routes of exposure:



Productname : DRY PTFE LUBE FG
Ref.Nr.: UDS000294_3_20200220 (EN)

Creationdate : 20.02.20 Version : 1.4
Replaces: UDS000294_20191115

Inhalation : Inhalation of solvent vapours may give rise to nausea, headaches and dizziness
Ingestion : After vomiting of swallowed product aspiration into lungs is likely. Solvents may induce chemical pneumonia.
Skin contact : Irritating to skin
Eye contact : May cause irritation.

Toxicological data :

Hazardous ingredient	CAS-nr.	method	
hydrocarbons,C6,isoalkanes,< 5% n-hexane	-	LD50 oral rat	> 5000 mg/kg
		LC50 inhal.rat	> 20 mg/l
		LD50 derm.rabit	> 3000 mg/kg

SECTION 12: Ecological information**12.1. Toxicity**

Hazardous to the aquatic environment, chronic category 2
Toxic to aquatic life with long lasting effects.

Ecotoxicological data:

Hazardous ingredient	CAS-nr.	method	
hydrocarbons,C6,isoalkanes,< 5% n-hexane	-	IC50 algae	55 mg/l
		LC50 fish	> 1 mg/l
		EC50 daphnia	3.87 mg/l

12.2. Persistence and degradability

No information available

12.3. Bioaccumulative potential

No information available

12.4. Mobility in soil

Insoluble in water

12.5. Results of PBT and vPvB assessment

No information available

12.6. Other adverse effects

Productname : DRY PTFE LUBE FG
Ref.Nr.: UDS000294_3_20200220 (EN)

Creationdate : 20.02.20 Version : 1.4
Replaces: UDS000294_20191115

No information available
GWP (global warming potential): 2

SECTION 13: Disposal considerations

13.1. Waste treatment methods

SECTION 14: Transport information

14.1. UN number

UN-number : 1950

14.2. UN proper shipping name

Proper shipping name: AEROSOLS

14.3. Transport hazard class(es)

Class: 2.1
ADR/RID - Classification code: 5F

14.4. Packing group

Packing group: Not applicable.

14.5. Environmental hazards

ADR/RID - Environmentally
hazardous: No
IMDG - Marine pollutant: No
IATA/ICAO - Environmentally
hazardous: No

14.6. Special precautions for user

ADR/RID - Tunnelcode: (D)
IMDG - Ems: F-D, S-U
IATA/ICAO - PAX: 203
IATA/ICAO - CAO: 203

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Not applicable.

SECTION 15: Regulatory information



Productname : DRY PTFE LUBE FG
Ref.Nr.: UDS000294_3_20200220 (EN)

Creationdate : 20.02.20 Version : 1.4
Replaces: UDS000294_20191115

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

The Safety Data Sheet is compiled according to the current European requirements.
Regulation (EC) No 1907/2006 (REACH)
Regulation (EC) No 1272/2008 (CLP)
Dir. 2013/10/EU, 2008/47/EC amendment of the aerosol dispenser directive 75/324/EEC.

European data	
Wassergefährdungsklasse	class 2 (self classification, Germany)
Wassergefährdungsklasse	class 2 (self classification, Germany)
Wassergefährdungsklasse	class 2 (self classification, Germany)
Wassergefährdungsklasse	class 2 (self classification, Germany)

15.2. Chemical safety assessment

No information available

SECTION 16: Other information

*Explanation hazard statements: H220 : Extremely flammable gas.
H225 : Highly flammable liquid and vapour.
H280 : Contains gas under pressure; may explode if heated.
H304 : May be fatal if swallowed and enters airways.
H315 : Causes skin irritation.
H336 : May cause drowsiness or dizziness.
H411 : Toxic to aquatic life with long lasting effects.

acronyms and synonyms: TWA = time weight average
STEL = short time exposure limit
VOC = volatile organic compounds
PBT = persistant bioaccumulative toxic
vPvB = very persitant very bioaccumulative

This product should be stored, handled and used in accordance with good industrial hygiene practices and in conformity with any legal regulation.

The information contained herewith is based on the present state of our knowledge and is intended to describe our products from the point of view of safety requirements. It does not guarantee any specific properties. Apart from any fair dealing for purposes of study, research and review of health, safety and environmental risks, no part of these documents may be reproduced by any process without written permission from CRC.

HALLIBURTON

SAFETY DATA SHEET ECONOLITE LIQUID

This safety data sheet was created pursuant to the requirements of: UK REACH Regulations (SI 2019/758 as amended)

Revision Date:: 10-Jun-2024
Supersedes Date 03-Nov-2022

Revision Number: 100
Product Code(s) HM000478

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product Name ECONOLITE LIQUID
Product Code(s) HM000478

Other means of identification

Pure substance/mixture Mixture

Contains Sodium silicate

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended use Light Weight Cement Additive
Sector of uses [SU] SU2 - Mining, (including offshore industries)
Uses advised against Consumer use

1.3. Details of the supplier of the safety data sheet

Halliburton Manufacturing and Services Ltd.
C/o Halliburton, Building 4, Chiswick Park,
566 Chiswick High Road,
London, W4 5YE,
United Kingdom
+44 1224 776888

www.halliburton.com

For further information, please contact

E-mail address fdunexchem@halliburton.com

1.4. Emergency telephone number

Emergency Telephone +44 8 08 189 0979 / 1-760-476-3961
Global Incident Response Access Code: 334305
Contract Number: 14012

United Kingdom	NHS Direct (UK): +44 0845 46 47
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Europe	112
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SAFETY DATA SHEET

ECONOLITE LIQUID

This safety data sheet was created pursuant to the requirements of: UK REACH Regulations (SI 2019/758 as amended)

Revision Date:: 10-Jun-2024
Supersedes Date 03-Nov-2022

Revision Number: 100
Product Code(s) HM000478

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GB CLP (SI 2020/1567 as amended)

Skin corrosion/irritation	Category 2 - (H315)
Serious eye damage/eye irritation	Category 1 - (H318)

2.2. Label elements

Contains Sodium silicate



Signal word

Danger

Hazard statements

H315 - Causes skin irritation.
H318 - Causes serious eye damage.

Precautionary statements

P264 - Wash face, hands and any exposed skin thoroughly after handling.
P280 - Wear protective gloves and eye/face protection.
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 - Immediately call a POISON CENTER or doctor.
P362 + P364 - Take off contaminated clothing and wash it before reuse.

Unknown aquatic toxicity

Contains 0 % of components with unknown hazards to the aquatic environment

Additional information

No information available.

2.3. Other hazards

No information available.

This mixture contains no substance considered to be persistent, bioaccumulating or toxic (PBT)
This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB)

SAFETY DATA SHEET

ECONOLITE LIQUID

This safety data sheet was created pursuant to the requirements of: UK REACH Regulations (SI 2019/758 as amended)

Revision Date:: 10-Jun-2024
Supersedes Date 03-Nov-2022

Revision Number: 100
Product Code(s) HM000478

This product does not contain any known or suspected endocrine disruptors.

SECTION 3: Composition/information on ingredients

3.1 Substances

Not applicable

3.2 Mixtures

Chemical name	Weight-%	UK REACH registration number	EC No (EU Index No)	Classification according to GB CLP (SI 2020/1567 as amended)	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
Sodium silicate 1344-09-8	30 - 60%	-	215-687-4	Skin Irrit. 2 (H315) Eye Dam. 1 (H318)	-	-	-

Classification according to GB CLP (SI 2020/1567 as amended)

Full text of H- and EUH-phrases: see section 16

This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (UK REACH Article 59)

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice	Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.
Inhalation	Remove to fresh air. Get medical attention immediately if symptoms occur.
Eye contact	Get immediate medical attention. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area.
Skin contact	Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a doctor.
Self-protection of the first aider	Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

4.2. Most important symptoms and effects, both acute and delayed

Symptoms	Burning sensation.
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Effects of Exposure No information available.

4.3. Indication of any immediate medical attention and special treatment needed

Note to doctors Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media Water fog, carbon dioxide, foam, dry chemical.

Large Fire CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media Do not scatter spilled material with high pressure water streams.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical No information available.

Hazardous combustion products Hydrogen

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Ensure adequate ventilation.

Other information Refer to protective measures listed in Sections 7 and 8.

For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so.

6.3. Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Take up mechanically, placing in appropriate containers for disposal.

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Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash it before reuse.

General hygiene considerations Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Store away from acids. Store in a cool well ventilated area. Keep container closed when not in use. Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children.

7.3. Specific end use(s)

Specific use(s) See section 1 for more information.

Exposure scenario No information available.

Risk Management Methods (RMM) The information required is contained in this Safety Data Sheet.

Other information No information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Biological occupational exposure limits This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Derived No Effect Level (DNEL) - Workers

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Chemical name	Oral	Dermal	Inhalation
Sodium silicate 1344-09-8	-	1.59 mg/kg bw/day [4] [6]	5.61 mg/m ³ [4] [6]

Notes

[4] Systemic health effects.
[6] Long term.

Derived No Effect Level (DNEL) - General Public

Chemical name	Oral	Dermal	Inhalation
Sodium silicate 1344-09-8	0.8 mg/kg bw/day [4] [6]	-	1.38 mg/m ³ [4] [6]

Notes

[4] Systemic health effects.
[6] Long term.

Predicted No Effect Concentration (PNEC)

Chemical name	Freshwater	Freshwater (intermittent release)	Marine water	Marine water (intermittent release)	Air
Sodium silicate 1344-09-8	7.5 mg/L	7.5 mg/L	1 mg/L	-	-

Chemical name	Freshwater sediment	Marine sediment	Sewage treatment	Soil	Food chain
Sodium silicate 1344-09-8	-	-	348 mg/L	-	-

8.2. Exposure controls

Engineering controls

Use in a well ventilated area. Local exhaust ventilation should be used in areas without good cross ventilation.

Personal protective equipment

Use engineering controls to keep exposures below the OEL or DNEL

Eye/face protection

Chemical goggles; also wear a face shield if splashing hazard exists. (EN-166). (EN-166).

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Tight sealing safety goggles.

Hand protection

Chemical-resistant protective gloves (EN 374). Nitrile gloves. Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374):. (>= 8 mm thickness)
This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced. Manufacturer's directions for use should be observed because of great diversity of types. Wear suitable gloves. Impervious gloves.

Gloves			
Duration of contact	PPE - Glove material	Glove thickness	Break through time
>8 hours	If repeated and/or prolonged skin exposure to the substance is likely, then wear suitable gloves tested to EN 374 and provide employee skin care programs	>0.1 mm	>8 hours

Skin and body protection

Wear protective clothing impervious to the chemical substance, including boots, gloves, lab coat, apron, rain jacket, pants or coverall, as appropriate, to prevent skin contact. Full protective chemical resistant clothing. Wear suitable protective clothing. Long sleeved clothing.

Respiratory protection

If engineering controls and work practices cannot keep exposure below occupational exposure limits or if exposure is unknown, wear a NIOSH certified, European Standard EN 149, AS/NZS 1715:2009, or equivalent respirator when using this product. Selection of and instruction on using all personal protective equipment, including respirators, should be performed by an Industrial Hygienist or other qualified professional. Dust/mist respirator. (N95, P2/P3).

Other protective equipment

Eyewash fountains and safety showers must be easily accessible.

General hygiene considerations

Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product.

Environmental exposure controls

No information available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state Liquid
Colour Clear to hazy
Odour Slightly soapy.

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<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Melting point / freezing point	-1 °C	
Initial boiling point and boiling range	101 °C	
Flammability	No data available	
Flammability Limit in Air		
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Flash point	No data available	-
Autoignition temperature	No data available	
Decomposition temperature		
pH	11.2	-
pH (as aqueous solution)	No data available	
Kinematic viscosity	No data available	
Dynamic viscosity	No data available	
Water solubility	Soluble in water	
Solubility(ies)	No data available	
Partition coefficient	No data available	
Vapour pressure	No data available	
Relative density	1.4	
Bulk density	No data available	-
Liquid Density	No data available	-
Relative vapour density	No data available	-
Coefficient Water/Oil Distribution	No data available	-

Particle characteristics

Form	Not applicable
Particle Size	Not applicable
Particle Size Distribution	Not applicable

Explosive properties No information available

Oxidising properties No information available

9.2. Other information

Pour Point No data available

Softening point Not applicable

Molecular weight Not applicable

VOC content No data available

9.2.1. Information with regards to physical hazard classes Not applicable

9.2.2. Other safety characteristics No information available

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SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

None under normal processing.

10.4. Conditions to avoid

None known based on information supplied.

10.5. Incompatible materials

Strong acids. Amphoteric metals such as aluminum, magnesium, lead, tin, or zinc. Strong acids. Strong bases. Strong oxidising agents.

10.6. Hazardous decomposition products

Hydrogen.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Information on likely routes of exposure

Principle Routes of Exposure Ingestion, Skin contact, Eye contact, Inhalation

Product Information

Inhalation	Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract.
Eye contact	Specific test data for the substance or mixture is not available. Causes serious eye damage. May cause irreversible damage to eyes.
Skin contact	Specific test data for the substance or mixture is not available. Causes skin irritation. (based on components).
Ingestion	Specific test data for the substance or mixture is not available. Ingestion may cause

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gastrointestinal irritation, nausea, vomiting and diarrhoea.

Symptoms related to the physical, chemical and toxicological characteristics

Redness. Burning. May cause blindness. May cause redness and tearing of the eyes.

Acute toxicity

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	99,999.00	mg/kg
ATEmix (dermal)	99,999.00	mg/kg
ATEmix (inhalation-gas)	99,999.00	ppm
ATEmix (inhalation-vapour)	99,999.00	mg/l
ATEmix (inhalation-dust/mist)	99,999.00	mg/l

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Sodium silicate 1344-09-8	3400 mg/kg (Rat)	> 5000 mg/kg (Rat) (similar substance)	> 2.06 mg/L (Rat) 4h (similar substance)

Rat = Rat
Rabbit = Rabbit
Dust = Dusts
Vapor = Vapour
Aerosol = Aerosol
Human = Human
Mouse = Mouse
Guinea pig = Guinea pig

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation May cause skin irritation. Classification based on data available for ingredients. Causes skin irritation.

Chemical name	Skin corrosion/irritation
Sodium silicate 1344-09-8	May cause moderate skin irritation. (Rabbit)

Serious eye damage/eye irritation Classification based on data available for ingredients. Causes burns. Causes serious eye damage.

Chemical name	Serious eye damage/eye irritation
Sodium silicate 1344-09-8	Causes severe eye irritation which may damage tissue. (Rabbit)

Respiratory or skin sensitisation

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Chemical name	Respiratory sensitisation
Sodium silicate 1344-09-8	Based on available data, the classification criteria are not met

Chemical name	Skin sensitisation
Sodium silicate 1344-09-8	Did not cause sensitisation on laboratory animals (mouse) (similar substances)

Germ cell mutagenicity

Chemical name	Germ cell mutagenicity
Sodium silicate 1344-09-8	In vitro tests did not show mutagenic effects. In vivo tests did not show mutagenic effects.

Carcinogenicity

Chemical name	Carcinogenicity
Sodium silicate 1344-09-8	Based on available data, the classification criteria are not met

Reproductive toxicity

Chemical name	Reproductive toxicity
Sodium silicate 1344-09-8	Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments. (similar substances)

STOT - single exposure

Chemical name	STOT - single exposure
Sodium silicate 1344-09-8	Based on available data, the classification criteria are not met

STOT - repeated exposure

Chemical name	STOT - repeated exposure
Sodium silicate 1344-09-8	No significant toxicity observed in animal studies at concentration requiring classification.

Aspiration hazard

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Chemical name	Aspiration hazard
Sodium silicate 1344-09-8	Not applicable

Endocrine disrupting properties This product does not contain any known or suspected endocrine disruptors.

Other adverse effects No information available.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity

Unknown aquatic toxicity Contains 0 % of components with unknown hazards to the aquatic environment.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Sodium silicate 1344-09-8	EC50 (72h) > 345 mg/L (growth rate) (Scenedesmus subspicatus) EC0 (72h) 35 mg/L (growth rate) (Scenedesmus subspicatus)	LC50 (96h) 1108 mg/L (Danio rerio) LC50 (96h) 260 – 310 mg/L (Oncorhynchus mykiss)	EC0 (0.5h) 3454 mg/L (Pseudomonas putida)	EC50 (48h) 1700 mg/L (Daphnia magna)

12.2. Persistence and degradability

Persistence and degradability

Chemical name	Persistence and degradability
Sodium silicate 1344-09-8	The methods for determining biodegradability are not applicable to inorganic substances.

12.3. Bioaccumulative potential

Bioaccumulation

12.4. Mobility in soil

Chemical name	Mobility
Sodium silicate 1344-09-8	No information available

12.5. Results of PBT and vPvB assessment

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The product does not contain any substance(s) classified as PBT or vPvB above the threshold of declaration.

Chemical name	PBT and vPvB assessment
Sodium silicate 1344-09-8	The substance is not PBT / vPvB PBT assessment does not apply

12.6. Other adverse effects

Endocrine disrupting properties This product does not contain any known or suspected endocrine disruptors.

Other adverse effects No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

SECTION 14: Transport information

Regulatory information	14.1. UN number	14.2. UN proper shipping name	14.3. Transport hazard class(es)	14.4. Packing group	14.5. Environmental hazards	Notes
ADR	Not regulated	-	-	-	Not applicable	-
RID	Not regulated	-	-	-	Not applicable	-
IATA	Not regulated	-	-	-	Not applicable	-
IMDG	Not regulated	-	-	-	Not applicable	-
ADN	Not regulated	-	-	-	Not applicable	-

Regulatory information	14.6. Special precautions for user					
	Special Provisions	Classification code	Tunnel restriction code	EmS-No.	ERG Code	Note:
ADR	None	None	None	-	-	-

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RID	None	None	-	-	-	-
IATA	None	-	-	-	None	-
IMDG	None	-	-	None	-	-
ADN	None	None	-	-	-	-

14.7 Maritime transport in bulk according to IMO instruments No information available

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

.

Take note of Directive 94/33/EC on the protection of young people at work

.

Take note of Directive 92/85/EC on the protection of pregnant and breastfeeding women at work

Authorisations and/or restrictions on use:

This product does not contain substances subject to authorisation (UK REACH - Annex XIV). This product does not contain substances subject to restriction (UK REACH - Annex XVII).

Export Notification requirements Not applicable

Named dangerous substances per COMAH Regulations 2015 (as amended) Not applicable

The Biocidal Products Regulations 2001 (as amended) Not applicable

The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 (as amended) Not applicable

Poisons Act 1972 (Explosive Precursors) Regulations (as Amended) Not applicable

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International Inventories

EINECS/ELINCS All components listed on inventory or are exempt

Legend:

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

15.2. Chemical safety assessment

Chemical Safety Report Yes

SECTION 16: Other information

Key or legend to abbreviations and acronyms used in the safety data sheet

ADR - The European Agreement concerning the International Carriage of Dangerous Goods by Road

bw – body weight

CAS – Chemical Abstracts Service

CLP – REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on Classification, Labelling and Packaging of substances and mixtures

Derived No Effect Level (DNEL)

EC – European Commission

EC10 – Effective Concentration 10%

EC50 – Effective Concentration 50%

EEC – European Economic Community

EN 149 - European standard on filtering halfmasks to protect against particles

EN 374 - European standard on Protective gloves against chemicals and micro-organisms

ErC50 – Effective Concentration growth rate 50%

IATA/ICAO - International Air Transport Association / International Civil Aviation Organization

IBC Code – International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk

LC50 – Lethal Concentration 50%

LD50 – Lethal Dose 50%

LL0 – Lethal Loading 0%

LL50 – Lethal Loading 50%

MARPOL – International Convention for the Prevention of Pollution from Ships

PBT – Persistent Bioaccumulative and Toxic

PEL – Permissible Exposure Limit

Predicted No Effect Concentration (PNEC)

PROC – Process category

REACH – REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals

STEL – Short Term Exposure Limit

SU – Sector of Use category

SVHC: Substances of Very High Concern for Authorisation:

Legend Section 8: Exposure controls/personal protection

TWA TWA (time-weighted average)
Ceiling Maximum limit value

STEL
Sk*

STEL (Short Term Exposure Limit)
Skin designation

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+ Sensitisers

Classification procedure	
Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - vapour	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	Calculation method
Respiratory sensitisation	Calculation method
Skin sensitisation	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	Calculation method
Reproductive toxicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration hazard	Calculation method
Ozone	Calculation method

Key literature references and sources for data used to compile the SDS

Acute Exposure Guideline Level(s) (AEGL(s))
European Chemicals Agency (ECHA) (ECHA_API)
European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
NIOSH (National Institute for Occupational Safety and Health)

Supersedes Date 03-Nov-2022
Revision Date: 10-Jun-2024
Reason for revision Update to Format

This material safety data sheet complies with the requirements of UK REACH Regulations (SI 2019/758 as amended)

Disclaimer

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

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End of Safety Data Sheet

SAFETY DATA SHEET

GASSTOP ADDITIVE

This is a translation of the country-specific safety data sheet into a language other than that required by law. This document does not replace the safety data sheet provided according to Regulation (EC) No 1907/2006.

Revision Date: 28-Dec-2022
Preparation Date 28-Dec-2022

Revision Number: 40
Internal ID Code HM000755

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product Identifier

Product Name GASSTOP ADDITIVE
Internal ID Code HM000755

Other means of identification

Pure substance/mixture Substance

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Cement Additive

Sector of uses SU2 - Mining, (including offshore industries)
Product category(ies) PC32 - Polymer Mixtures and Compounds
Process categories PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Uses advised against Consumer use

1.3. Details of the supplier of the safety data sheet

Halliburton BV
Columbusstraat 19
7825VP
Emmen
Netherlands
www.halliburton.com

For further information, please contact:

E-mail Address: fdunexchem@halliburton.com

1.4. Emergency telephone number

+44 8 08 189 0979 / 1-760-476-3961

Global Incident Response Access Code: 334305

Contract Number: 14012

Emergency telephone - Article 45 - (EC)1272/2008	
Austria	Poison Information Centre (AT): +43-(0)1-406 43 43
Belgium	Poison center (BE): +32 70 245 245
Bulgaria	Bulgarian poison centre: +359 2 915-44-09 or +359 2 915-43-46
Croatia	Centar za kontrolu otrovanja (CKO): (+385 1) 23-48-342 (Poison Control Center (PCC) - Institute for Medical Research and Occupational Health)
Cyprus	1401
Czech Republic	+420 224 919 293; +420 224 915 402
Denmark	Poison Control Hotline (DK): +45 82 12 12 12
Estonia	16662 (Local Poison Information Centre); (+372) 626 93 90 (International Poison Information Centre)
Europe	112
Finland	Poison Information Centre (FI): +358 9 471 977
France	ORFILA (FR): + 01 45 42 59 59
Germany	Poison Center Berlin (DE): +49 030 30686 790

SAFETY DATA SHEET GASSTOP ADDITIVE

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Internal ID Code HM000755

Greece	+30 210 779 3777
Hungary	+36 (06) 80 201-199
Iceland	543 2222 / 543 1000
Ireland	National Poisons Information Centre (IE): +353 1 8379964
Italy	Poison Center, Milan (IT): +39 02 6610 1029
Latvia	(+371) 67042473 (International number for the National Toxicology Centre)
Lithuania	+370 (85) 2362052
Luxembourg	(+352) 8002 5500
Malta	2122 4071
Netherlands	National Poisons Information Center (NL): +31 30 274 88 88 (NB: this service is only available to health professionals)
Norway	Poisons Information (NO): + 47 22 591300
Poland	Poison Control and Information Centre, Warsaw (PL): +48 22 619 66 54; +48 22 619 08 97
Portugal	CIAP - Centro de Informação Antivenenos (Portuguese Poison Centre): + 351 213 303 271
Romania	+40 21 318 36 06
Slovakia	+421 2 4854 4511
Slovenia	112
Spain	Poison Information Service (ES): +34 91 562 04 20
Sweden	Poisons Information Center (SV): +46 8 33 12 31
Switzerland	Poison Center: Tel 145; +41 44 251 51 51
Turkey	Ulusal Zehir Danisma Merkezi (UZEM) :114 Acil Saglik Hizmetleri : 112
United Kingdom	NHS Direct (UK): +44 0845 46 47

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Not classified

Additional information: No information available

For full text of Hazard- and EU Hazard-statements: see SECTION 16.

2.2. Label Elements

Not classified

Hazard Pictograms

Signal Word: None

Hazard Statements:

Not Classified

Precautionary Statements:

None

Contains
Substances

Contains no hazardous substances in concentrations above cut-off values according to the competent authority

CAS Number

NA

Additional information: No information available

2.3. Other Hazards

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Revision Date: 28-Dec-2022
Preparation Date 28-Dec-2022

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This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).
This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors

Substances	CAS Number	EU - REACH (1907/2006) - Article 59(1) - Candidate List of Substances of Very High Concern (SVHC) for Authorisation	EU - REACH (1907/2006) - Endocrine Disruptor Assessment List of Substances	Endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100(3) or Commission Regulation (EU) 2018/605(4)
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	-	-	-

SECTION 3: Composition/information on ingredients

3.1. Substances Substance

Substances	EINECS	CAS Number	REACH Reg. No	PERCENT (w/w)	EU - CLP Substance Classification
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	NA	-	60 - 100%	

Substances	EINECS	PERCENT (w/w)	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	60 - 100%	-	-	-

Classification according to Regulation (EC) No. 1272/2008 [CLP]

For the full text of the H-phrases mentioned in this Section, see Section 16

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No data available	No data available	No data available

Rat = Rat, Rabbit = Rabbit, dust = dust

This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (Regulation (EC) No. 1907/2006 (REACH), Article 59)

Additional information: No information available

SECTION 4: First aid measures

4.1. Description of first aid measures

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Inhalation	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
Eyes	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.
Skin	Wash with soap and water. Get medical attention if irritation persists.
Ingestion	Rinse mouth with water many times. Get medical attention, if symptoms occur
Protection of First-aiders	No information available.

4.2. Most important symptoms and effects, both acute and delayed

No significant hazards expected.

4.3. Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media

All standard fire fighting media

Extinguishing media which must not be used for safety reasons

None known.

5.2. Special hazards arising from the substance or mixture

Special exposure hazards in a fire

Decomposition in fire may produce harmful gases. Organic dust in the presence of an ignition source can be explosive in high concentrations. Good housekeeping practices are required to minimize this potential.

5.3. Advice for firefighters

Special protective equipment for firefighters

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use appropriate protective equipment. Avoid creating and breathing dust. Avoid contact with skin, eyes and clothing. Ensure adequate ventilation.

See Section 8 for additional information.

6.2. Environmental precautions

Prevent from entering sewers, waterways, or low areas.

6.3. Methods and material for containment and cleaning up

Scoop up and remove.

6.4. Reference to other sections

See Section 8 and 13 for additional information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid creating or inhaling dust. Avoid contact with eyes, skin, or clothing. Ensure adequate ventilation. Wash hands after use. Launder contaminated clothing before reuse. Use appropriate protective equipment.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

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7.2. Conditions for safe storage, including any incompatibilities

Store in a cool, dry location. Use good housekeeping in storage and work areas to prevent accumulation of dust. Close container when not in use.

7.3. Specific end use(s)

Exposure scenario No information available
Other Guidelines No information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits

Substances	CAS Number	EU	UK	Netherlands	France
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Germany	Spain	Portugal	Finland
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Austria	Ireland	Switzerland	Norway
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Italy	Poland	Hungary	Czech Republic
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Denmark	Romania	Croatia	Cyprus
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable	Not applicable	Not applicable

Derived No Effect Level (DNEL)
Worker

No information available

General Population

Predicted No Effect Concentration (PNEC)

No information available.

8.2. Exposure controls

Engineering Controls

Use in a well ventilated area.

Personal protective equipment

If engineering controls and work practices cannot prevent excessive exposures, the

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selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

Respiratory Protection

Not normally needed. But if significant exposures are possible then the following respirator is recommended:
Dust/mist respirator. (N95, P2/P3)

Hand Protection

Use gloves which are suitable for the chemicals present in this product as well as other environmental factors in the workplace.

Skin Protection

Wear protective clothing appropriate for the work environment.

Eye Protection

Wear safety glasses or goggles to protect against exposure.

Other Precautions

None known.

Environmental Exposure Controls Do not allow material to contaminate ground water system.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical State: Solid

Color

White to off white

Odor: Odorless

Odor

No information available

Threshold:

Property

Values

Remarks/ - Method

pH:

7-8

Freezing Point / Range

-8 °C

Melting Point / Range

No data available

Boiling Point / Range

No data available

Flash Point

>93.3°C / >200°F

Flammability (solid, gas)

No data available

Upper flammability limit

No data available

Lower flammability limit

No data available

Evaporation rate

No data available

Vapor Pressure

No data available

Relative Vapor Density

No data available

Relative Density

1.37

Water Solubility

Soluble in water

Solubility in other solvents

No data available

Partition coefficient: n-octanol/water

No data available

Autoignition Temperature

No data available

Decomposition Temperature

No data available

Viscosity

No data available

Explosive Properties

No information available

Oxidizing Properties

No information available

9.2. Other information

Pour Point / Range

No data available

Molecular Weight

> 600

VOC Content (%)

< 5%

9.2.1 Information with regard to physical hazard classes No information available

9.2.2. Other safety characteristics No information available

SECTION 10: Stability and reactivity

10.1. Reactivity

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Not expected to be reactive.

10.2. Chemical stability

Stable

10.3. Possibility of hazardous reactions

Will Not Occur

10.4. Conditions to avoid

None anticipated

10.5. Incompatible materials

Strong oxidizers.

10.6. Hazardous decomposition products

Oxides of nitrogen. Oxides of sulfur. Carbon monoxide and carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute Toxicity

Inhalation

May cause mild respiratory irritation.

Eye Contact

May cause mechanical irritation to eye.

Skin Contact

Not irritating to skin in rabbits.

Ingestion

May cause abdominal pain, vomiting, nausea, and diarrhea.

Chronic Effects/Carcinogenicity

No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No data available	No data available	No data available

Rat = Rat, Rabbit = Rabbit, dust = dust

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors

11.2.2 Other Information

Other Adverse Effects No information available

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SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity effects

Product is not classified as hazardous to the environment.

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available	No information available	No information available	No information available

growth rate = growth rate, similar substance = similar substance, activated sludge = activated sludge, reproduction = reproduction

12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

12.3. Bioaccumulative potential

Bioaccumulative Potential

Substances	CAS Number	Bioaccumulation
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

12.4. Mobility in soil

Substances	CAS Number	Mobility
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

12.5. Results of PBT and vPvB assessment

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT). This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

Substances	PBT and vPvB assessment
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	Not applicable

12.6 Endocrine disrupting properties

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors

12.7 Other adverse effects

No information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal methods

Follow all applicable community, national or regional regulations regarding waste management methods.

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Contaminated Packaging Follow all applicable national or local regulations.

SECTION 14: Transport information

IMDG/IMO

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

ADN

UN Number	Not restricted
UN proper shipping name:	Not restricted
Packing Group	Not applicable
Environmental Hazards:	Not applicable

ADR/RID

UN Number	Not restricted
UN proper shipping name:	Not restricted
Packing Group	Not applicable
Environmental Hazards:	Not applicable

IATA/ICAO

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

14.1. UN Number Not restricted

14.2. UN proper shipping name: Not restricted

14.3.

14.4. Packing Group Not applicable

14.5. Environmental Hazards: Not applicable

14.6. Special Precautions for User None

14.7. Maritime transport in bulk according to IMO instruments No information available

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

International Inventories

US TSCA Inventory	All components listed on inventory or are exempt.
Canadian Domestic Substances List (DSL)	All components listed on inventory or are exempt.

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Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

Germany, Water Endangering WGK 0: Generally not water endangering.
Classes (WGK)

Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.
Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

Substances	CAS Number	Seveso III	TA LUFT
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable

Substances	CAS Number	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable

15.2. Chemical safety assessment

No information available

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3

None

Key or legend to abbreviations and acronyms used in the safety data sheet

bw – body weight
CAS – Chemical Abstracts Service
CLP – REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on Classification, Labelling and Packaging of substances and mixtures
EC – European Commission
EC10 – Effective Concentration 10%
EC50 – Effective Concentration 50%
EEC – European Economic Community
ErC50 – Effective Concentration growth rate 50%
IBC Code – International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
LC50 – Lethal Concentration 50%
LD50 – Lethal Dose 50%
LL0 – Lethal Loading 0%
LL50 – Lethal Loading 50%
MARPOL – International Convention for the Prevention of Pollution from Ships
mg/kg – milligram/kilogram
mg/L – milligram/liter
NIOSH – National Institute for Occupational Safety and Health
NOEC – No Observed Effect Concentration
NTP – National Toxicology Program
OEL – Occupational Exposure Limit

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PBT – Persistent Bioaccumulative and Toxic

PC – Chemical Product category

PEL – Permissible Exposure Limit

ppm – parts per million

PROC – Process category

REACH – REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals

STEL – Short Term Exposure Limit

SU – Sector of Use category

Key literature references and sources for data

www.ChemADVISOR.com/

Revision Date: 28-Dec-2022
Reason for Revision Update to Format

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Disclaimer Statement

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

End of Safety Data Sheet



SAFETY DATA SHEET

GB Unigrease LEP2

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name GB Unigrease LEP2
Product number 7942-083
Internal identification GHS22833

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses Lubricating grease.

1.3. Details of the supplier of the safety data sheet

Supplier GB Lubricants
Albany Road
Gateshead
Tyne & Wear
NE8 3BP
0191 490 4312
0191 477 9544
gblsales@gblubricants.co.uk

1.4. Emergency telephone number

Emergency telephone 0191 490 4312 (GB Office 0900-1700)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC/1272/2008)

Physical hazards Not Classified
Health hazards Not Classified
Environmental hazards Not Classified

Classification (67/548/EEC or 1999/45/EC) -

2.2. Label elements

Hazard statements NC Not Classified

2.3. Other hazards

SECTION 3: Composition/information on ingredients

3.2. Mixtures

GB Unigrease LEP2

Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Pr)esters, Zinc salts			1-5%
CAS number: —	EC number: 272-723-1	REACH registration number: 01-2119493633-31	
Classification Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 Aquatic Chronic 2 - H411		Classification (67/548/EEC or 1999/45/EC) Xi;R36/38. N;R51/53.	

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

Composition comments The data shown are in accordance with the latest EC Directives.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information	Get medical attention if any discomfort continues.
Ingestion	Do not induce vomiting. Get medical attention if any discomfort continues.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water.
Eye contact	Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention promptly if symptoms occur after washing.

4.2. Most important symptoms and effects, both acute and delayed

4.3. Indication of any immediate medical attention and special treatment needed

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Extinguish with foam, carbon dioxide, dry powder or water fog.

5.2. Special hazards arising from the substance or mixture

Specific hazards Toxic gases or vapours. Heat from fire could result in drums bursting

5.3. Advice for firefighters

Protective actions during firefighting Control run-off water by containing and keeping it out of sewers and watercourses.

Special protective equipment for firefighters Wear self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions For personal protection, see Section 8. In case of spills, beware of slippery floors and surfaces.

6.2. Environmental precautions

Environmental precautions Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Collect spillage for reclamation or disposal in sealed containers via a licensed waste contractor. Avoid water contacting spilled material or leaking containers.

GB Unigrease LEP2

6.4. Reference to other sections

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Avoid spilling. Avoid contact with skin and eyes. Always remove oil with soap and water or skin cleaning agent, never use organic solvents. Do not use oil-contaminated clothing or shoes, and do not put rags moistened with oil into pockets.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store in tightly-closed, original container in a dry, cool and well-ventilated place.

Storage class Miscellaneous hazardous material storage.

7.3. Specific end use(s)

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

8.2. Exposure controls

Protective equipment



Eye/face protection

Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. The following protection should be worn: Chemical splash goggles or face shield.

Hand protection

It is recommended that gloves are made of the following material: Polyvinyl chloride (PVC).

Other skin and body protection

Use barrier creams to prevent skin contact.

Hygiene measures

Wash promptly with soap and water if skin becomes contaminated.

Respiratory protection

No specific recommendations. Respiratory protection must be used if the airborne contamination exceeds the recommended occupational exposure limit.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Grease.
Colour	Amber. to Brown.
Odour	Odourless.
Melting point	200°C
Flash point	>200°C PMCC (Pensky-Martens closed cup).
Relative density	0.88 @ 15°C
Solubility(ies)	Insoluble in water.
Auto-ignition temperature	>200°C

9.2. Other information

SECTION 10: Stability and reactivity

10.1. Reactivity

GB Unigrease LEP2

10.2. Chemical stability

Stability Stable at normal ambient temperatures and when used as recommended.

10.3. Possibility of hazardous reactions

10.4. Conditions to avoid

Conditions to avoid Avoid heat, flames and other sources of ignition.

10.5. Incompatible materials

Materials to avoid Strong oxidising agents.

10.6. Hazardous decomposition products

Hazardous decomposition products Oxides of carbon.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

General information This product has low toxicity. Only large quantities are likely to have adverse effects on human health.

Inhalation Unlikely to be hazardous by inhalation because of the low vapour pressure of the product at ambient temperature.

Ingestion No harmful effects expected from quantities likely to be ingested by accident.

Skin contact Skin irritation should not occur when used as recommended. Repeated exposure may cause skin dryness or cracking.

Eye contact May cause temporary eye irritation.

SECTION 12: Ecological Information

12.1. Toxicity

12.2. Persistence and degradability

Persistence and degradability The product is not readily biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential Bioaccumulation is unlikely to be significant because of the low water-solubility of this product.

12.4. Mobility in soil

Mobility The product is non-volatile. The product contains substances which are insoluble in water and which sediment in water systems.

12.5. Results of PBT and vPvB assessment

12.6. Other adverse effects

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information Waste should be treated as controlled waste. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

Disposal methods Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

Waste class European Waste Catalogue (EWC) Code: 20 01 26* (greases)

GB Unigrease LEP2

SECTION 14: Transport information

General The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).

14.1. UN number

14.2. UN proper shipping name

14.3. Transport hazard class(es)

14.4. Packing group

14.5. Environmental hazards

14.6. Special precautions for user

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations Health and Safety at Work etc. Act 1974 (as amended).
The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (SI 2009 No. 716).

EU legislation Dangerous Preparations Directive 1999/45/EC.
Dangerous Substances Directive 67/548/EEC.

Guidance Workplace Exposure Limits EH40.
Safety Data Sheets for Substances and Preparations.

15.2. Chemical safety assessment

SECTION 16: Other information

Revision comments NOTE: Lines within the margin indicate significant changes from the previous revision.

Revision date 07/06/2016

Revision 1

SDS number 22833

Hazard statements in full H315 Causes skin irritation.
H319 Causes serious eye irritation.
H411 Toxic to aquatic life with long lasting effects.

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.

SAFETY DATA SHEET

HALAD® 300L NS

This safety data sheet was created pursuant to the requirements of: This safety data sheet was created pursuant to the requirements of: US OSHA Hazard Communication Standard (29 CFR 1910.1200)

Revision Date: 30-May-2024

Revision Number 1

1. Identification

Product identifier

Product Name HALAD® 300L NS
Product Code(s) HM006014
Synonyms None

Recommended use of the chemical and restrictions on use

Recommended use Fluid Loss Additive
Not for use in the US. For Export Only
Restrictions on use No information available

Details of the supplier of the safety data sheet

Manufacturer/Supplier
Halliburton Energy Services, Inc.
P.O. Box 1431
Duncan, Oklahoma 73536-0431
Telephone: 1-281-871-6107

Prepared By Chemical Stewardship
e-mail: fdunexchem@halliburton.com

Emergency telephone number

Emergency Telephone Number 1-866-519-4752 or 1-760-476-3962 (accessible 24 hours a day / 7 days a week)
Global Incident Response Access Code: 334305
Contract Number: 14012

2. Hazard(s) identification

Classification

Skin sensitization	Category 1
--------------------	------------

Hazards not otherwise classified (HNOC)
Not applicable

Label elements

**Warning****Hazard statements**

May cause an allergic skin reaction

Hazard statements

May cause an allergic skin reaction.

Precautionary Statements - Prevention

Avoid breathing dust/fume/gas/mist/vapors/spray.

Contaminated work clothing must not be allowed out of the workplace.

Wear protective gloves.

Skin

IF ON SKIN: Wash with plenty of water and soap.

If skin irritation or rash occurs: Get medical advice/attention.

Wash contaminated clothing before reuse.

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant.

Other information

Causes mild skin irritation.

3. Composition/information on ingredients**Substance**

Not applicable.

Mixture**Chemical Family** Blend.

Chemical name	CAS No.	Weight-%
reaction products of paraformaldehyde and 2-hydroxypropylamine (ratio 3:2)	-	0.1 - 1%

If CAS number is "proprietary", the specific chemical identity and percentage of composition has been withheld as a trade secret.

4. First-aid measures**Description of first aid measures****General advice**

Show this safety data sheet to the doctor in attendance.

Inhalation

Remove to fresh air.

Eye contact

Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin contact Wash with soap and water. May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a physician.

Ingestion Rinse mouth.

Most important symptoms and effects, both acute and delayed

Symptoms Itching. Rashes. Hives. Prolonged contact may cause redness and irritation.

Indication of any immediate medical attention and special treatment needed

Note to physicians May cause sensitization in susceptible persons. Treat symptomatically.

5. Fire-fighting measures

Suitable Extinguishing Media Water fog, carbon dioxide, foam, dry chemical.
Large Fire CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media Do not scatter spilled material with high pressure water streams.

Specific hazards arising from the chemical Product is or contains a sensitizer. May cause sensitization by skin contact.
Oxides of nitrogen. Oxides of sulfur. Carbon monoxide and carbon dioxide.

Explosion data
Sensitivity to static discharge None.

Special protective equipment and precautions for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labeled containers.

7. Handling and storage

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse.

Conditions for safe storage, including any incompatibilities

Storage Conditions Store away from oxidizers. Store in a cool, dry location. Keep containers tightly closed in a dry, cool and well-ventilated place.

SECTION 8. Exposure controls/personal protection

Control parameters

Exposure Limits This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Appropriate engineering controls

Engineering controls Use in a well ventilated area. Personal protective equipment must be CE marked and should be selected in collaboration with the supplier of such equipment. The recommended protective equipment and the specified standards are indicative. Standards should be of the latest version. Risk assessment of the actual workplace / operation (actual risk) may result in other protective measures. The suitability and durability of the protective equipment will depend on the application.

Individual protection measures, such as personal protective equipment

Eye/face protection Safety glasses with side-shields. If splashes are likely to occur, wear: Goggles, Face-shield. (EN-166). Wear safety glasses with side shields (or goggles).

Hand protection Impervious gloves. Manufacturer's directions for use should be observed because of great diversity of types. Wear suitable gloves.

Gloves			
Duration of contact	PPE - Glove material	Glove thickness	Break through time
>8 hours	If repeated and/or prolonged skin exposure to the substance is likely, then wear suitable gloves tested to EN 374 and provide employee skin care programs	>0.1 mm	>8 hours

Skin and body protection Wear protective clothing impervious to the chemical substance, including boots, gloves, lab coat, apron, rain jacket, pants or coverall, as appropriate, to prevent skin contact. Normal work coveralls. Wear suitable protective clothing.

Respiratory protection If engineering controls and work practices cannot keep exposure below occupational exposure limits or if exposure is unknown, wear a NIOSH certified, European Standard EN 149, AS/NZS 1715:2009, or equivalent respirator when using this product. Selection of and instruction on using all personal protective equipment, including respirators, should be performed by an Industrial Hygienist or other qualified professional. Dust/mist respirator. (N95, P2/P3).

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

Other protective equipment Eyewash fountains and safety showers must be easily accessible.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state	Liquid
Appearance	No information available
Color	Hazy light tan
Odor	Mild
Odor threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	5.5 - 6.5	(0.5 % solution)
Melting point / freezing point	No data available	
Initial boiling point and boiling range	No data available	
Flash point	> 93.11 °C / 199.6 °F	None known
Evaporation rate	No data available	
Flammability	No data available	
Flammability Limit in Air		
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapor pressure	No data available	
Relative vapor density	No data available	
Relative density	1	
Water solubility	Soluble in water	
Solubility(ies)	No data available	
Partition coefficient	No data available	
Autoignition temperature	No data available	
Decomposition temperature	No data available	
Kinematic viscosity	No data available	
Dynamic viscosity	No data available	

Other information

Pour Point	No data available
Explosive properties	No information available
Oxidizing properties	No information available
Softening point	No information available
Molecular weight	No information available
VOC content	No information available
Liquid Density	No information available
Bulk density	No information available

10. Stability and reactivity

Reactivity	Stable under normal conditions.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	None under normal processing.
Conditions to avoid	None known based on information supplied.
Incompatible materials	Strong oxidizers. Strong acids.
Hazardous decomposition products	Oxides of nitrogen. Oxides of sulfur. Carbon monoxide and carbon dioxide.

11. Toxicological information**Information on likely routes of exposure**

Principle Routes of Exposure	Ingestion, Skin contact, Eye contact, Inhalation
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Product Information

Inhalation	May cause mild respiratory irritation.
Eye contact	May cause mild eye irritation.
Skin contact	May cause sensitization by skin contact. Specific test data for the substance or mixture is not available. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. (based on components). Causes mild skin irritation.
Ingestion	May cause abdominal pain, vomiting, nausea, and diarrhea.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Itching. Rashes. Hives. Prolonged contact may cause redness and irritation.

Acute toxicity

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	99,999.00 mg/kg
ATEmix (dermal)	99,999.00 mg/kg
ATEmix (inhalation-gas)	99,999.00 ppm
ATEmix (inhalation-vapor)	99,999.00 mg/l
ATEmix (inhalation-dust/mist)	99,999.00 mg/l

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
reaction products of paraformaldehyde and 2-hydroxypropylamine (ratio 3:2) -	630 mg/kg (Rat)	760 mg/kg (Rat)	2 mg/L (Rat, 4 hr, aerosol)

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation No information available. Classification based on data available for ingredients. Causes mild skin irritation.

Chemical name	Skin corrosion/irritation
reaction products of paraformaldehyde and 2-hydroxypropylamine (ratio 3:2) -	Causes severe irritation and or burns (Rabbit)

Serious eye damage/eye irritation No information available.

Chemical name	Serious eye damage/eye irritation
reaction products of paraformaldehyde and 2-hydroxypropylamine (ratio 3:2) -	Causes severe irritation and or burns (Rabbit)

Respiratory or skin sensitization No information available. May cause an allergic skin reaction.

Chemical name	Respiratory sensitization
reaction products of paraformaldehyde and 2-hydroxypropylamine (ratio 3:2) -	No information available
Chemical name	Skin sensitization
reaction products of paraformaldehyde and 2-hydroxypropylamine (ratio 3:2) -	May cause sensitization by skin contact (guinea pig)

Germ cell mutagenicity No information available.

Chemical name	Germ cell mutagenicity
reaction products of paraformaldehyde	In vivo tests did not show mutagenic effects. In vitro tests did not show mutagenic effects.

and 2-hydroxypropylamine (ratio 3:2)	
-	

Carcinogenicity No information available.

Chemical name	Carcinogenicity
reaction products of paraformaldehyde and 2-hydroxypropylamine (ratio 3:2)	Did not show carcinogenic effects in animal experiments
-	

Reproductive toxicity No information available.

Chemical name	Reproductive toxicity
reaction products of paraformaldehyde and 2-hydroxypropylamine (ratio 3:2)	Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments.
-	

STOT - single exposure No information available.

Chemical name	STOT - single exposure
reaction products of paraformaldehyde and 2-hydroxypropylamine (ratio 3:2)	No significant toxicity observed in animal studies at concentration requiring classification.
-	

STOT - repeated exposure No information available.

Chemical name	STOT - repeated exposure
reaction products of paraformaldehyde and 2-hydroxypropylamine (ratio 3:2)	Causes damage to organs through prolonged or repeated exposure: Gastrointestinal tract (GI) Respiratory system
-	

Aspiration hazard No information available.

Chemical name	Aspiration hazard
reaction products of paraformaldehyde and 2-hydroxypropylamine (ratio 3:2)	Not applicable
-	

Other adverse effects No information available.**Interactive effects** No information available.**12. Ecological information****Ecotoxicity**

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
reaction products of paraformaldehyde and 2-hydroxypropylamine (ratio 3:2)	EC50(72 h)=5.7 mg/L (Desmodesmus subspicatus) EC50()=3.35 mg/L (Skeletonema costatum)	LC50(96 h)=135.21 mg/L (Scophthalmus maximus)	EC50: 44 mg/L (activated sludge)	EC50(48 h)=37.9 mg/L (Daphnia magna) EC50(48 h)=4.1 mg/L (Acartia tonsa) NOEC(21 d)=1.3 mg/L (Daphnia magna)
-				

Persistence and degradability No information available

Chemical name	Persistence and degradability
reaction products of paraformaldehyde and 2-hydroxypropylamine (ratio 3:2)	Readily biodegradable (69.4% @ 28d)
-	

Bioaccumulation No information available.

Mobility No information available

Chemical name	Mobility
reaction products of paraformaldehyde and 2-hydroxypropylamine (ratio 3:2) -	No information available

Other adverse effects No information available.

13. Disposal considerations

Disposal methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

14. Transport information

DOT Not regulated

IATA Not regulated

IMDG Not regulated

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable

15. Regulatory information

US Federal Regulations

TSCA All components listed on inventory or are exempt
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

TSCA Section 5(a) Does not contain any substances listed in this regulation

TSCA Section 5(e) Consent Orders Does not contain any substances listed in this regulation

EPA SARA Title III Extremely Hazardous Substances Complies

TSCA Section 12(b) Export Regulations Does not contain any substances listed in this regulation.

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

None.

EPA RCRA Hazardous Waste Classification

If product becomes a waste, it does NOT meet the criteria of a hazardous waste as defined by the US EPA.

Chemical Facility Anti-Terrorism Standards (CFATS)

This product does not contain any Chemicals of Interest regulated by the Department of Homeland Security under the Chemical Facility Anti-Terrorism Standards. See 6 CFR Part 27, including Appendix A.

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

US State Regulations

California Proposition 65 This product does not contain any Proposition 65 chemicals

International Inventories

DSL All components listed on inventory or are exempt

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

16. Other information

NFPA Ratings: Health 1, Flammability 1, Reactivity 0

Key or legend to abbreviations and acronyms used in the safety data sheet

ADR - The European Agreement concerning the International Carriage of Dangerous Goods by Road

bw – body weight

CAS – Chemical Abstracts Service

CLP – REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on Classification, Labelling and Packaging of substances and mixtures

EN 149 - European standard on filtering halfmasks to protect against particles

FFP - Filtering Facepieces

h - hour

IBC Code – International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk

LL50 – Lethal Loading 50%

d - day

Derived No Effect Level (DNEL)

EC – European Commission

EC10 – Effective Concentration 10%

EC50 – Effective Concentration 50%

EEC – European Economic Community

IATA/ICAO - International Air Transport Association / International Civil Aviation Organization

IMDG/IMO - International Maritime Dangerous Goods / International Maritime Organization

LC50 – Lethal Concentration 50%

LD50 – Lethal Dose 50%

NTP – National Toxicology Program

OEL – Occupational Exposure Limit

PEL – Permissible Exposure Limit

ppm – parts per million

REACH – REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals

VOC – Volatile Organic Carbon

UN – United Nations

VLA-EC - short-time excursion limits [Spain valores límite ambientales para la exposición de corta duración]

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	Sk*	Skin designation

Key literature references and sources for data used to compile the SDS

Acute Exposure Guideline Level(s) (AEGl(s))
European Chemicals Agency (ECHA) (ECHA_API)
European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
NIOSH (National Institute for Occupational Safety and Health)

Revision Date:	30-May-2024
Revision Note	Update to Format Initial Release

Disclaimer

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

End of Safety Data Sheet

HALLIBURTON

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Revision date: 11-Dec-2023
Supersedes Date: 08-Dec-2023

Revision Number 71
Product Code(s) HM000126

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product Name	BENTONITE
Product Code(s)	HM000126
Denmark PR No.	2313175
Form	Contains Nanoforms
Bulk cargo shipping name:	Clay

Other means of identification

Pure substance/mixture	Substance
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Contains Crystalline silica, quartz

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended use	Weight Additive
Sector of uses [SU]	SU2 - Mining, (including offshore industries)
Uses advised against	Consumer use

1.3. Details of the supplier of the safety data sheet

Halliburton BV
Columbusstraat 19
7825VP
Emmen
Netherlands
Tel: +31 591 636 111

www.halliburton.com

For further information, please contact

E-mail address	fdunexchem@halliburton.com
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1.4. Emergency telephone number

Emergency Telephone	+44 8 08 189 0979 / 1-760-476-3961 Global Incident Response Access Code: 334305 Contract Number: 14012
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Emergency Telephone - §45 - (EC)1272/2008

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Supersedes Date: 11-Dec-2023

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Austria	+43 (0)1 406 43 43
Belgium	+32 70 245 245
Bulgaria	+359 2 915 44 09 / +359 2 915 43 46
Croatia	(+385 1) 23 48 342
Cyprus	1401
Czech Republic	+420 224 919 293 / +420 224 915 402
Denmark	+45 82 12 12 12
Estonia	16662 / (+372) 626 93 90
Europe	112
Finland	+358 9 471 977
France	+01 45 42 59 59
Germany	+49 030 30686 790
Greece	+30 210 779 3777
Hungary	+36 (06) 80 201 199
Iceland	543 2222 / 543 1000
Ireland	+353 1 8379964
Italy	+39 02 6610 1029
Latvia	(+371) 67042473
Lithuania	+370 (85) 2362052
Luxembourg	(+352) 8002 5500
Malta	2122 4071
Netherlands	National Poisons Information Center (NL): +31 30 274 88 88 (NB: this service is only available to health professionals)
Norway	+ 47 22 591300
Poland	+48 22 619 66 54 / +48 22 619 08 97
Portugal	+351 213 303 271
Romania	+40 21 318 36 06
Slovakia	+421 2 4854 4511
Slovenia	112
Spain	+34 91 562 04 20
Sweden	+46 8 33 12 31
Switzerland	114 / 112

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Carcinogenicity	Category 2 - (H351)
Specific target organ toxicity (repeated exposure)	Category 2 - (H373)

2.2. Label elements

Contains Crystalline silica, quartz

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Signal word

Warning

Hazard statements

H351 - Suspected of causing cancer.
H373 - May cause damage to organs through prolonged or repeated exposure.

Precautionary Statements - EU (§28, 1272/2008)

P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P260 - Do not breathe dust/fume/gas/mist/vapors/spray.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P308 + P313 - IF exposed or concerned: Get medical advice/attention.
P501 - Dispose of contents/ container to an approved waste disposal plant.

Chemical name	CAS No.	EC No (EU Index No)
Crystalline silica, quartz	14808-60-7	238-878-4

Additional information

No information available

2.3. Other hazards

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT)
This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB)

This product does not contain any known or suspected endocrine disruptors.

SECTION 3: Composition/information on ingredients

3.1 Substances

Chemical name	Weight-%	REACH	EC No (EU	Classification according	EU CLP Specific	M-Factor	M-Factor
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		registration number	Index No)	to Regulation (EC) No. 1272/2008 [CLP]	Concentration Limits		(long-term)
Crystalline silica, quartz 14808-60-7	1 - 5%	-	238-878-4	Carc. 2 (H351) STOT RE 1 (H372)	-	-	-

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Full text of H- and EUH-phrases: see section 16

Acute Toxicity Estimate

No information available.

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Crystalline silica, quartz 14808-60-7	> 15000 mg/kg (human)	-	-

Rat = Rat
Rabbit = Rabbit
Dust = Dusts
Vapor = Vapor
Aerosol = Aerosol
Human = Human
Mouse = Mouse
Guinea pig = Guinea pig

This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (Regulation (EC) No. 1907/2006 (REACH), Article 59)

Additional information No information available

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice	IF exposed or concerned: Get medical advice/attention. Show this safety data sheet to the doctor in attendance.
Inhalation	Remove to fresh air.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Skin contact	Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.
Ingestion	Rinse mouth.

4.2. Most important symptoms and effects, both acute and delayed

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Symptoms No information available.

Effects of Exposure No information available.

4.3. Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media All standard fire fighting media. Water fog, carbon dioxide, foam, dry chemical.

Large Fire CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media Do not scatter spilled material with high pressure water streams.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical No information available.

Hazardous combustion products Amorphous silica may transform at elevated temperatures to tridymite (870 C) or cristobalite (1470 C).

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas.

Other information Refer to protective measures listed in Sections 7 and 8.

For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

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Methods for cleaning up Take up mechanically, placing in appropriate containers for disposal.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation.

General hygiene considerations If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product. Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Use good housekeeping in storage and work areas to prevent accumulation of dust. Close container when not in use. Do not reuse empty container.

7.3. Specific end use(s)

Specific use(s) See section 1 for more information.

Exposure scenario No information available.

Risk Management Methods (RMM) The information required is contained in this Safety Data Sheet.

Other information No information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits

Chemical name	European Union	Austria	Belgium	Bulgaria
Crystalline silica,	TWA: 0.1 mg/m ³	TWA: 0.05 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³

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quartz 14808-60-7				
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Chemical name	Croatia	Cyprus	Czech Republic	Denmark	Estonia	Finland
Crystalline silica, quartz 14808-60-7	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.3 mg/m ³ TWA: 0.1 mg/m ³ STEL: 0.6 mg/m ³ STEL: 0.2 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.05 mg/m ³

Chemical name	France	Germany TRGS	Germany DFG	Greece	Hungary
Crystalline silica, quartz 14808-60-7	TWA: 0.1 mg/m ³	-	-	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³

Chemical name	Ireland	Italy MDLPS	Italy AIDII	Latvia	Lithuania
Crystalline silica, quartz 14808-60-7	TWA: 0.1 mg/m ³ STEL: 0.3 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.025 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.1 ppm

Chemical name	Luxembourg	Malta	Netherlands	Norway	Poland
Crystalline silica, quartz 14808-60-7	-	-	TWA: 0.075 mg/m ³	TWA: 0.05 mg/m ³ TWA: 0.1 mg/m ³ TWA: 0.3 mg/m ³ STEL: 0.9 mg/m ³ STEL: 0.15 mg/m ³ STEL: 0.3 mg/m ³	TWA: 0.1 mg/m ³

Chemical name	Portugal	Romania	Slovakia	Slovenia	Spain
Crystalline silica, quartz 14808-60-7	TWA: 0.025 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³ STEL: 0.5 mg/m ³	TWA: 0.05 mg/m ³	TWA: 0.05 mg/m ³

Chemical name	Sweden	Switzerland	United Kingdom
Crystalline silica, quartz 14808-60-7	NGV: 0.1 mg/m ³	TWA: 0.15 mg/m ³	TWA: 0.1 mg/m ³ STEL: 0.3 mg/m ³

Biological occupational exposure limits

Chemical name	European Union	Austria	Bulgaria	Croatia	Czech Republic
Crystalline silica, quartz 14808-60-7	-	(-)	-	-	-

Derived No Effect Level (DNEL) - Workers No information available

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Derived No Effect Level (DNEL) - General Public No information available.

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Engineering controls	Use approved industrial ventilation and local exhaust as required to maintain exposures below applicable exposure limits.
Personal protective equipment	Use engineering controls to keep exposures below the OEL or DNEL
Eye/face protection	Wear safety glasses or goggles to protect against exposure. (EN-166).
Hand protection	Use gloves which are suitable for the chemicals present in this product as well as other environmental factors in the workplace. Wear suitable gloves.
Skin and body protection	Wear clothing appropriate for the work environment. Dusty clothing should be laundered before reuse. Use precautionary measures to avoid creating dust when removing or laundering clothing. Wear suitable protective clothing.
Respiratory protection	If engineering controls and work practices cannot keep exposure below occupational exposure limits or if exposure is unknown, wear a NIOSH certified, European Standard EN 149, AS/NZS 1715:2009, or equivalent respirator when using this product. Selection of and instruction on using all personal protective equipment, including respirators, should be performed by an Industrial Hygienist or other qualified professional. Dust/mist respirator. (N95, P2/P3).
Other protective equipment	Eyewash fountains and safety showers must be easily accessible.
General hygiene considerations	If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product. Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product.
Environmental exposure controls	No information available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

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Physical state	Solid
Color	Various
Odor	Odorless

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Melting point / freezing point	Not applicable	Solid
Initial boiling point and boiling range	Not applicable	Solid
Flammability	Not flammable	Solid
Flammability Limit in Air	Not flammable	Solid
Upper flammability or explosive limits	No data available	-
Lower flammability or explosive limits	No data available	-
Flash point	Not flammable	Solid
Autoignition temperature	Not flammable	Solid
Decomposition temperature	No data available	
pH		
pH (as aqueous solution)	No data available	
Kinematic viscosity	Not applicable	Solid
Dynamic viscosity	Not applicable	Solid
Water solubility	Insoluble in water	
Solubility(ies)	Insoluble in water	
Partition coefficient	Not applicable	
Vapor pressure	No data available	Solid
Relative density	2.65 (g/cm ³)	
Bulk density	< 1300 (kg/m ³)	-
Liquid Density	No data available	Solid
Relative vapor density	No data available	Solid
Coefficient Water/Oil Distribution	No data available	Solid

Particle characteristics

Form	Contains Nanoforms
Particle Size	>= 95% < 125 µm
Particle Size Distribution	>= 95% < 125 µm

Explosive properties No information available

Oxidizing properties No information available

9.2. Other information

Pour Point No data available

Softening point Not applicable

Molecular weight Not applicable

VOC content No data available

Moisture. < 12%

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9.2.1. Information with regard to physical hazard classes Not applicable

9.2.2. Other safety characteristics No information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

None under normal processing.

10.4. Conditions to avoid

None known based on information supplied.

10.5. Incompatible materials

Hydrofluoric acid.

10.6. Hazardous decomposition products

Amorphous silica may transform at elevated temperatures to tridymite (870 C) or cristobalite (1470 C).

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Information on likely routes of exposure

Principle Route of Exposure Eye or skin contact, inhalation, Ingestion, Skin contact, Eye contact, Inhalation

Product Information

Inhalation Specific test data for the substance or mixture is not available.

Eye contact Specific test data for the substance or mixture is not available.

Skin contact Specific test data for the substance or mixture is not available.

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Ingestion Specific test data for the substance or mixture is not available.

Symptoms related to the physical, chemical and toxicological characteristics

No information available.

Acute toxicity

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	99,999.00	mg/kg
ATEmix (dermal)	99,999.00	mg/kg
ATEmix (inhalation-gas)	99,999.00	ppm
ATEmix (inhalation-vapor)	99,999.00	mg/l
ATEmix (inhalation-dust/mist)	99,999.00	mg/l

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Crystalline silica, quartz	> 15000 mg/kg (human)	-	-

Rat = Rat
Rabbit = Rabbit
Dust = Dusts
Vapor = Vapor
Aerosol = Aerosol
Human = Human
Mouse = Mouse
Guinea pig = Guinea pig

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation No information available.

Chemical name	Skin corrosion/irritation
Crystalline silica, quartz 14808-60-7	Non-irritating to the skin

Serious eye damage/eye irritation .

Chemical name	Serious eye damage/eye irritation
Crystalline silica, quartz 14808-60-7	Non-irritating to the eye No information available

Respiratory or skin sensitization .

Chemical name	Respiratory sensitization
Crystalline silica, quartz	No information available

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14808-60-7	
Chemical name	Skin sensitization
Crystalline silica, quartz 14808-60-7	No information available

Germ cell mutagenicity

Chemical name	Germ cell mutagenicity
Crystalline silica, quartz 14808-60-7	Not regarded as mutagenic.

Carcinogenicity

Contains a known or suspected carcinogen. Classification based on data available for ingredients. Suspected of causing cancer.

Chemical name	Carcinogenicity
Crystalline silica, quartz 14808-60-7	Contains crystalline silica which may cause silicosis, a delayed and progressive lung disease. The IARC and NTP have determined there is sufficient evidence in humans of the carcinogenicity of crystalline silica with repeated respiratory exposure.

Reproductive toxicity

Chemical name	Reproductive toxicity
Crystalline silica, quartz 14808-60-7	No information available

STOT - single exposure

Chemical name	STOT - single exposure
Crystalline silica, quartz 14808-60-7	No significant toxicity observed in animal studies at concentration requiring classification.

STOT - repeated exposure

May cause damage to organs through prolonged or repeated exposure.

Chemical name	STOT - repeated exposure
Crystalline silica, quartz 14808-60-7	Causes damage to organs through prolonged or repeated exposure if inhaled: (Lungs)

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Aspiration hazard

Chemical name	Aspiration hazard
Crystalline silica, quartz 14808-60-7	No information available

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

This product does not contain any known or suspected endocrine disruptors.

11.2.2. Other information

Other adverse effects No information available.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity

Unknown aquatic toxicity Contains 0 % of components with unknown hazards to the aquatic environment.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Crystalline silica, quartz	EC50(72 h)=440 mg/L (Pseudokirchneriella subcapitata)	LL0(96 h)=10000 mg/L (Danio rerio)	-	LL50(24 h)>10000 mg/L (Daphnia magna)

12.2. Persistence and degradability

Persistence and degradability

Chemical name	Persistence and degradability
Crystalline silica, quartz 14808-60-7	The methods for determining biodegradability are not applicable to inorganic substances.

12.3. Bioaccumulative potential

Bioaccumulation

12.4. Mobility in soil

Mobility in soil

Chemical name	Mobility
Crystalline silica, quartz	No information available

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14808-60-7	
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12.5. Results of PBT and vPvB assessment

The product does not contain any substance(s) classified as PBT or vPvB above the threshold of declaration.

Chemical name	PBT and vPvB assessment
Crystalline silica, quartz	The substance is not PBT / vPvB

12.6. Endocrine disrupting properties

This product does not contain any known or suspected endocrine disruptors.

12.7. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products

Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging

Do not reuse empty containers.

SECTION 14: Transport information

Regulatory information	14.1. UN number	14.2. UN proper shipping name	14.3. Transport hazard class(es)	14.4. Packing group	14.5. Environmental hazards	Notes
ADR	Not regulated	-	-	-	Not applicable	-
RID	Not regulated	-	-	-	Not applicable	-
IATA	Not regulated	-	-	-	Not applicable	-
IMDG	Not regulated	-	-	-	Not applicable	-
ADN	Not regulated	-	-	-	Not applicable	-

Regulatory information	14.6. Special precautions for user					
	Special	Classification	Tunnel restriction	EmS-No.	ERG Code	Note:

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	Provisions	code	code			
ADR	None	None	None	-	-	-
RID	None	None	-	-	-	-
IATA	None	-	-	-	None	-
IMDG	None	-	-	None	-	-
ADN	None	None	-	-	-	-

14.7 Maritime transport in bulk according to IMO instruments

Bulk cargo shipping name: Clay
HME according to Annex V of MARPOL: Not applicable
MHB according to IMSBC Code: Not applicable
Cargo group according to IMSBCC Code:

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

International Inventories

EINECS/ELINCS All components listed on inventory or are exempt

Legend:

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Take note of Directive 94/33/EC on the protection of young people at work

Take note of Directive 92/85/EC on the protection of pregnant and breastfeeding women at work

Biodical Products Regulation (BPR) Not applicable
528/2012

Denmark PR No. 2313175

Germany
Water hazard class (WGK) non-hazardous to water (nwg)

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Chemical name	Seveso III	TA LUFT
Crystalline silica, quartz 14808-60-7		5.2.7.1.1

France

Occupational Illnesses (R-463-3, France)

Chemical name	French RG number
Crystalline silica, quartz 14808-60-7	RG 25

Netherlands

Water contaminating class (Netherlands)

Chemical name	Netherlands - List of Carcinogens	Netherlands - List of Mutagens	Netherlands - List of Reproductive Toxins
Crystalline silica, quartz	Present	-	-

Authorizations and/or restrictions on use:

This product does not contain substances subject to authorization (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Dangerous substance category per Seveso Directive (2012/18/EU)

Non-controlled

EU - Plant Protection Products (1107/2009/EC)

Chemical name	EU - Plant Protection Products (1107/2009/EC)
Crystalline silica, quartz - 14808-60-7	Plant protection agent

15.2. Chemical safety assessment

Chemical Safety Report No information available

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SECTION 16: Other information

Full text of H-Statements referred to under section 3

H351 - Suspected of causing cancer
H372 - Causes damage to organs through prolonged or repeated exposure

Key or legend to abbreviations and acronyms used in the safety data sheet

ADR - The European Agreement concerning the International Carriage of Dangerous Goods by Road
bw – body weight
CAS – Chemical Abstracts Service
CLP – REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on Classification, Labelling and Packaging of substances and mixtures
Derived No Effect Level (DNEL)
EC – European Commission
EC10 – Effective Concentration 10%
EC50 – Effective Concentration 50%
EEC – European Economic Community
EN 149 - European standard on filtering halfmasks to protect against particles
EN 374 - European standard on Protective gloves against chemicals and micro-organisms
ErC50 – Effective Concentration growth rate 50%
IATA/ICAO - International Air Transport Association / International Civil Aviation Organization
IBC Code – International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
LC50 – Lethal Concentration 50%
LD50 – Lethal Dose 50%
LL0 – Lethal Loading 0%
LL50 – Lethal Loading 50%
MARPOL – International Convention for the Prevention of Pollution from Ships
PBT – Persistent Bioaccumulative and Toxic
PEL – Permissible Exposure Limit
Predicted No Effect Concentration (PNEC)
PROC – Process category
REACH – REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals
STEL – Short Term Exposure Limit
SU – Sector of Use category
SVHC: Substances of Very High Concern for Authorization:

Legend Section 8: Exposure controls/personal protection

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	Sk*	Skin designation
+	Sensitizers		

Classification procedure	
Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method

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Acute inhalation toxicity - vapor	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	Calculation method
Respiratory sensitization	Calculation method
Skin sensitization	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	Calculation method
Reproductive toxicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration hazard	Calculation method
Ozone	Calculation method

Key literature references and sources for data used to compile the SDS

Acute Exposure Guideline Level(s) (AEGL(s))
European Chemicals Agency (ECHA) (ECHA_API)
European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
NIOSH (National Institute for Occupational Safety and Health)

Supersedes Date 08-Dec-2023
Revision date 11-Dec-2023
Reason for revision SDS sections updated:
9

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End of Safety Data Sheet

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Preparation Date 24-Jan-2023

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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product Identifier

Product Name CFR-3
Internal ID Code HM000209

Other means of identification

Pure substance/mixture Substance

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Cement Friction Reducer

Sector of uses SU2 - Mining, (including offshore industries)
Uses advised against Consumer use

1.3. Details of the supplier of the safety data sheet

Halliburton BV
Columbusstraat 19
7825VP
Emmen
Netherlands
www.halliburton.com

For further information, please contact:

E-mail Address: fdunexchem@halliburton.com

1.4. Emergency telephone number

+44 8 08 189 0979 / 1-760-476-3961
Global Incident Response Access Code: 334305
Contract Number: 14012

Emergency telephone - Article 45 - (EC)1272/2008	
Austria	Poison Information Centre (AT): +43-(0)1-406 43 43
Belgium	Poison center (BE): +32 70 245 245
Bulgaria	Bulgarian poison centre: +359 2 915-44-09 or +359 2 915-43-46
Croatia	Centar za kontrolu otrovanja (CKO): (+385 1) 23-48-342 (Poison Control Center (PCC) - Institute for Medical Research and Occupational Health)
Cyprus	1401
Czech Republic	+420 224 919 293; +420 224 915 402
Denmark	Poison Control Hotline (DK): +45 82 12 12 12
Estonia	16662 (Local Poison Information Centre); (+372) 626 93 90 (International Poison Information Centre)
Europe	112
Finland	Poison Information Centre (FI):+358 9 471 977
France	ORFILA (FR): + 01 45 42 59 59
Germany	Poison Center Berlin (DE): +49 030 30686 790
Greece	+30 210 779 3777
Hungary	+36 (06) 80 201-199
Iceland	543 2222 / 543 1000

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Ireland	National Poisons Information Centre (IE): +353 1 8379964
Italy	Poison Center, Milan (IT): +39 02 6610 1029
Latvia	(+371) 67042473 (International number for the National Toxicology Centre)
Lithuania	+370 (85) 2362052
Luxembourg	(+352) 8002 5500
Malta	2122 4071
Netherlands	National Poisons Information Center (NL): +31 30 274 88 88 (NB: this service is only available to health professionals)
Norway	Poisons Information (NO):+ 47 22 591300
Poland	Poison Control and Information Centre, Warsaw (PL): +48 22 619 66 54; +48 22 619 08 97
Portugal	CIAV - Centro de Informação Antivenenos (Portuguese Poison Centre): + 351 213 303 271
Romania	+40 21 318 36 06
Slovakia	+421 2 4854 4511
Slovenia	112
Spain	Poison Information Service (ES): +34 91 562 04 20
Sweden	Poisons Information Center (SV):+46 8 33 12 31
Switzerland	Poison Center: Tel 145; +41 44 251 51 51
Turkey	Ulusal Zehir Danisma Merkezi (UZEM) :114 Acil Saglik Hizmetleri : 112
United Kingdom	NHS Direct (UK): +44 0845 46 47

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Not classified

Additional information: No information available

For full text of Hazard- and EU Hazard-statements: see SECTION 16.

2.2. Label Elements

Not classified

Hazard Pictograms

Signal Word: None

Hazard Statements:

Not Classified

Precautionary Statements:

None

Contains
Substances

Contains no hazardous substances in concentrations above cut-off values according to the competent authority

CAS Number

NA

Additional information: No information available

2.3. Other Hazards

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).

This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

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Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors

Substances	CAS Number	EU - REACH (1907/2006) - Article 59(1) - Candidate List of Substances of Very High Concern (SVHC) for Authorisation	EU - REACH (1907/2006) - Endocrine Disruptor Assessment List of Substances	Endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100(3) or Commission Regulation (EU) 2018/605(4)
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	-	-	-

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance

Substances	EINECS	CAS Number	REACH Reg. No	PERCENT (w/w)	EU - CLP Substance Classification
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	NA	-	60 - 100%	

Substances	EINECS	PERCENT (w/w)	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	60 - 100%	-	-	-

Classification according to Regulation (EC) No. 1272/2008 [CLP]

For the full text of the H-phrases mentioned in this Section, see Section 16

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No data available	No data available	No data available

Rat = Rat, Rabbit = Rabbit, dust = dust

This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (Regulation (EC) No. 1907/2006 (REACH), Article 59)

Additional information: No information available

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation

If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

Eyes

In case of contact, immediately flush eyes with plenty of water for at least 15

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Skin	minutes and get medical attention if irritation persists.
Ingestion	Wash with soap and water. Get medical attention if irritation persists. Do NOT induce vomiting. Give nothing by mouth. Obtain immediate medical attention.
Protection of First-aiders	No information available.

4.2. Most important symptoms and effects, both acute and delayed

No significant hazards expected.

4.3. Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media

Water fog, carbon dioxide, foam, dry chemical.

Extinguishing media which must not be used for safety reasons

None known.

5.2. Special hazards arising from the substance or mixture

Special exposure hazards in a fire

Decomposition in fire may produce harmful gases. Organic dust in the presence of an ignition source can be explosive in high concentrations. Good housekeeping practices are required to minimize this potential.

5.3. Advice for firefighters

Special protective equipment for firefighters

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use appropriate protective equipment. Avoid creating and breathing dust. Avoid contact with skin, eyes and clothing. Ensure adequate ventilation.

See Section 8 for additional information.

6.2. Environmental precautions

Prevent from entering sewers, waterways, or low areas.

6.3. Methods and material for containment and cleaning up

Scoop up and remove.

6.4. Reference to other sections

See Section 8 and 13 for additional information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid creating or inhaling dust. Slippery when wet. Avoid contact with eyes, skin, or clothing. Wash hands after use. Launder contaminated clothing before reuse. Use appropriate protective equipment.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

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Store away from oxidizers. Store in a cool, dry location.

7.3. Specific end use(s)

Exposure scenario No information available
Other Guidelines No information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits

Substances	CAS Number	EU	UK	Netherlands	France
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Germany	Spain	Portugal	Finland
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Austria	Ireland	Switzerland	Norway
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Italy	Poland	Hungary	Czech Republic
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Denmark	Romania	Croatia	Cyprus
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable	Not applicable	Not applicable

Derived No Effect Level (DNEL)
Worker

No information available

General Population

Predicted No Effect Concentration (PNEC)

No information available.

8.2. Exposure controls

Engineering Controls

Use in a well ventilated area. Personal protective equipment must be CE marked and should be selected in collaboration with the supplier of such equipment.
The recommended protective equipment and the specified standards are indicative. Standards should be of the latest version.
Risk assessment of the actual workplace / operation (actual risk) may result in other

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	protective measures. The suitability and durability of the protective equipment will depend on the application.
Personal protective equipment	If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.
Respiratory Protection	Not normally needed. But if significant exposures are possible then the following respirator is recommended: Dust/mist respirator. (N95, P2/P3)
Hand Protection	Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374): Normal work gloves.
Skin Protection	Wear clothing appropriate for the work environment. Dusty clothing should be laundered before reuse. Use precautionary measures to avoid creating dust when removing or laundering clothing. Wear protective clothing impervious to the chemical substance, including boots, gloves, lab coat, apron, rainjacket, pants or coverall, as appropriate, to prevent skin contact. Normal work coveralls.
Eye Protection	Wear safety glasses or goggles to protect against exposure. (EN-166)
Other Precautions	Eyewash fountains and safety showers must be easily accessible.
Environmental Exposure Controls	Do not allow material to contaminate ground water system.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical State: Solid	Color	Red brown
Odor: Musty	Odor	No information available
Property	Threshold:	
Remarks/ - Method	Values	
pH:	7-8	
Freezing Point / Range	No data available	
Melting Point / Range	No data available	
Boiling Point / Range	No data available	
Flash Point	No data available	
Flammability (solid, gas)	No data available	
Upper flammability limit	No data available	
Lower flammability limit	No data available	
Evaporation rate	No data available	
Vapor Pressure	No data available	
Relative Vapor Density	No data available	
Relative Density	1.28	
Bulk Density	38	
Water Solubility	Soluble in water	
Solubility in other solvents	No data available	
Partition coefficient: n-octanol/water	No data available	
Autoignition Temperature	No data available	
Decomposition Temperature	No data available	
Viscosity	No data available	
Explosive Properties	No information available	
Oxidizing Properties	No information available	

9.2. Other information

Pour Point / Range	No data available
Molecular Weight	>700

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VOC Content (%) 0

9.2.1 Information with regard to physical hazard classes No information available

9.2.2. Other safety characteristics No information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Not expected to be reactive.

10.2. Chemical stability

Stable

10.3. Possibility of hazardous reactions

Will Not Occur

10.4. Conditions to avoid

None anticipated

10.5. Incompatible materials

Strong oxidizers.

10.6. Hazardous decomposition products

Oxides of sulfur. Carbon monoxide and carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute Toxicity

Inhalation

May cause mild respiratory irritation.

Eye Contact

May cause mechanical irritation to eye.

Skin Contact

Not irritating to skin in rabbits.

Ingestion

None known.

Chronic Effects/Carcinogenicity

No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No data available	No data available	No data available

Rat = Rat, Rabbit = Rabbit, dust = dust

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11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors

11.2.2 Other Information

Other Adverse Effects No information available

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity effects

Contains no substances known to be hazardous to the environment.

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available	No information available	No information available	No information available

growth rate = growth rate, similar substance = similar substance, activated sludge = activated sludge, reproduction = reproduction

12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

12.3. Bioaccumulative potential

Bioaccumulative Potential

Substances	CAS Number	Bioaccumulation
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

12.4. Mobility in soil

Substances	CAS Number	Mobility
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

12.5. Results of PBT and vPvB assessment

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT). This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

Substances	PBT and vPvB assessment
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	Not applicable

12.6 Endocrine disrupting properties

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors

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12.7 Other adverse effects

No information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal methods

Bury in a licensed landfill according to federal, state, and local regulations. Substance should NOT be deposited into a sewage facility.

Contaminated Packaging

Follow all applicable national or local regulations.

SECTION 14: Transport information

IMDG/IMO

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

ADN

UN Number	Not restricted
UN proper shipping name:	Not restricted
Packing Group	Not applicable
Environmental Hazards:	Not applicable

ADR/RID

UN Number	Not restricted
UN proper shipping name:	Not restricted
Packing Group	Not applicable
Environmental Hazards:	Not applicable

IATA/ICAO

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

14.1. UN Number Not restricted

14.2. UN proper shipping name: Not restricted

14.3.

14.4. Packing Group Not applicable

14.5. Environmental Hazards: Not applicable

14.6. Special Precautions for User None

14.7. Maritime transport in bulk according to IMO instruments

No information available

SECTION 15: Regulatory information

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15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

International Inventories

US TSCA Inventory All components listed on inventory or are exempt.
Canadian Domestic Substances List (DSL) All components listed on inventory or are exempt.

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

Germany, Water Endangering Classes (WGK) WGK 1: Low hazard to waters.

Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.
Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

Substances	CAS Number	Seveso III	TA LUFT
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable

Substances	CAS Number	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable

15.2. Chemical safety assessment

No information available

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3

None

Key or legend to abbreviations and acronyms used in the safety data sheet

bw – body weight
CAS – Chemical Abstracts Service
CLP – REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on Classification, Labelling and Packaging of substances and mixtures
EC – European Commission
EC10 – Effective Concentration 10%
EC50 – Effective Concentration 50%
EEC – European Economic Community
ErC50 – Effective Concentration growth rate 50%
IBC Code – International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
LC50 – Lethal Concentration 50%
LD50 – Lethal Dose 50%
LL0 – Lethal Loading 0%
LL50 – Lethal Loading 50%
MARPOL – International Convention for the Prevention of Pollution from Ships

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mg/kg – milligram/kilogram

mg/L – milligram/liter

NIOSH – National Institute for Occupational Safety and Health

NOEC – No Observed Effect Concentration

NTP – National Toxicology Program

OEL – Occupational Exposure Limit

PBT – Persistent Bioaccumulative and Toxic

PC – Chemical Product category

PEL – Permissible Exposure Limit

ppm – parts per million

PROC – Process category

REACH – REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals

STEL – Short Term Exposure Limit

SU – Sector of Use category

Key literature references and sources for data

www.ChemADVISOR.com/

NZ CCID

Revision Date: 24-Jan-2023
Reason for Revision Update to Format

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Disclaimer Statement

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

End of Safety Data Sheet

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Preparation Date 24-Jan-2023

Revision Number: 51
Internal ID Code HM000816

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product Identifier

Product Name HALAD® 344 CEMENT ADDITIVE
Internal ID Code HM000816

Other means of identification

Pure substance/mixture Mixture

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Fluid Loss Additive

Sector of uses SU2 - Mining, (including offshore industries)
Uses advised against Consumer use

1.3. Details of the supplier of the safety data sheet

Halliburton BV
Columbusstraat 19
7825VP
Emmen
Netherlands
www.halliburton.com

For further information, please contact:

E-mail Address: fdunexchem@halliburton.com

1.4. Emergency telephone number

+44 8 08 189 0979 / 1-760-476-3961
Global Incident Response Access Code: 334305
Contract Number: 14012

Emergency telephone - Article 45 - (EC)1272/2008	
Austria	Poison Information Centre (AT): +43-(0)1-406 43 43
Belgium	Poison center (BE): +32 70 245 245
Bulgaria	Bulgarian poison centre: +359 2 915-44-09 or +359 2 915-43-46
Croatia	Centar za kontrolu otrovanja (CKO): (+385 1) 23-48-342 (Poison Control Center (PCC) - Institute for Medical Research and Occupational Health)
Cyprus	1401
Czech Republic	+420 224 919 293; +420 224 915 402
Denmark	Poison Control Hotline (DK): +45 82 12 12 12
Estonia	16662 (Local Poison Information Centre); (+372) 626 93 90 (International Poison Information Centre)
Europe	112
Finland	Poison Information Centre (FI):+358 9 471 977
France	ORFILA (FR): + 01 45 42 59 59
Germany	Poison Center Berlin (DE): +49 030 30686 790
Greece	+30 210 779 3777
Hungary	+36 (06) 80 201-199
Iceland	543 2222 / 543 1000

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Ireland	National Poisons Information Centre (IE): +353 1 8379964
Italy	Poison Center, Milan (IT): +39 02 6610 1029
Latvia	(+371) 67042473 (International number for the National Toxicology Centre)
Lithuania	+370 (85) 2362052
Luxembourg	(+352) 8002 5500
Malta	2122 4071
Netherlands	National Poisons Information Center (NL): +31 30 274 88 88 (NB: this service is only available to health professionals)
Norway	Poisons Information (NO): +47 22 591300
Poland	Poison Control and Information Centre, Warsaw (PL): +48 22 619 66 54; +48 22 619 08 97
Portugal	CIAV - Centro de Informação Antivenenos (Portuguese Poison Centre): +351 213 303 271
Romania	+40 21 318 36 06
Slovakia	+421 2 4854 4511
Slovenia	112
Spain	Poison Information Service (ES): +34 91 562 04 20
Sweden	Poisons Information Center (SV): +46 8 33 12 31
Switzerland	Poison Center: Tel 145; +41 44 251 51 51
Turkey	Ulusal Zehir Danisma Merkezi (UZEM) :114 Acil Saglik Hizmetleri : 112
United Kingdom	NHS Direct (UK): +44 0845 46 47

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Not classified

Additional information: No information available

For full text of Hazard- and EU Hazard-statements: see SECTION 16.

2.2. Label Elements

Not classified

Hazard Pictograms

Signal Word: None

Hazard Statements:

Not Classified

Precautionary Statements:

None

Contains
Substances

Contains no hazardous substances in concentrations above cut-off values according to the competent authority

CAS Number

NA

Additional information: No information available

2.3. Other Hazards

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).

This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

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Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors

Substances	CAS Number	EU - REACH (1907/2006) - Article 59(1) - Candidate List of Substances of Very High Concern (SVHC) for Authorisation	EU - REACH (1907/2006) - Endocrine Disruptor Assessment List of Substances	Endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100(3) or Commission Regulation (EU) 2018/605(4)
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	-	-	-

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Mixture

Substances	EINECS	CAS Number	REACH Reg. No	PERCENT (w/w)	EU - CLP Substance Classification
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	NA	-	NF	

Substances	EINECS	PERCENT (w/w)	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	NF	-	-	-

Classification according to Regulation (EC) No. 1272/2008 [CLP]

For the full text of the H-phrases mentioned in this Section, see Section 16

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No data available	No data available	No data available

Rat = Rat, Rabbit = Rabbit, dust = dust

This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (Regulation (EC) No. 1907/2006 (REACH), Article 59)

Additional information: No information available

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation

If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

Eyes

Immediately flush eyes with large amounts of water for at least 15 minutes.

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Skin	Get immediate medical attention.
Ingestion	Wash with soap and water. Get medical attention if irritation persists. Do NOT induce vomiting. Give nothing by mouth. Obtain immediate medical attention.
Protection of First-aiders	No information available.

4.2. Most important symptoms and effects, both acute and delayed

No significant hazards expected.

4.3. Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media

All standard fire fighting media

Extinguishing media which must not be used for safety reasons

None known.

5.2. Special hazards arising from the substance or mixture

Special exposure hazards in a fire

Decomposition in fire may produce harmful gases. Organic dust in the presence of an ignition source can be explosive in high concentrations. Good housekeeping practices are required to minimize this potential.

5.3. Advice for firefighters

Special protective equipment for firefighters

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use appropriate protective equipment. Avoid creating and breathing dust. Avoid contact with skin, eyes and clothing. Ensure adequate ventilation.

See Section 8 for additional information.

6.2. Environmental precautions

Prevent from entering sewers, waterways, or low areas.

6.3. Methods and material for containment and cleaning up

Scoop up and remove.

6.4. Reference to other sections

See Section 8 and 13 for additional information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid creating or inhaling dust. Avoid contact with eyes, skin, or clothing. Ensure adequate ventilation. Wash hands after use. Launder contaminated clothing before reuse. Use appropriate protective equipment.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

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Store in a cool, dry location. Store away from oxidizers. Keep container closed when not in use. Product has a shelf life of 60 months.

7.3. Specific end use(s)

Exposure scenario No information available
Other Guidelines No information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits

Substances	CAS Number	EU	UK	Netherlands	France
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Germany	Spain	Portugal	Finland
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Austria	Ireland	Switzerland	Norway
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Italy	Poland	Hungary	Czech Republic
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Denmark	Romania	Croatia	Cyprus
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable	Not applicable	Not applicable

Derived No Effect Level (DNEL)
Worker

No information available

General Population

Predicted No Effect Concentration (PNEC)

No information available.

8.2. Exposure controls

Engineering Controls

Use in a well ventilated area. Personal protective equipment must be CE marked and should be selected in collaboration with the supplier of such equipment. The recommended protective equipment and the specified standards are indicative. Standards should be of the latest version.

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	Risk assessment of the actual workplace / operation (actual risk) may result in other protective measures. The suitability and durability of the protective equipment will depend on the application.
Personal protective equipment	If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.
Respiratory Protection	If engineering controls and work practices cannot keep exposure below occupational exposure limits or if exposure is unknown, wear a NIOSH certified, European Standard EN 149, AS/NZS 1715:2009, or equivalent respirator when using this product. Selection of and instruction on using all personal protective equipment, including respirators, should be performed by an Industrial Hygienist or other qualified professional. Dust/mist respirator. (N95, P2/P3)
Hand Protection	Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374): Normal work gloves.
Skin Protection	Wear clothing appropriate for the work environment. Dusty clothing should be laundered before reuse. Use precautionary measures to avoid creating dust when removing or laundering clothing. Wear protective clothing impervious to the chemical substance, including boots, gloves, lab coat, apron, rainjacket, pants or coverall, as appropriate, to prevent skin contact. Normal work coveralls.
Eye Protection	Wear safety glasses or goggles to protect against exposure. (EN-166)
Other Precautions	Eyewash fountains and safety showers must be easily accessible.
Environmental Exposure Controls	Do not allow material to contaminate ground water system. Avoid dust formation Prevent product from entering drains. Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical State: Powder	Color	White to off white
Odor: Odorless	Odor	No information available
Property	Threshold:	
Remarks/ - Method	Values	
pH:	No data available	
Freezing Point / Range	-8 °C	
Melting Point / Range	No data available	
Boiling Point / Range	No data available	
Flash Point	No data available	
Flammability (solid, gas)	No data available	
Upper flammability limit	No data available	
Lower flammability limit	No data available	
Evaporation rate	No data available	
Vapor Pressure	No data available	
Relative Vapor Density	No data available	
Relative Density	1.22	
Water Solubility	Soluble in water	
Solubility in other solvents	No data available	
Partition coefficient: n-octanol/water	No data available	
Autoignition Temperature	No data available	
Decomposition Temperature	No data available	
Viscosity	No data available	
Explosive Properties	No information available	

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Oxidizing Properties No information available

9.2. Other information

Pour Point / Range No data available

Molecular Weight > 600

VOC Content (%) No data available

9.2.1 Information with regard to physical hazard classes No information available

9.2.2. Other safety characteristics No information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Not expected to be reactive.

10.2. Chemical stability

Stable

10.3. Possibility of hazardous reactions

Will Not Occur

10.4. Conditions to avoid

None anticipated

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

Oxides of nitrogen. Carbon monoxide and carbon dioxide. Oxides of sulfur.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute Toxicity

Inhalation	None known.
Eye Contact	May cause mechanical irritation to eye.
Skin Contact	Not irritating to skin in rabbits.
Ingestion	No adverse health effects are expected from swallowing.

Chronic Effects/Carcinogenicity No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No data available	No data available	No data available

Rat = Rat, Rabbit = Rabbit, dust = dust

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Internal ID Code HM000816

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors

11.2.2 Other Information

Other Adverse Effects No information available

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity effects

Contains no substances known to be hazardous to the environment.

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available	No information available	No information available	No information available

growth rate = growth rate, similar substance = similar substance, activated sludge = activated sludge, reproduction = reproduction

12.2. Persistence and degradability

Not readily biodegradable

Substances	CAS Number	Persistence and Degradability
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

12.3. Bioaccumulative potential

Bioaccumulative Potential Does not bioaccumulate.

Substances	CAS Number	Bioaccumulation
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

12.4. Mobility in soil

Substances	CAS Number	Mobility
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

12.5. Results of PBT and vPvB assessment

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT). This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

Substances	PBT and vPvB assessment
Contains no hazardous substances in concentrations above	Not applicable

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cut-off values according to the competent authority

12.6 Endocrine disrupting properties

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors

12.7 Other adverse effects

No information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal methods

Bury in a licensed landfill according to federal, state, and local regulations. Substance should NOT be deposited into a sewage facility.

Contaminated Packaging

Follow all applicable national or local regulations. Contaminated packaging may be disposed of by: rendering packaging incapable of containing any substance, or treating packaging to remove residual contents, or treating packaging to make sure the residual contents are no longer hazardous, or by disposing of packaging into commercial waste collection.

SECTION 14: Transport information

IMDG/IMO

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

ADN

UN Number	Not restricted
UN proper shipping name:	Not restricted
Packing Group	Not applicable
Environmental Hazards:	Not applicable

ADR/RID

UN Number	Not restricted
UN proper shipping name:	Not restricted
Packing Group	Not applicable
Environmental Hazards:	Not applicable

IATA/ICAO

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

14.1. UN Number Not restricted

14.2. UN proper shipping name: Not restricted

14.3.

14.4. Packing Group Not applicable

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HALAD® 344 CEMENT ADDITIVE

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Revision Date: 24-Jan-2023
Preparation Date 24-Jan-2023

Revision Number: 51
Internal ID Code HM000816

14.5. Environmental Hazards: Not applicable

14.6. Special Precautions for User None

14.7. Maritime transport in bulk according to IMO instruments No information available

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

International Inventories

US TSCA Inventory All components listed on inventory or are exempt.

Canadian Domestic Substances List (DSL) All components listed on inventory or are exempt.

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

Germany, Water Endangering WGK 1: Low hazard to waters.

Classes (WGK)

Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

Substances	CAS Number	Seveso III	TA LUFT
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable

Substances	CAS Number	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable

15.2. Chemical safety assessment

No information available

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3

None

Key or legend to abbreviations and acronyms used in the safety data sheet

bw – body weight

CAS – Chemical Abstracts Service

CLP – REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on Classification, Labelling and Packaging of substances and mixtures

EC – European Commission

SAFETY DATA SHEET HALAD® 344 CEMENT ADDITIVE

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Revision Date: 24-Jan-2023
Preparation Date 24-Jan-2023

Revision Number: 51
Internal ID Code HM000816

EC10 – Effective Concentration 10%
EC50 – Effective Concentration 50%
EEC – European Economic Community
ErC50 – Effective Concentration growth rate 50%
IBC Code – International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
LC50 – Lethal Concentration 50%
LD50 – Lethal Dose 50%
LL0 – Lethal Loading 0%
LL50 – Lethal Loading 50%
MARPOL – International Convention for the Prevention of Pollution from Ships
mg/kg – milligram/kilogram
mg/L – milligram/liter
NIOSH – National Institute for Occupational Safety and Health
NOEC – No Observed Effect Concentration
NTP – National Toxicology Program
OEL – Occupational Exposure Limit
PBT – Persistent Bioaccumulative and Toxic
PC – Chemical Product category
PEL – Permissible Exposure Limit
ppm – parts per million
PROC – Process category
REACH – REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals
STEL – Short Term Exposure Limit
SU – Sector of Use category

Key literature references and sources for data
www.ChemADVISOR.com/
NZ CCID

Revision Date: 24-Jan-2023
Reason for Revision Update to Format

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Disclaimer Statement

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

End of Safety Data Sheet

SAFETY DATA SHEET HALAD® 413 CEMENT ADDITIVE

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Revision Date: 24-Jan-2023
Preparation Date 24-Jan-2023

Revision Number: 41
Internal ID Code HM000823

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product Identifier

Product Name HALAD® 413 CEMENT ADDITIVE
Internal ID Code HM000823

Other means of identification

Pure substance/mixture Substance

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Fluid Loss Additive

Sector of uses SU2 - Mining, (including offshore industries)
Uses advised against Consumer use

1.3. Details of the supplier of the safety data sheet

Halliburton BV
Columbusstraat 19
7825VP
Emmen
Netherlands
www.halliburton.com

For further information, please contact:

E-mail Address: fdunexchem@halliburton.com

1.4. Emergency telephone number

+44 8 08 189 0979 / 1-760-476-3961
Global Incident Response Access Code: 334305
Contract Number: 14012

Emergency telephone - Article 45 - (EC)1272/2008	
Austria	Poison Information Centre (AT): +43-(0)1-406 43 43
Belgium	Poison center (BE): +32 70 245 245
Bulgaria	Bulgarian poison centre: +359 2 915-44-09 or +359 2 915-43-46
Croatia	Centar za kontrolu otrovanja (CKO): (+385 1) 23-48-342 (Poison Control Center (PCC) - Institute for Medical Research and Occupational Health)
Cyprus	1401
Czech Republic	+420 224 919 293; +420 224 915 402
Denmark	Poison Control Hotline (DK): +45 82 12 12 12
Estonia	16662 (Local Poison Information Centre); (+372) 626 93 90 (International Poison Information Centre)
Europe	112
Finland	Poison Information Centre (FI):+358 9 471 977
France	ORFILA (FR): + 01 45 42 59 59
Germany	Poison Center Berlin (DE): +49 030 30686 790
Greece	+30 210 779 3777
Hungary	+36 (06) 80 201-199
Iceland	543 2222 / 543 1000

SAFETY DATA SHEET

HALAD® 413 CEMENT ADDITIVE

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Preparation Date 24-Jan-2023

Revision Number: 41
Internal ID Code HM000823

Ireland	National Poisons Information Centre (IE): +353 1 8379964
Italy	Poison Center, Milan (IT): +39 02 6610 1029
Latvia	(+371) 67042473 (International number for the National Toxicology Centre)
Lithuania	+370 (85) 2362052
Luxembourg	(+352) 8002 5500
Malta	2122 4071
Netherlands	National Poisons Information Center (NL): +31 30 274 88 88 (NB: this service is only available to health professionals)
Norway	Poisons Information (NO): +47 22 591300
Poland	Poison Control and Information Centre, Warsaw (PL): +48 22 619 66 54; +48 22 619 08 97
Portugal	CIAV - Centro de Informação Antivenenos (Portuguese Poison Centre): + 351 213 303 271
Romania	+40 21 318 36 06
Slovakia	+421 2 4854 4511
Slovenia	112
Spain	Poison Information Service (ES): +34 91 562 04 20
Sweden	Poisons Information Center (SV): +46 8 33 12 31
Switzerland	Poison Center: Tel 145; +41 44 251 51 51
Turkey	Ulusal Zehir Danisma Merkezi (UZEM) :114 Acil Saglik Hizmetleri : 112
United Kingdom	NHS Direct (UK): +44 0845 46 47

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Not classified

Additional information: No information available

For full text of Hazard- and EU Hazard-statements: see SECTION 16.

2.2. Label Elements

Not classified

Hazard Pictograms

Signal Word: None

Hazard Statements:

Not Classified

Precautionary Statements:

None

Contains Substances

Contains no hazardous substances in concentrations above cut-off values according to the competent authority

CAS Number

NA

Additional information: No information available

2.3. Other Hazards

None known

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors

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Substances	CAS Number	EU - REACH (1907/2006) - Article 59(1) - Candidate List of Substances of Very High Concern (SVHC) for Authorisation	EU - REACH (1907/2006) - Endocrine Disruptor Assessment List of Substances	Endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100(3) or Commission Regulation (EU) 2018/605(4)
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	-	-	-

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance

Substances	EINECS	CAS Number	REACH Reg. No	PERCENT (w/w)	EU - CLP Substance Classification
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	NA	-	60 - 100%	

Substances	EINECS	PERCENT (w/w)	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	60 - 100%	-	-	-

Classification according to Regulation (EC) No. 1272/2008 [CLP]

For the full text of the H-phrases mentioned in this Section, see Section 16

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No data available	No data available	No data available

Rat = Rat, Rabbit = Rabbit, dust = dust

This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (Regulation (EC) No. 1907/2006 (REACH), Article 59)

Additional information: No information available

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation

If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

Eyes

In case of contact, immediately flush eyes with plenty of water for at least 15

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Skin	minutes and get medical attention if irritation persists.
Ingestion	Wash with soap and water. Get medical attention if irritation persists.
Protection of First-aiders	Under normal conditions, first aid procedures are not required.
	No information available.

4.2. Most important symptoms and effects, both acute and delayed

No significant hazards expected.

4.3. Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media

All standard fire fighting media

Extinguishing media which must not be used for safety reasons

None known.

5.2. Special hazards arising from the substance or mixture

Special exposure hazards in a fire

Decomposition in fire may produce harmful gases. Organic dust in the presence of an ignition source can be explosive in high concentrations. Good housekeeping practices are required to minimize this potential.

5.3. Advice for firefighters

Special protective equipment for firefighters

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use appropriate protective equipment. Avoid creating and breathing dust. Avoid contact with skin, eyes and clothing. Ensure adequate ventilation.

See Section 8 for additional information.

6.2. Environmental precautions

Prevent from entering sewers, waterways, or low areas.

6.3. Methods and material for containment and cleaning up

Scoop up and remove.

6.4. Reference to other sections

See Section 8 and 13 for additional information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid creating or inhaling dust. Avoid contact with eyes, skin, or clothing. Ensure adequate ventilation. Wash hands after use. Launder contaminated clothing before reuse. Use appropriate protective equipment.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Store in a cool, dry location. Use good housekeeping in storage and work areas to prevent accumulation of dust. Close

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Internal ID Code HM000823

container when not in use.

7.3. Specific end use(s)

Exposure scenario No information available
Other Guidelines No information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits

Substances	CAS Number	EU	UK	Netherlands	France
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Germany	Spain	Portugal	Finland
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Austria	Ireland	Switzerland	Norway
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Italy	Poland	Hungary	Czech Republic
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Denmark	Romania	Croatia	Cyprus
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable	Not applicable	Not applicable

Derived No Effect Level (DNEL)
Worker

No information available

General Population

Predicted No Effect Concentration (PNEC)

No information available.

8.2. Exposure controls

Engineering Controls
Personal protective equipment

Use in a well ventilated area.
If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

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Respiratory Protection	If engineering controls and work practices cannot keep exposure below occupational exposure limits or if exposure is unknown, wear a NIOSH certified, European Standard EN 149, AS/NZS 1715:2009, or equivalent respirator when using this product. Selection of and instruction on using all personal protective equipment, including respirators, should be performed by an Industrial Hygienist or other qualified professional. Dust/mist respirator. (N95, P2/P3)
Hand Protection	Normal work gloves.
Skin Protection	Wear clothing appropriate for the work environment. Dusty clothing should be laundered before reuse. Use precautionary measures to avoid creating dust when removing or laundering clothing. Wear protective clothing impervious to the chemical substance, including boots, gloves, lab coat, apron, rainjacket, pants or coverall, as appropriate, to prevent skin contact. Normal work coveralls.
Eye Protection	Wear safety glasses or goggles to protect against exposure. (EN-166)
Other Precautions	None known.

Environmental Exposure Controls Do not allow material to contaminate ground water system. Avoid dust formation Prevent product from entering drains. Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical State: Solid	Color	Brown-black
Odor: Sweet	Odor	No information available
<u>Property</u>	Threshold:	
<u>Remarks/ - Method</u>	<u>Values</u>	
pH:	7.5	
Freezing Point / Range	No data available	
Melting Point / Range	No data available	
Boiling Point / Range	No data available	
Flash Point	No data available	
Flammability (solid, gas)	No data available	
Upper flammability limit	No data available	
Lower flammability limit	No data available	
Evaporation rate	No data available	
Vapor Pressure	No data available	
Relative Vapor Density	No data available	
Relative Density	1.48	
Water Solubility	Miscible with water	
Solubility in other solvents	No data available	
Partition coefficient: n-octanol/water	No data available	
Autoignition Temperature	No data available	
Decomposition Temperature	No data available	
Viscosity	No data available	
Explosive Properties	No information available	
Oxidizing Properties	No information available	

9.2. Other information

Pour Point / Range	No data available
VOC Content (%)	No data available

9.2.1 Information with regard to physical hazard classes No information available

9.2.2. Other safety characteristics No information available

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SECTION 10: Stability and reactivity

10.1. Reactivity

Not expected to be reactive.

10.2. Chemical stability

Stable

10.3. Possibility of hazardous reactions

Will Not Occur

10.4. Conditions to avoid

None anticipated

10.5. Incompatible materials

Strong oxidizers.

10.6. Hazardous decomposition products

Oxides of nitrogen. Oxides of sulfur. Carbon monoxide and carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute Toxicity

Inhalation	None known.
Eye Contact	May cause mechanical irritation to eye.
Skin Contact	None known.
Ingestion	None known.

Chronic Effects/Carcinogenicity No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No data available	No data available	No data available

Rat = Rat, Rabbit = Rabbit, dust = dust

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

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Revision Number: 41
Internal ID Code HM000823

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors

11.2.2 Other Information

Other Adverse Effects No information available

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity effects

Contains no substances known to be hazardous to the environment.

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available	No information available	No information available	No information available

growth rate = growth rate, similar substance = similar substance, activated sludge = activated sludge, reproduction = reproduction

12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

12.3. Bioaccumulative potential

Bioaccumulative Potential

Substances	CAS Number	Bioaccumulation
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

12.4. Mobility in soil

Substances	CAS Number	Mobility
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

12.5. Results of PBT and vPvB assessment

Substances	PBT and vPvB assessment
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	Not applicable

12.6 Endocrine disrupting properties

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors

12.7 Other adverse effects

No information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

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Preparation Date 24-Jan-2023

Revision Number: 41
Internal ID Code HM000823

Disposal methods Dispose in accordance with local regulations.
Contaminated Packaging Follow all applicable national or local regulations.

SECTION 14: Transport information

IMDG/IMO

UN Number Not restricted
UN proper shipping name: Not restricted
Transport Hazard Class(es): Not applicable
Packing Group: Not applicable
Environmental Hazards: Not applicable

ADN

UN Number Not restricted
UN proper shipping name: Not restricted
Packing Group Not applicable
Environmental Hazards: Not applicable

ADR/RID

UN Number Not restricted
UN proper shipping name: Not restricted
Packing Group Not applicable
Environmental Hazards: Not applicable

IATA/ICAO

UN Number Not restricted
UN proper shipping name: Not restricted
Transport Hazard Class(es): Not applicable
Packing Group: Not applicable
Environmental Hazards: Not applicable

14.1. UN Number Not restricted

14.2. UN proper shipping name: Not restricted

14.3.

14.4. Packing Group Not applicable

14.5. Environmental Hazards: Not applicable

14.6. Special Precautions for User None

14.7. Maritime transport in bulk according to IMO instruments No information available

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

International Inventories

US TSCA Inventory All components listed on inventory or are exempt.
Canadian Domestic Substances List (DSL) Product contains one or more components not listed on the inventory.

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Revision Number: 41
Internal ID Code HM000823

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

Germany, Water Endangering WGK 1: Low hazard to waters.

Classes (WGK)

Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.
Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

Substances	CAS Number	Seveso III	TA LUFT
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable

Substances	CAS Number	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable

15.2. Chemical safety assessment

No information available

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3

None

Key or legend to abbreviations and acronyms used in the safety data sheet

bw – body weight
CAS – Chemical Abstracts Service
CLP – REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on Classification, Labelling and Packaging of substances and mixtures
EC – European Commission
EC10 – Effective Concentration 10%
EC50 – Effective Concentration 50%
EEC – European Economic Community
ErC50 – Effective Concentration growth rate 50%
IBC Code – International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
LC50 – Lethal Concentration 50%
LD50 – Lethal Dose 50%
LL0 – Lethal Loading 0%
LL50 – Lethal Loading 50%
MARPOL – International Convention for the Prevention of Pollution from Ships
mg/kg – milligram/kilogram
mg/L – milligram/liter
NIOSH – National Institute for Occupational Safety and Health
NOEC – No Observed Effect Concentration
NTP – National Toxicology Program
OEL – Occupational Exposure Limit

SAFETY DATA SHEET HALAD® 413 CEMENT ADDITIVE

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PBT – Persistent Bioaccumulative and Toxic
PC – Chemical Product category
PEL – Permissible Exposure Limit
ppm – parts per million
PROC – Process category
REACH – REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals
STEL – Short Term Exposure Limit
SU – Sector of Use category

Key literature references and sources for data

www.ChemADVISOR.com/
NZ CCID

Revision Date: 24-Jan-2023
Reason for Revision Update to Format

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End of Safety Data Sheet

SAFETY DATA SHEET

HR-4

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Revision Date: 24-Jan-2023
Preparation Date 24-Jan-2023

Revision Number: 32
Internal ID Code HM000897

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product Identifier

Product Name HR-4
Internal ID Code HM000897

Other means of identification

Pure substance/mixture Substance

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Cement Retarder

Sector of uses SU2 - Mining, (including offshore industries)
Uses advised against Consumer use

1.3. Details of the supplier of the safety data sheet

Halliburton BV
Columbusstraat 19
7825VP
Emmen
Netherlands
www.halliburton.com

For further information, please contact:

E-mail Address: fdunexchem@halliburton.com

1.4. Emergency telephone number

+44 8 08 189 0979 / 1-760-476-3961
Global Incident Response Access Code: 334305
Contract Number: 14012

Emergency telephone - Article 45 - (EC)1272/2008	
Austria	Poison Information Centre (AT): +43-(0)1-406 43 43
Belgium	Poison center (BE): +32 70 245 245
Bulgaria	Bulgarian poison centre: +359 2 915-44-09 or +359 2 915-43-46
Croatia	Centar za kontrolu otrovanja (CKO): (+385 1) 23-48-342 (Poison Control Center (PCC) - Institute for Medical Research and Occupational Health)
Cyprus	1401
Czech Republic	+420 224 919 293; +420 224 915 402
Denmark	Poison Control Hotline (DK): +45 82 12 12 12
Estonia	16662 (Local Poison Information Centre); (+372) 626 93 90 (International Poison Information Centre)
Europe	112
Finland	Poison Information Centre (FI):+358 9 471 977
France	ORFILA (FR): + 01 45 42 59 59
Germany	Poison Center Berlin (DE): +49 030 30686 790
Greece	+30 210 779 3777
Hungary	+36 (06) 80 201-199
Iceland	543 2222 / 543 1000

SAFETY DATA SHEET

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Preparation Date 24-Jan-2023

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Internal ID Code HM000897

Ireland	National Poisons Information Centre (IE): +353 1 8379964
Italy	Poison Center, Milan (IT): +39 02 6610 1029
Latvia	(+371) 67042473 (International number for the National Toxicology Centre)
Lithuania	+370 (85) 2362052
Luxembourg	(+352) 8002 5500
Malta	2122 4071
Netherlands	National Poisons Information Center (NL): +31 30 274 88 88 (NB: this service is only available to health professionals)
Norway	Poisons Information (NO):+ 47 22 591300
Poland	Poison Control and Information Centre, Warsaw (PL): +48 22 619 66 54; +48 22 619 08 97
Portugal	CIAV - Centro de Informação Antivenenos (Portuguese Poison Centre): + 351 213 303 271
Romania	+40 21 318 36 06
Slovakia	+421 2 4854 4511
Slovenia	112
Spain	Poison Information Service (ES): +34 91 562 04 20
Sweden	Poisons Information Center (SV):+46 8 33 12 31
Switzerland	Poison Center: Tel 145; +41 44 251 51 51
Turkey	Ulusal Zehir Danisma Merkezi (UZEM) :114 Acil Saglik Hizmetleri : 112
United Kingdom	NHS Direct (UK): +44 0845 46 47

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Not classified

Additional information: No information available

For full text of Hazard- and EU Hazard-statements: see SECTION 16.

2.2. Label Elements

Not classified

Hazard Pictograms

Signal Word: None

Hazard Statements:

Not Classified

Precautionary Statements:

None

Contains
Substances

Contains no hazardous substances in concentrations above cut-off values according to the competent authority

CAS Number

NA

Additional information: No information available

2.3. Other Hazards

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).

This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

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Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors

Substances	CAS Number	EU - REACH (1907/2006) - Article 59(1) - Candidate List of Substances of Very High Concern (SVHC) for Authorisation	EU - REACH (1907/2006) - Endocrine Disruptor Assessment List of Substances	Endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100(3) or Commission Regulation (EU) 2018/605(4)
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	-	-	-

SECTION 3: Composition/information on ingredients

3.1. Substances Substance

Substances	EINECS	CAS Number	REACH Reg. No	PERCENT (w/w)	EU - CLP Substance Classification
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	NA	-	60 - 100%	

Substances	EINECS	PERCENT (w/w)	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	60 - 100%	-	-	-

Classification according to Regulation (EC) No. 1272/2008 [CLP]

For the full text of the H-phrases mentioned in this Section, see Section 16

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No data available	No data available	No data available

Rat = Rat, Rabbit = Rabbit, dust = dust

This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (Regulation (EC) No. 1907/2006 (REACH), Article 59)

Additional information: No information available

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

Eyes In case of contact, immediately flush eyes with plenty of water for at least 15

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Skin	minutes and get medical attention if irritation persists.
Ingestion	Wash with soap and water. Get medical attention if irritation persists.
Protection of First-aiders	Under normal conditions, first aid procedures are not required.
	No information available.

4.2. Most important symptoms and effects, both acute and delayed

No significant hazards expected.

4.3. Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media

Water fog, carbon dioxide, foam, dry chemical.

Extinguishing media which must not be used for safety reasons

None known.

5.2. Special hazards arising from the substance or mixture

Special exposure hazards in a fire

Decomposition in fire may produce harmful gases. Organic dust in the presence of an ignition source can be explosive in high concentrations. Good housekeeping practices are required to minimize this potential.

5.3. Advice for firefighters

Special protective equipment for firefighters

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use appropriate protective equipment. Avoid creating and breathing dust. Avoid contact with skin, eyes and clothing. Ensure adequate ventilation.

See Section 8 for additional information.

6.2. Environmental precautions

Prevent from entering sewers, waterways, or low areas.

6.3. Methods and material for containment and cleaning up

Scoop up and remove.

6.4. Reference to other sections

See Section 8 and 13 for additional information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid contact with eyes, skin, or clothing. Avoid creating or inhaling dust. Ensure adequate ventilation. Wash hands after use. Launder contaminated clothing before reuse. Use appropriate protective equipment.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Store in a cool, dry location.

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7.3. Specific end use(s)

Exposure scenario No information available
Other Guidelines No information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits

Substances	CAS Number	EU	UK	Netherlands	France
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Germany	Spain	Portugal	Finland
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Austria	Ireland	Switzerland	Norway
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Italy	Poland	Hungary	Czech Republic
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Denmark	Romania	Croatia	Cyprus
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable	Not applicable	Not applicable

Derived No Effect Level (DNEL)
Worker

No information available

General Population

Predicted No Effect Concentration (PNEC)

No information available.

8.2. Exposure controls

Engineering Controls

Use in a well ventilated area. Personal protective equipment must be CE marked and should be selected in collaboration with the supplier of such equipment.
The recommended protective equipment and the specified standards are indicative. Standards should be of the latest version.
Risk assessment of the actual workplace / operation (actual risk) may result in other protective measures.

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The suitability and durability of the protective equipment will depend on the application.

Personal protective equipment If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

Respiratory Protection Not normally necessary.

Hand Protection Normal work gloves.

Skin Protection Normal work coveralls.

Eye Protection Wear safety glasses or goggles to protect against exposure. (EN-166)

Other Precautions Eyewash fountains and safety showers must be easily accessible.

Environmental Exposure Controls Do not allow material to contaminate ground water system.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical State: Solid	Color	Brown
Odor: Odorless	Odor	No information available
<u>Property</u>	Threshold:	
<u>Remarks/ - Method</u>	<u>Values</u>	
pH:	9 - 10.3	
Freezing Point / Range	No data available	
Melting Point / Range	No data available	
Boiling Point / Range	No data available	
Flash Point	No data available	
Flammability (solid, gas)	No data available	
Upper flammability limit	No data available	
Lower flammability limit	No data available	
Evaporation rate	No data available	
Vapor Pressure	No data available	
Relative Vapor Density	No data available	
Relative Density	1.2 - 1.3	
Water Solubility	Soluble in water	
Solubility in other solvents	No data available	
Partition coefficient: n-octanol/water	No data available	
Autoignition Temperature	No data available	
Decomposition Temperature	No data available	
Viscosity	No data available	
Explosive Properties	No information available	
Oxidizing Properties	No information available	

9.2. Other information

Pour Point / Range	No data available
VOC Content (%)	No data available

9.2.1 Information with regard to physical hazard classes No information available

9.2.2. Other safety characteristics No information available

SECTION 10: Stability and reactivity

10.1. Reactivity

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Not expected to be reactive.

10.2. Chemical stability

Stable

10.3. Possibility of hazardous reactions

Will Not Occur

10.4. Conditions to avoid

None anticipated

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

Oxides of sulfur. Carbon monoxide and carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute Toxicity

Inhalation

May cause respiratory irritation.

Eye Contact

May cause mechanical irritation to eye.

Skin Contact

None known.

Ingestion

None known.

Chronic Effects/Carcinogenicity

No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No data available	No data available	No data available

Rat = Rat, Rabbit = Rabbit, dust = dust

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors

11.2.2 Other Information

Other Adverse Effects No information available

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SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity effects

Contains no substances known to be hazardous to the environment.

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available	No information available	No information available	No information available

growth rate = growth rate, similar substance = similar substance, activated sludge = activated sludge, reproduction = reproduction

12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

12.3. Bioaccumulative potential

Bioaccumulative Potential

Substances	CAS Number	Bioaccumulation
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

12.4. Mobility in soil

Substances	CAS Number	Mobility
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

12.5. Results of PBT and vPvB assessment

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT). This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

Substances	PBT and vPvB assessment
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	Not applicable

12.6 Endocrine disrupting properties

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors

12.7 Other adverse effects

No information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal methods

Contaminated Packaging

Bury in a licensed landfill according to federal, state, and local regulations.
Follow all applicable national or local regulations.

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SECTION 14: Transport information

IMDG/IMO

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

ADN

UN Number	Not restricted
UN proper shipping name:	Not restricted
Packing Group	Not applicable
Environmental Hazards:	Not applicable

ADR/RID

UN Number	Not restricted
UN proper shipping name:	Not restricted
Packing Group	Not applicable
Environmental Hazards:	Not applicable

IATA/ICAO

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

14.1. UN Number Not restricted

14.2. UN proper shipping name: Not restricted

14.3.

14.4. Packing Group Not applicable

14.5. Environmental Hazards: Not applicable

14.6. Special Precautions for User None

14.7. Maritime transport in bulk according to IMO instruments No information available

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

International Inventories

US TSCA Inventory	All components listed on inventory or are exempt.
Canadian Domestic Substances List (DSL)	All components listed on inventory or are exempt.

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

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EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

Germany, Water Endangering WGK 1: Low hazard to waters.
Classes (WGK)

Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.
Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

Substances	CAS Number	Seveso III	TA LUFT
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable

Substances	CAS Number	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable

15.2. Chemical safety assessment

No information available

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3

None

Key or legend to abbreviations and acronyms used in the safety data sheet

bw – body weight
CAS – Chemical Abstracts Service
CLP – REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on Classification, Labelling and Packaging of substances and mixtures
EC – European Commission
EC10 – Effective Concentration 10%
EC50 – Effective Concentration 50%
EEC – European Economic Community
ErC50 – Effective Concentration growth rate 50%
IBC Code – International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
LC50 – Lethal Concentration 50%
LD50 – Lethal Dose 50%
LL0 – Lethal Loading 0%
LL50 – Lethal Loading 50%
MARPOL – International Convention for the Prevention of Pollution from Ships
mg/kg – milligram/kilogram
mg/L – milligram/liter
NIOSH – National Institute for Occupational Safety and Health
NOEC – No Observed Effect Concentration
NTP – National Toxicology Program
OEL – Occupational Exposure Limit
PBT – Persistent Bioaccumulative and Toxic
PC – Chemical Product category

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PEL – Permissible Exposure Limit

ppm – parts per million

PROC – Process category

REACH – REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals

STEL – Short Term Exposure Limit

SU – Sector of Use category

Key literature references and sources for data

www.ChemADVISOR.com/

Revision Date: 24-Jan-2023
Reason for Revision Update to Format

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Disclaimer Statement

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

End of Safety Data Sheet

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Revision Date: 24-Jan-2023
Preparation Date 24-Jan-2023

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Internal ID Code HM000965

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product Identifier

Product Name KCL POTASSIUM CHLORIDE
Internal ID Code HM000965

Other means of identification

Pure substance/mixture Substance

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Brine

Sector of uses SU2 - Mining, (including offshore industries)
Uses advised against Consumer use

1.3. Details of the supplier of the safety data sheet

Halliburton BV
Columbusstraat 19
7825VP
Emmen
Netherlands
www.halliburton.com

For further information, please contact:

E-mail Address: fdunexchem@halliburton.com

1.4. Emergency telephone number

+44 8 08 189 0979 / 1-760-476-3961
Global Incident Response Access Code: 334305
Contract Number: 14012

Emergency telephone - Article 45 - (EC)1272/2008	
Austria	Poison Information Centre (AT): +43-(0)1-406 43 43
Belgium	Poison center (BE): +32 70 245 245
Bulgaria	Bulgarian poison centre: +359 2 915-44-09 or +359 2 915-43-46
Croatia	Centar za kontrolu otrovanja (CKO): (+385 1) 23-48-342 (Poison Control Center (PCC) - Institute for Medical Research and Occupational Health)
Cyprus	1401
Czech Republic	+420 224 919 293; +420 224 915 402
Denmark	Poison Control Hotline (DK): +45 82 12 12 12
Estonia	16662 (Local Poison Information Centre); (+372) 626 93 90 (International Poison Information Centre)
Europe	112
Finland	Poison Information Centre (FI):+358 9 471 977
France	ORFILA (FR): + 01 45 42 59 59
Germany	Poison Center Berlin (DE): +49 030 30686 790
Greece	+30 210 779 3777
Hungary	+36 (06) 80 201-199
Iceland	543 2222 / 543 1000

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Revision Number: 34
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Ireland	National Poisons Information Centre (IE): +353 1 8379964
Italy	Poison Center, Milan (IT): +39 02 6610 1029
Latvia	(+371) 67042473 (International number for the National Toxicology Centre)
Lithuania	+370 (85) 2362052
Luxembourg	(+352) 8002 5500
Malta	2122 4071
Netherlands	National Poisons Information Center (NL): +31 30 274 88 88 (NB: this service is only available to health professionals)
Norway	Poisons Information (NO):+ 47 22 591300
Poland	Poison Control and Information Centre, Warsaw (PL): +48 22 619 66 54; +48 22 619 08 97
Portugal	CIAV - Centro de Informação Antivenenos (Portuguese Poison Centre): + 351 213 303 271
Romania	+40 21 318 36 06
Slovakia	+421 2 4854 4511
Slovenia	112
Spain	Poison Information Service (ES): +34 91 562 04 20
Sweden	Poisons Information Center (SV):+46 8 33 12 31
Switzerland	Poison Center: Tel 145; +41 44 251 51 51
Turkey	Ulusal Zehir Danisma Merkezi (UZEM) :114 Acil Saglik Hizmetleri : 112
United Kingdom	NHS Direct (UK): +44 0845 46 47

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Not classified

Additional information: No information available

For full text of Hazard- and EU Hazard-statements: see SECTION 16.

2.2. Label Elements

Not classified

Hazard Pictograms

Signal Word: None

Hazard Statements:

Not Classified

Precautionary Statements:

None

Contains
Substances

Potassium chloride

CAS Number
7447-40-7

Additional information: No information available

2.3. Other Hazards

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).

This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors

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Substances	CAS Number	EU - REACH (1907/2006) - Article 59(1) - Candidate List of Substances of Very High Concern (SVHC) for Authorisation	EU - REACH (1907/2006) - Endocrine Disruptor Assessment List of Substances	Endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100(3) or Commission Regulation (EU) 2018/605(4)
Potassium chloride	7447-40-7	-	-	-

SECTION 3: Composition/information on ingredients

3.1. Substances Substance

Substances	EINECS	CAS Number	REACH Reg. No	PERCENT (w/w)	EU - CLP Substance Classification
Potassium chloride	231-211-8	7447-40-7	-	60 - 100%	

Substances	EINECS	PERCENT (w/w)	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
Potassium chloride	231-211-8	60 - 100%	-	-	-

Classification according to Regulation (EC) No. 1272/2008 [CLP]

For the full text of the H-phrases mentioned in this Section, see Section 16

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Potassium chloride	7447-40-7	3020 mg/kg (Rat)	> 2000 mg/L (Rabbit) (similar substance)	No data available

Rat = Rat, Rabbit = Rabbit, dust = dust

This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (Regulation (EC) No. 1907/2006 (REACH), Article 59)

Additional information: No information available

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
Eyes	In case of contact, or suspected contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention immediately after flushing.
Skin	Wash with soap and water. Get medical attention if irritation persists.
Ingestion	Do NOT induce vomiting. Give nothing by mouth. Obtain immediate medical attention.
Protection of First-aiders	No information available.

4.2. Most important symptoms and effects, both acute and delayed

May be harmful if swallowed.

4.3. Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically

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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media

All standard fire fighting media

Extinguishing media which must not be used for safety reasons

None known.

5.2. Special hazards arising from the substance or mixture

Special exposure hazards in a fire

Not applicable

5.3. Advice for firefighters

Special protective equipment for firefighters

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use appropriate protective equipment. Avoid creating and breathing dust. Avoid contact with skin, eyes and clothing. Ensure adequate ventilation.

See Section 8 for additional information.

6.2. Environmental precautions

Prevent from entering sewers, waterways, or low areas.

6.3. Methods and material for containment and cleaning up

Scoop up and remove.

6.4. Reference to other sections

See Section 8 and 13 for additional information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid contact with eyes, skin, or clothing. Avoid creating or inhaling dust. Ensure adequate ventilation. Wash hands after use. Launder contaminated clothing before reuse. Use appropriate protective equipment.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Store in a cool, dry location. Product has a shelf life of 60 months.

7.3. Specific end use(s)

Exposure scenario

No information available

Other Guidelines

No information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits

Substances	CAS Number	EU	UK	Netherlands	France
Potassium chloride	7447-40-7	Not applicable	Not applicable	Not applicable	Not applicable

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Substances	CAS Number	Germany	Spain	Portugal	Finland
Potassium chloride	7447-40-7	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Austria	Ireland	Switzerland	Norway
Potassium chloride	7447-40-7	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Italy	Poland	Hungary	Czech Republic
Potassium chloride	7447-40-7	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Denmark	Romania	Croatia	Cyprus
Potassium chloride	7447-40-7	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Bulgaria	Turkey
Potassium chloride	7447-40-7	TWA: 5.0 mg/m ³	Not applicable

Derived No Effect Level (DNEL)
Worker

No information available

General Population

Predicted No Effect Concentration (PNEC)

No information available.

8.2. Exposure controls

Engineering Controls

Use in a well ventilated area.

Personal protective equipment

If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

Respiratory Protection

If engineering controls and work practices cannot keep exposure below occupational exposure limits or if exposure is unknown, wear a NIOSH certified, European Standard EN 149, AS/NZS 1715:2009, or equivalent respirator when using this product. Selection of and instruction on using all personal protective equipment, including respirators, should be performed by an Industrial Hygienist or other qualified professional. Dust/mist respirator. (N95, P2/P3)

Hand Protection

Normal work gloves.

Skin Protection

Wear clothing appropriate for the work environment. Dusty clothing should be laundered before reuse. Use precautionary measures to avoid creating dust when removing or laundering clothing. Normal work coveralls.

Eye Protection

Dust proof goggles. (EN-166)

Other Precautions

Eyewash fountains and safety showers must be easily accessible.

Environmental Exposure Controls Do not allow material to contaminate ground water system.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical State: Solid

Color

White to gray

Odor: Odorless

Odor

No information available

Property

Threshold:

Remarks/ - Method

Values

pH:

9.2

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Freezing Point / Range	No data available
Melting Point / Range	771 °C
Boiling Point / Range	1413 °C
Flash Point	No data available
Flammability (solid, gas)	No data available
Upper flammability limit	No data available
Lower flammability limit	No data available
Evaporation rate	No data available
Vapor Pressure	No data available
Relative Vapor Density	No data available
Relative Density	1.99
Water Solubility	Soluble in water
Solubility in other solvents	No data available
Partition coefficient: n-octanol/water	No data available
Autoignition Temperature	No data available
Decomposition Temperature	No data available
Viscosity	No data available
Explosive Properties	No information available
Oxidizing Properties	No information available

9.2. Other information

Pour Point / Range	No data available
Molecular Weight	74.55
VOC Content (%)	No data available

9.2.1 Information with regard to physical hazard classes No information available

9.2.2. Other safety characteristics No information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Not expected to be reactive.

10.2. Chemical stability

Stable

10.3. Possibility of hazardous reactions

Will Not Occur

10.4. Conditions to avoid

None anticipated

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

None known.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute Toxicity

Inhalation	May cause mild respiratory irritation.
Eye Contact	Non-irritating to rabbit's eye
Skin Contact	Not irritating to skin in rabbits.
Ingestion	May be harmful if swallowed. May cause abdominal pain, vomiting, nausea, and

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diarrhea.

Chronic Effects/Carcinogenicity No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

LD50 Oral: > 5000 mg/kg (Rat)

Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Potassium chloride	7447-40-7	3020 mg/kg (Rat)	> 2000 mg/L (Rabbit) (similar substance)	No data available

Rat = Rat, Rabbit = Rabbit, dust = dust

Substances	CAS Number	Skin corrosion/irritation
Potassium chloride	7447-40-7	Non-irritating to the skin (Rabbit) (similar substances)

Substances	CAS Number	Serious eye damage/irritation
Potassium chloride	7447-40-7	May cause mild eye irritation. (Rabbit) (similar substances)

Substances	CAS Number	Skin Sensitization
Potassium chloride	7447-40-7	Did not cause sensitization on laboratory animals (mouse) (similar substances)

Substances	CAS Number	Respiratory Sensitization
Potassium chloride	7447-40-7	No information available

Substances	CAS Number	Mutagenic Effects
Potassium chloride	7447-40-7	In vitro tests did not show mutagenic effects.

Substances	CAS Number	Carcinogenic Effects
Potassium chloride	7447-40-7	Did not show carcinogenic effects in animal experiments (similar substances)

Substances	CAS Number	Reproductive toxicity
Potassium chloride	7447-40-7	Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments. (similar substances)

Substances	CAS Number	STOT - single exposure
Potassium chloride	7447-40-7	No significant toxicity observed in animal studies at concentration requiring classification.

Substances	CAS Number	STOT - repeated exposure
Potassium chloride	7447-40-7	No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)

Substances	CAS Number	Aspiration hazard
Potassium chloride	7447-40-7	Not applicable

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors

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11.2.2 Other Information

Other Adverse Effects No information available

SECTION 12: Ecological information

12.1. Toxicity

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Potassium chloride	7447-40-7	EC50(72h): 2500 mg/l (Desmodesmus subspicatus) EC50(72h): > 100 mg/L (growth rate) (Desmodesmus subspicatus)	LC50: 1060 mg/L (Lepomis macrochirus); LC50: 750-1020 mg/L (Pimephales promelas)	EC50(3h): >1000 mg/L (activated sludge)	TLM96: 100-330 ppm (Crangon crangon) EC50(24h): >= 580 <=990 mg/L (Daphnia magna) EC50(48h): >=440 <= 880 mg/L (Daphnia magna)

growth rate = growth rate, similar substance = similar substance, activated sludge = activated sludge, reproduction = reproduction

12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Potassium chloride	7447-40-7	The methods for determining biodegradability are not applicable to inorganic substances.

12.3. Bioaccumulative potential

Bioaccumulative Potential

Substances	CAS Number	Bioaccumulation
Potassium chloride	7447-40-7	No information available

12.4. Mobility in soil

Substances	CAS Number	Mobility
Potassium chloride	7447-40-7	No information available

12.5. Results of PBT and vPvB assessment

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT). This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

Substances	PBT and vPvB assessment
Potassium chloride	Not applicable

12.6 Endocrine disrupting properties

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors

12.7 Other adverse effects

No information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal methods

Bury in a licensed landfill according to federal, state, and local regulations. Substance should NOT be deposited into a sewage facility.

Contaminated Packaging

Follow all applicable national or local regulations. Contaminated packaging may be disposed of by: rendering packaging incapable of containing any substance, or treating packaging to remove residual contents, or treating packaging to make sure the residual

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contents are no longer hazardous, or by disposing of packaging into commercial waste collection.

SECTION 14: Transport information

IMDG/IMO

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

ADN

UN Number	Not restricted
UN proper shipping name:	Not restricted
Packing Group	Not applicable
Environmental Hazards:	Not applicable

ADR/RID

UN Number	Not restricted
UN proper shipping name:	Not restricted
Packing Group	Not applicable
Environmental Hazards:	Not applicable

IATA/ICAO

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

14.1. UN Number Not restricted

14.2. UN proper shipping name: Not restricted

14.3.

14.4. Packing Group Not applicable

14.5. Environmental Hazards: Not applicable

14.6. Special Precautions for User None

14.7. Maritime transport in bulk according to IMO instruments No information available

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

International Inventories

US TSCA Inventory	All components listed on inventory or are exempt.
Canadian Domestic Substances List (DSL)	All components listed on inventory or are exempt.

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Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

Germany, Water Endangering WGK 1: Low hazard to waters.

Classes (WGK)

Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.
Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

Substances	CAS Number	Seveso III	TA LUFT
Potassium chloride	7447-40-7	Not applicable	Not applicable

Substances	CAS Number	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization
Potassium chloride	7447-40-7	Not applicable	Not applicable

15.2. Chemical safety assessment

No information available

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3

None

Key or legend to abbreviations and acronyms used in the safety data sheet

bw – body weight
CAS – Chemical Abstracts Service
CLP – REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on Classification, Labelling and Packaging of substances and mixtures
EC – European Commission
EC10 – Effective Concentration 10%
EC50 – Effective Concentration 50%
EEC – European Economic Community
ErC50 – Effective Concentration growth rate 50%
IBC Code – International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
LC50 – Lethal Concentration 50%
LD50 – Lethal Dose 50%
LL0 – Lethal Loading 0%
LL50 – Lethal Loading 50%
MARPOL – International Convention for the Prevention of Pollution from Ships
mg/kg – milligram/kilogram
mg/L – milligram/liter
NIOSH – National Institute for Occupational Safety and Health
NOEC – No Observed Effect Concentration
NTP – National Toxicology Program
OEL – Occupational Exposure Limit
PBT – Persistent Bioaccumulative and Toxic
PC – Chemical Product category
PEL – Permissible Exposure Limit
ppm – parts per million
PROC – Process category

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REACH – REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals
STEL – Short Term Exposure Limit
SU – Sector of Use category

Key literature references and sources for data

www.ChemADVISOR.com/
NZ CCID

Revision Date: 24-Jan-2023
Reason for Revision Update to Format

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Disclaimer Statement

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

End of Safety Data Sheet

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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product Identifier

Product Name SILICALITE LIQUID
Internal ID Code HM001274

Other means of identification

Pure substance/mixture Mixture

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Light Weight Cement Additive

Sector of uses SU2 - Mining, (including offshore industries)
Uses advised against Consumer use

1.3. Details of the supplier of the safety data sheet

Halliburton BV
Columbusstraat 19
7825VP
Emmen
Netherlands
www.halliburton.com

Supplier:

Halliburton Manufacturing and Services Limited (Halliburton BV)
Columbusstraat 19
7825VP
Emmen
Netherlands
Tel: +31 591 636 111

For further information, please contact:

E-mail Address: fdunexchem@halliburton.com

1.4. Emergency telephone number

+44 8 08 189 0979 / 1-760-476-3961
Global Incident Response Access Code: 334305
Contract Number: 14012

Emergency telephone - Article 45 - (EC)1272/2008	
Austria	Poison Information Centre (AT): +43-(0)1-406 43 43
Belgium	Poison center (BE): +32 70 245 245
Bulgaria	Bulgarian poison centre: +359 2 915-44-09 or +359 2 915-43-46
Croatia	Centar za kontrolu otrovanja (CKO): (+385 1) 23-48-342 (Poison Control Center (PCC) - Institute for Medical Research and Occupational Health)
Cyprus	1401
Czech Republic	+420 224 919 293; +420 224 915 402
Denmark	Poison Control Hotline (DK): +45 82 12 12 12
Estonia	16662 (Local Poison Information Centre); (+372) 626 93 90 (International Poison Information Centre)
Europe	112

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Finland	Poison Information Centre (FI): +358 9 471 977
France	ORFILA (FR): + 01 45 42 59 59
Germany	Poison Center Berlin (DE): +49 030 30686 790
Greece	+30 210 779 3777
Hungary	+36 (06) 80 201-199
Iceland	543 2222 / 543 1000
Ireland	National Poisons Information Centre (IE): +353 1 8379964
Italy	Poison Center, Milan (IT): +39 02 6610 1029
Latvia	(+371) 67042473 (International number for the National Toxicology Centre)
Lithuania	+370 (85) 2362052
Luxembourg	(+352) 8002 5500
Malta	2122 4071
Netherlands	National Poisons Information Center (NL): +31 30 274 88 88 (NB: this service is only available to health professionals)
Norway	Poisons Information (NO): + 47 22 591300
Poland	Poison Control and Information Centre, Warsaw (PL): +48 22 619 66 54; +48 22 619 08 97
Portugal	CIAV - Centro de Informação Antivenenos (Portuguese Poison Centre): + 351 213 303 271
Romania	+40 21 318 36 06
Slovakia	+421 2 4854 4511
Slovenia	112
Spain	Poison Information Service (ES): +34 91 562 04 20
Sweden	Poisons Information Center (SV): +46 8 33 12 31
Switzerland	Poison Center: Tel 145; +41 44 251 51 51
Turkey	Ulusal Zehir Danisma Merkezi (UZEM) :114 Acil Saglik Hizmetleri : 112
United Kingdom	NHS Direct (UK): +44 0845 46 47

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Not classified

Additional information: No information available

For full text of Hazard- and EU Hazard-statements: see SECTION 16.

2.2. Label Elements

Not classified

Hazard Pictograms

Signal Word: None

Hazard Statements:

Not Classified

Precautionary Statements:

None

Contains

Substances

Contains no hazardous substances in concentrations above cut-off values according to the competent authority

CAS Number

NA

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Additional information: No information available

2.3. Other Hazards

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).
This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors

Substances	CAS Number	EU - REACH (1907/2006) - Article 59(1) - Candidate List of Substances of Very High Concern (SVHC) for Authorisation	EU - REACH (1907/2006) - Endocrine Disruptor Assessment List of Substances	Endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100(3) or Commission Regulation (EU) 2018/605(4)
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	-	-	-

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Mixture

Substances	EINECS	CAS Number	REACH Reg. No	PERCENT (w/w)	EU - CLP Substance Classification
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	NA	-	60 - 100%	

Substances	EINECS	PERCENT (w/w)	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	60 - 100%	-	-	-

Classification according to Regulation (EC) No. 1272/2008 [CLP]

For the full text of the H-phrases mentioned in this Section, see Section 16

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No data available	No data available	No data available

Rat = Rat, Rabbit = Rabbit, dust = dust

This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (Regulation (EC) No. 1907/2006 (REACH), Article 59)

Additional information: No information available

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SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
Eyes	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.
Skin	Flush skin with large amounts of water. If irritation persists, get medical attention.
Ingestion	Rinse mouth with water many times. Get medical attention, if symptoms occur
Protection of First-aiders	No information available.

4.2. Most important symptoms and effects, both acute and delayed

No significant hazards expected.

4.3. Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media

All standard fire fighting media

Extinguishing media which must not be used for safety reasons

None known.

5.2. Special hazards arising from the substance or mixture

Special exposure hazards in a fire

Not applicable

5.3. Advice for firefighters

Special protective equipment for firefighters

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use appropriate protective equipment. Avoid contact with skin, eyes and clothing.

See Section 8 for additional information.

6.2. Environmental precautions

None known. Prevent from entering sewers, waterways, or low areas.

6.3. Methods and material for containment and cleaning up

Isolate spill and stop leak where safe. Contain spill with sand or other inert materials. Scoop up and remove.

6.4. Reference to other sections

See Section 8 and 13 for additional information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

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Avoid contact with eyes, skin, or clothing. Ensure adequate ventilation. Wash hands after use. Launder contaminated clothing before reuse. Use appropriate protective equipment.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Keep container closed when not in use. Product has a shelf life of 24 months.

7.3. Specific end use(s)

Exposure scenario No information available

Other Guidelines No information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits

Substances	CAS Number	EU	UK	Netherlands	France
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Germany	Spain	Portugal	Finland
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Austria	Ireland	Switzerland	Norway
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Italy	Poland	Hungary	Czech Republic
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Denmark	Romania	Croatia	Cyprus
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable	Not applicable	Not applicable

Derived No Effect Level (DNEL)
Worker

No information available

General Population

Predicted No Effect Concentration (PNEC)

No information available.

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8.2. Exposure controls

Engineering Controls

Use in a well ventilated area. Personal protective equipment must be CE marked and should be selected in collaboration with the supplier of such equipment.
The recommended protective equipment and the specified standards are indicative. Standards should be of the latest version.
Risk assessment of the actual workplace / operation (actual risk) may result in other protective measures.
The suitability and durability of the protective equipment will depend on the application.

Personal protective equipment

If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

Respiratory Protection

Not normally necessary.

Hand Protection

Normal work gloves.

Skin Protection

Normal work coveralls.

Eye Protection

Wear safety glasses or goggles to protect against exposure. (EN-166)

Other Precautions

Eyewash fountains and safety showers must be easily accessible.

Environmental Exposure Controls No information available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical State: Liquid

Color

Dark gray

Odor: Odorless

Odor

No information available

Threshold:

Values

Property

Remarks/ - Method

pH:

6- 8

Freezing Point / Range

0 °C

Melting Point / Range

No data available

Boiling Point / Range

100 °C / 212 °F

Flash Point

100 °C / > 212 °F

Flammability (solid, gas)

No data available

Upper flammability limit

No data available

Lower flammability limit

No data available

Evaporation rate

No data available

Vapor Pressure

22.9

Relative Vapor Density

No data available

Relative Density

1.37

Liquid Density

11.64 lbs/gal

Water Solubility

Miscible with water

Solubility in other solvents

No data available

Partition coefficient: n-octanol/water

No data available

Autoignition Temperature

No data available

Decomposition Temperature

No data available

Viscosity

No data available

Explosive Properties

No information available

Oxidizing Properties

No information available

9.2. Other information

Pour Point / Range

No data available

VOC Content (%)

No data available

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9.2.1 Information with regard to physical hazard classes No information available

9.2.2 Other safety characteristics No information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Not expected to be reactive.

10.2. Chemical stability

Stable

10.3. Possibility of hazardous reactions

Will Not Occur

10.4. Conditions to avoid

None anticipated

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

Amorphous silica may transform at elevated temperatures to tridymite (870 C) or cristobalite (1470 C).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute Toxicity

Inhalation

May cause mild respiratory irritation.

Eye Contact

May cause mechanical irritation to eye.

Skin Contact

None known.

Ingestion

May cause abdominal pain, vomiting, nausea, and diarrhea.

Chronic Effects/Carcinogenicity

No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No data available	No data available	No data available

Rat = Rat, Rabbit = Rabbit, dust = dust

SAFETY DATA SHEET

SILICALITE LIQUID

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Internal ID Code HM001274

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors

11.2.2 Other Information

Other Adverse Effects No information available

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity effects

Contains no substances known to be hazardous to the environment.

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available	No information available	No information available	No information available

growth rate = growth rate, similar substance = similar substance, activated sludge = activated sludge, reproduction = reproduction

12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

12.3. Bioaccumulative potential

Bioaccumulative Potential

Substances	CAS Number	Bioaccumulation
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

12.4. Mobility in soil

Substances	CAS Number	Mobility
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

12.5. Results of PBT and vPvB assessment

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT). This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

Substances	PBT and vPvB assessment
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	Not applicable

12.6 Endocrine disrupting properties

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors

12.7 Other adverse effects

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No information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal methods

Disposal should be made in accordance with federal, state, and local regulations.

Contaminated Packaging

Follow all applicable national or local regulations.

SECTION 14: Transport information

IMDG/IMO

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

ADN

UN Number	Not restricted
UN proper shipping name:	Not restricted
Packing Group	Not applicable
Environmental Hazards:	Not applicable

ADR/RID

UN Number	Not restricted
UN proper shipping name:	Not restricted
Packing Group	Not applicable
Environmental Hazards:	Not applicable

IATA/ICAO

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

14.1. UN Number Not restricted

14.2. UN proper shipping name: Not restricted

14.3.

14.4. Packing Group Not applicable

14.5. Environmental Hazards: Not applicable

14.6. Special Precautions for User None

14.7. Maritime transport in bulk according to IMO instruments

No information available

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

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International Inventories

US TSCA Inventory All components listed on inventory or are exempt.
Canadian Domestic Substances List (DSL) All components listed on inventory or are exempt.

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

Germany, Water Endangering WGK 1: Low hazard to waters.

Classes (WGK)

Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.
Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

Substances	CAS Number	Seveso III	TA LUFT
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable

Substances	CAS Number	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable

15.2. Chemical safety assessment

No information available

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3

None

Key or legend to abbreviations and acronyms used in the safety data sheet

bw – body weight
CAS – Chemical Abstracts Service
CLP – REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on Classification, Labelling and Packaging of substances and mixtures
EC – European Commission
EC10 – Effective Concentration 10%
EC50 – Effective Concentration 50%
EEC – European Economic Community
ErC50 – Effective Concentration growth rate 50%
IBC Code – International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
LC50 – Lethal Concentration 50%
LD50 – Lethal Dose 50%
LL0 – Lethal Loading 0%
LL50 – Lethal Loading 50%
MARPOL – International Convention for the Prevention of Pollution from Ships
mg/kg – milligram/kilogram
mg/L – milligram/liter

SAFETY DATA SHEET SILICALITE LIQUID

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NIOSH – National Institute for Occupational Safety and Health
NOEC – No Observed Effect Concentration
NTP – National Toxicology Program
OEL – Occupational Exposure Limit
PBT – Persistent Bioaccumulative and Toxic
PC – Chemical Product category
PEL – Permissible Exposure Limit
ppm – parts per million
PROC – Process category
REACH – REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals
STEL – Short Term Exposure Limit
SU – Sector of Use category

Key literature references and sources for data
www.ChemADVISOR.com/

Revision Date: 24-Jan-2023
Reason for Revision Update to Format

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Disclaimer Statement

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

End of Safety Data Sheet

HALLIBURTON

SAFETY DATA SHEET

CEMENT - CLASS G DYCKERHOFF

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Supersedes Date: 08-Dec-2023

Revision Number 33
Product Code(s) HM001846

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product Name	CEMENT - CLASS G DYCKERHOFF
Product Code(s)	HM001846
Denmark PR No.	360576
Form	Contains Nanoforms
Bulk cargo shipping name:	Cement

Other means of identification

Pure substance/mixture	Substance
------------------------	-----------

Contains Portland cement; Crystalline silica, quartz

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended use	Cement
Sector of uses [SU]	SU2 - Mining, (including offshore industries)
Uses advised against	Consumer use

1.3. Details of the supplier of the safety data sheet

Halliburton BV
Columbusstraat 19
7825VP
Emmen
Netherlands
Tel: +31 591 636 111

www.halliburton.com

For further information, please contact

E-mail address	fdunexchem@halliburton.com
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1.4. Emergency telephone number

Emergency Telephone	+44 8 08 189 0979 / 1-760-476-3961 Global Incident Response Access Code: 334305 Contract Number: 14012
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Emergency Telephone - §45 - (EC)1272/2008

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Austria	+43 (0)1 406 43 43
Belgium	+32 70 245 245
Bulgaria	+359 2 915 44 09 / +359 2 915 43 46
Croatia	(+385 1) 23 48 342
Cyprus	1401
Czech Republic	+420 224 919 293 / +420 224 915 402
Denmark	+45 82 12 12 12
Estonia	16662 / (+372) 626 93 90
Europe	112
Finland	+358 9 471 977
France	+01 45 42 59 59
Germany	+49 030 30686 790
Greece	+30 210 779 3777
Hungary	+36 (06) 80 201 199
Iceland	543 2222 / 543 1000
Ireland	+353 1 8379964
Italy	+39 02 6610 1029
Latvia	(+371) 67042473
Lithuania	+370 (85) 2362052
Luxembourg	(+352) 8002 5500
Malta	2122 4071
Netherlands	National Poisons Information Center (NL): +31 30 274 88 88 (NB: this service is only available to health professionals)
Norway	+ 47 22 591300
Poland	+48 22 619 66 54 / +48 22 619 08 97
Portugal	+351 213 303 271
Romania	+40 21 318 36 06
Slovakia	+421 2 4854 4511
Slovenia	112
Spain	+34 91 562 04 20
Sweden	+46 8 33 12 31
Switzerland	114 / 112

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Skin corrosion/irritation	Category 2 - (H315)
Serious eye damage/eye irritation	Category 1 - (H318)
Skin sensitization	Category 1 - (H317)
Specific target organ toxicity (single exposure)	Category 3 - (H335)
Category 3 Respiratory irritation	

2.2. Label elements

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Contains Portland cement; Crystalline silica, quartz



Signal word

Danger

Hazard statements

H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H318 - Causes serious eye damage.
H335 - May cause respiratory irritation.

Precautionary Statements - EU (§28, 1272/2008)

P260 - Do not breathe dust/fume/gas/mist/vapors/spray.
P264 - Wash face, hands and any exposed skin thoroughly after handling.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 - Immediately call a POISON CENTER or doctor.

Chemical name	CAS No.	EC No (EU Index No)
Portland cement	65997-15-1	266-043-4
Crystalline silica, quartz	14808-60-7	238-878-4

Additional information

No information available

2.3. Other hazards

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT)
This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB)

This product does not contain any known or suspected endocrine disruptors.

SECTION 3: Composition/information on ingredients

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3.1 Substances

Chemical name	Weight-%	REACH registration number	EC No (EU Index No)	Classification according to Regulation (EC) No. 1272/2008 [CLP]	EU CLP Specific Concentration Limits	M-Factor	M-Factor (long-term)
Portland cement 65997-15-1	60 - 100%	-	266-043-4	Skin Irrit. 2 (H315) Skin Sens. 1 (H317) Eye Dam. 1 (H318) STOT SE 3 (H335)	-	-	-
Crystalline silica, quartz 14808-60-7	< 1%	-	238-878-4	Carc. 2 (H351) STOT RE 1 (H372)	-	-	-

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Full text of H- and EUH-phrases: see section 16

Acute Toxicity Estimate

No information available.

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Portland cement 65997-15-1	> 2000 mg/kg (Rat)	> 2000 mg/kg	> 1 mg/L (Rat) 4h
Crystalline silica, quartz 14808-60-7	> 15000 mg/kg (human)	-	-

Rat = Rat
Rabbit = Rabbit
Dust = Dusts
Vapor = Vapor
Aerosol = Aerosol
Human = Human
Mouse = Mouse
Guinea pig = Guinea pig

This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (Regulation (EC) No. 1907/2006 (REACH), Article 59)

Additional information No information available

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice

Immediate medical attention is required. Show this safety data sheet to the doctor in attendance. IF exposed or concerned: Get medical advice/attention.

Inhalation

Remove to fresh air. Get medical attention immediately if symptoms occur. IF exposed or concerned: Get medical advice/attention.

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Eye contact	Get immediate medical attention. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area.
Skin contact	Wash off immediately with soap and plenty of water for at least 15 minutes. May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a physician.
Ingestion	Rinse mouth. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a physician.
Self-protection of the first aider	Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

4.2. Most important symptoms and effects, both acute and delayed

Symptoms	Burning sensation. Itching. Rashes. Hives.
Effects of Exposure	No information available.

4.3. Indication of any immediate medical attention and special treatment needed

Note to physicians	May cause sensitization in susceptible persons. Treat symptomatically.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media	None - does not burn.
Large Fire	CAUTION: Use of water spray when fighting fire may be inefficient.
Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical	Product is or contains a sensitizer. May cause sensitization by skin contact.
Hazardous combustion products	Amorphous silica may transform at elevated temperatures to tridymite (870 C) or cristobalite (1470 C).

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.
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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

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Personal precautions Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Ensure adequate ventilation. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Other information Refer to protective measures listed in Sections 7 and 8.

For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so.

6.3. Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Take up mechanically, placing in appropriate containers for disposal.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Take off contaminated clothing and wash before reuse. Avoid breathing vapors or mists.

General hygiene considerations If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Store in a cool well ventilated area. Keep container closed when not in use. Store locked up. Store in a cool, dry location. Use good housekeeping in storage and work areas to prevent accumulation of dust. Close container when not in use. Product has a shelf life of 24 months. Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children.

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7.3. Specific end use(s)

Specific use(s) See section 1 for more information.

Exposure scenario No information available.

Risk Management Methods (RMM) The information required is contained in this Safety Data Sheet.

Other information No information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits

Chemical name	European Union	Austria	Belgium	Bulgaria
Portland cement 65997-15-1	-	TWA: 5 mg/m ³	TWA: 1 mg/m ³	TWA: 8.0 mg/m ³
Crystalline silica, quartz 14808-60-7	TWA: 0.1 mg/m ³	TWA: 0.05 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³

Chemical name	Croatia	Cyprus	Czech Republic	Denmark	Estonia	Finland
Portland cement 65997-15-1	TWA: 10 mg/m ³ TWA: 4 mg/m ³	-	TWA: 10.0 mg/m ³	-	TWA: 10 mg/m ³ TWA: 5 mg/m ³	TWA: 5 mg/m ³ TWA: 1 mg/m ³
Crystalline silica, quartz 14808-60-7	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.3 mg/m ³ TWA: 0.1 mg/m ³ STEL: 0.6 mg/m ³ STEL: 0.2 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.05 mg/m ³

Chemical name	France	Germany TRGS	Germany DFG	Greece	Hungary
Portland cement 65997-15-1	-	-	TWA: :	-	TWA: 10 mg/m ³
Crystalline silica, quartz 14808-60-7	TWA: 0.1 mg/m ³	-	-	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³

Chemical name	Ireland	Italy MDLPS	Italy AIDII	Latvia	Lithuania
Portland cement 65997-15-1	TWA: 1 mg/m ³ STEL: 3 mg/m ³	-	TWA: 1 mg/m ³	TWA: 6 mg/m ³	TWA: 10 mg/m ³ TWA: 5 mg/m ³
Crystalline silica, quartz 14808-60-7	TWA: 0.1 mg/m ³ STEL: 0.3 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.025 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.1 ppm

Chemical name	Luxembourg	Malta	Netherlands	Norway	Poland
Portland cement 65997-15-1	-	-	-	-	TWA: 6 mg/m ³ TWA: 2 mg/m ³
Crystalline silica, quartz	-	-	TWA: 0.075 mg/m ³	TWA: 0.05 mg/m ³	TWA: 0.1 mg/m ³

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14808-60-7				TWA: 0.1 mg/m ³ TWA: 0.3 mg/m ³ STEL: 0.9 mg/m ³ STEL: 0.15 mg/m ³ STEL: 0.3 mg/m ³	
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Chemical name	Portugal	Romania	Slovakia	Slovenia	Spain
Portland cement 65997-15-1	TWA: 1 mg/m ³	TWA: 10 mg/m ³	-	-	TWA: 4 mg/m ³
Crystalline silica, quartz 14808-60-7	TWA: 0.025 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³ STEL: 0.5 mg/m ³	TWA: 0.05 mg/m ³	TWA: 0.05 mg/m ³

Chemical name	Sweden	Switzerland	United Kingdom
Portland cement 65997-15-1	-	S+ TWA: 5 mg/m ³	TWA: 10 mg/m ³ TWA: 4 mg/m ³ STEL: 30 mg/m ³ STEL: 12 mg/m ³
Crystalline silica, quartz 14808-60-7	NGV: 0.1 mg/m ³	TWA: 0.15 mg/m ³	TWA: 0.1 mg/m ³ STEL: 0.3 mg/m ³

Biological occupational exposure limits

Chemical name	European Union	Austria	Bulgaria	Croatia	Czech Republic
Crystalline silica, quartz 14808-60-7	-	(-)	-	-	-

Derived No Effect Level (DNEL) - Workers No information available

Derived No Effect Level (DNEL) - General Public No information available.

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

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Engineering controls	Use approved industrial ventilation and local exhaust as required to maintain exposures below applicable exposure limits. A well ventilated area to control dust levels. Personal protective equipment must be CE marked and should be selected in collaboration with the supplier of such equipment. The recommended protective equipment and the specified standards are indicative. Standards should be of the latest version. Risk assessment of the actual workplace / operation (actual risk) may result in other protective measures. The suitability and durability of the protective equipment will depend on the application.
Personal protective equipment	Use engineering controls to keep exposures below the OEL or DNEL
Eye/face protection	Wear safety glasses or goggles to protect against exposure. Dust proof goggles. (EN-166). Tight sealing safety goggles. (EN-166).
Hand protection	Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374):. Impervious rubber gloves. Nitrile gloves. Wear suitable gloves. Impervious gloves.
Skin and body protection	Wear clothing appropriate for the work environment. Dusty clothing should be laundered before reuse. Use precautionary measures to avoid creating dust when removing or laundering clothing. Wear suitable protective clothing. Long sleeved clothing.
Respiratory protection	Wear a NIOSH certified, European Standard EN 149 (FFP2/FFP3), AS/NZS 1715, or equivalent respirator when using this product. Dust/mist respirator. (N95, P2/P3).
Other protective equipment	Eyewash fountains and safety showers must be easily accessible.
General hygiene considerations	If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product.
Environmental exposure controls	No information available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Solid
Color	Gray
Odor	Odorless

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<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Melting point / freezing point	Not applicable	Solid
Initial boiling point and boiling range	Not applicable	Solid
Flammability	Not flammable	Solid
Flammability Limit in Air	Not flammable	Solid
Upper flammability or explosive limits	No data available	-
Lower flammability or explosive limits	No data available	-
Flash point	Not flammable	Solid
Autoignition temperature	Not flammable	Solid
Decomposition temperature	No data available	
pH	- 12.4	
pH (as aqueous solution)	No data available	
Kinematic viscosity	Not applicable	Solid
Dynamic viscosity	Not applicable	Solid
Water solubility	Dispersible	
Solubility(ies)	Dispersible in water	
Partition coefficient	Not applicable	
Vapor pressure	No data available	Solid
Relative density	3.15 - 3.17 g/cm ³	
Bulk density	1505.74 (kg/m ³)	-
Liquid Density	No data available	Solid
Relative vapor density	No data available	Solid
Coefficient Water/Oil Distribution	No data available	Solid

Particle characteristics

Form	Contains Nanoforms
Particle Size	< 0.1 mm
Particle Size Distribution	1 - 100 µm

Explosive properties No information available

Oxidizing properties No information available

9.2. Other information

Pour Point No data available

Softening point Not applicable

Molecular weight Not applicable

VOC content No data available

9.2.1. Information with regard to physical hazard classes Not applicable

9.2.2. Other safety characteristics No information available

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Product Code(s) HM001846

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

None under normal processing.

10.4. Conditions to avoid

None known based on information supplied.

10.5. Incompatible materials

Hydrofluoric acid.
Strong acids. Strong bases. Strong oxidizing agents.

10.6. Hazardous decomposition products

Amorphous silica may transform at elevated temperatures to tridymite (870 C) or cristobalite (1470 C).

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Information on likely routes of exposure

Principle Route of Exposure Eye or skin contact, inhalation, Ingestion, Skin contact, Eye contact, Inhalation

Product Information

Inhalation Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract.

Eye contact Specific test data for the substance or mixture is not available. Causes serious eye damage. May cause irreversible damage to eyes.

Skin contact Specific test data for the substance or mixture is not available. May cause sensitization by skin contact. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. (based on components). Causes skin irritation.

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Ingestion Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Symptoms related to the physical, chemical and toxicological characteristics

Redness. Burning. May cause blindness. Itching. Rashes. Hives. May cause redness and tearing of the eyes.

Acute toxicity

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	99,999.00	mg/kg
ATEmix (dermal)	99,999.00	mg/kg
ATEmix (inhalation-gas)	99,999.00	ppm
ATEmix (inhalation-vapor)	99,999.00	mg/l
ATEmix (inhalation-dust/mist)	99,999.00	mg/l

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Portland cement	> 2000 mg/kg (Rat)	> 2000 mg/kg	> 1 mg/L (Rat) 4h
Crystalline silica, quartz	> 15000 mg/kg (human)	-	-

Rat = Rat
Rabbit = Rabbit
Dust = Dusts
Vapor = Vapor
Aerosol = Aerosol
Human = Human
Mouse = Mouse
Guinea pig = Guinea pig

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation Classification based on data available for ingredients. Causes skin irritation.

Chemical name	Skin corrosion/irritation
Portland cement 65997-15-1	Irritating to skin. (Rabbit)
Crystalline silica, quartz 14808-60-7	Non-irritating to the skin

Serious eye damage/eye irritation Classification based on data available for ingredients. Causes burns. Causes serious eye damage.

Chemical name	Serious eye damage/eye irritation
Portland cement 65997-15-1	Corrosive to eyes
Crystalline silica, quartz 14808-60-7	Non-irritating to the eye No information available

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Respiratory or skin sensitization May cause an allergic skin reaction.

Chemical name	Respiratory sensitization
Portland cement 65997-15-1	No information available
Crystalline silica, quartz 14808-60-7	No information available
Chemical name	Skin sensitization
Portland cement 65997-15-1	May cause sensitization by skin contact
Crystalline silica, quartz 14808-60-7	No information available

Germ cell mutagenicity .

Chemical name	Germ cell mutagenicity
Portland cement 65997-15-1	No data of sufficient quality are available.
Crystalline silica, quartz 14808-60-7	Not regarded as mutagenic.

Carcinogenicity Contains a known or suspected carcinogen. Classification based on data available for ingredients. Suspected of causing cancer.

Chemical name	Carcinogenicity
Portland cement 65997-15-1	No data of sufficient quality are available.
Crystalline silica, quartz 14808-60-7	Contains crystalline silica which may cause silicosis, a delayed and progressive lung disease. The IARC and NTP have determined there is sufficient evidence in humans of the carcinogenicity of crystalline silica with repeated respiratory exposure.

Reproductive toxicity .

Chemical name	Reproductive toxicity
Portland cement 65997-15-1	No data of sufficient quality are available.
Crystalline silica, quartz 14808-60-7	No information available

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STOT - single exposure May cause respiratory irritation.

Chemical name	STOT - single exposure
Portland cement 65997-15-1	May cause respiratory irritation.
Crystalline silica, quartz 14808-60-7	No significant toxicity observed in animal studies at concentration requiring classification.

STOT - repeated exposure May cause damage to organs through prolonged or repeated exposure.

Chemical name	STOT - repeated exposure
Portland cement 65997-15-1	No data of sufficient quality are available.
Crystalline silica, quartz 14808-60-7	Causes damage to organs through prolonged or repeated exposure if inhaled: (Lungs)

Aspiration hazard .

Chemical name	Aspiration hazard
Portland cement 65997-15-1	Not applicable
Crystalline silica, quartz 14808-60-7	No information available

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

This product does not contain any known or suspected endocrine disruptors.

11.2.2. Other information

Other adverse effects No information available.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity

Unknown aquatic toxicity Contains 0 % of components with unknown hazards to the aquatic environment.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Crystalline silica, quartz	EC50(72 h)=440 mg/L	LL0(96 h)=10000 mg/L	-	LL50(24 h)>10000 mg/L

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	(Pseudokirchneriella subcapitata)	(Danio rerio)		(Daphnia magna)
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12.2. Persistence and degradability

Persistence and degradability

Chemical name	Persistence and degradability
Portland cement 65997-15-1	The methods for determining biodegradability are not applicable to inorganic substances.
Crystalline silica, quartz 14808-60-7	The methods for determining biodegradability are not applicable to inorganic substances.

12.3. Bioaccumulative potential

Bioaccumulation

12.4. Mobility in soil

Mobility in soil

Chemical name	Mobility
Portland cement 65997-15-1	No information available
Crystalline silica, quartz 14808-60-7	No information available

12.5. Results of PBT and vPvB assessment

The product does not contain any substance(s) classified as PBT or vPvB above the threshold of declaration.

Chemical name	PBT and vPvB assessment
Crystalline silica, quartz	The substance is not PBT / vPvB

12.6. Endocrine disrupting properties

This product does not contain any known or suspected endocrine disruptors.

12.7. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

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Waste from residues/unused products

Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging

Do not reuse empty containers.

SECTION 14: Transport information

Regulatory information	14.1. UN number	14.2. UN proper shipping name	14.3. Transport hazard class(es)	14.4. Packing group	14.5. Environmental hazards	Notes
ADR	Not regulated	-	-	-	Not applicable	-
RID	Not regulated	-	-	-	Not applicable	-
IATA	Not regulated	-	-	-	Not applicable	-
IMDG	Not regulated	-	-	-	Not applicable	-
ADN	Not regulated	-	-	-	Not applicable	-

Regulatory information	14.6. Special precautions for user					
	Special Provisions	Classification code	Tunnel restriction code	EmS-No.	ERG Code	Note:
ADR	None	None	None	-	-	-
RID	None	None	-	-	-	-
IATA	None	-	-	-	None	-
IMDG	None	-	-	None	-	-
ADN	None	None	-	-	-	-

14.7 Maritime transport in bulk according to IMO instruments

Bulk cargo shipping name: Cement
HME according to Annex V of MARPOL: Not applicable
MHB according to IMSBC Code: Not applicable
Cargo group according to IMSBCC Code:

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

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International Inventories

EINECS/ELINCS All components listed on inventory or are exempt

Legend:

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Take note of Directive 94/33/EC on the protection of young people at work

Take note of Directive 92/85/EC on the protection of pregnant and breastfeeding women at work

Biodical Products Regulation (BPR) Not applicable
528/2012

Denmark PR No. 360576

Germany
Water hazard class (WGK) non-hazardous to water (nwg)

Chemical name	Seveso III	TA LUFT
Crystalline silica, quartz 14808-60-7		5.2.7.1.1

France
Occupational Illnesses (R-463-3, France)

Chemical name	French RG number
Portland cement 65997-15-1	RG 8, RG 10
Crystalline silica, quartz 14808-60-7	RG 25

Netherlands
Water contaminating class (Netherlands)

Chemical name	Netherlands - List of Carcinogens	Netherlands - List of Mutagens	Netherlands - List of Reproductive Toxins
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Chemical name	Netherlands - List of Carcinogens	Netherlands - List of Mutagens	Netherlands - List of Reproductive Toxins
Crystalline silica, quartz	Present	-	-

Authorizations and/or restrictions on use:

This product does not contain substances subject to authorization (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Dangerous substance category per Seveso Directive (2012/18/EU)

Non-controlled

EU - Plant Protection Products (1107/2009/EC)

Chemical name	EU - Plant Protection Products (1107/2009/EC)
Crystalline silica, quartz - 14808-60-7	Plant protection agent

15.2. Chemical safety assessment

Chemical Safety Report No information available

SECTION 16: Other information

Full text of H-Statements referred to under section 3

H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H318 - Causes serious eye damage
H335 - May cause respiratory irritation
H351 - Suspected of causing cancer
H372 - Causes damage to organs through prolonged or repeated exposure

Key or legend to abbreviations and acronyms used in the safety data sheet

ADR - The European Agreement concerning the International Carriage of Dangerous Goods by Road
bw – body weight
CAS – Chemical Abstracts Service
CLP – REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on Classification, Labelling and Packaging of substances and mixtures
Derived No Effect Level (DNEL)
EC – European Commission

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EC10 – Effective Concentration 10%
EC50 – Effective Concentration 50%
EEC – European Economic Community
EN 149 - European standard on filtering halfmasks to protect against particles
EN 374 - European standard on Protective gloves against chemicals and micro-organisms
ErC50 – Effective Concentration growth rate 50%
IATA/ICAO - International Air Transport Association / International Civil Aviation Organization
IBC Code – International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
LC50 – Lethal Concentration 50%
LD50 – Lethal Dose 50%
LL0 – Lethal Loading 0%
LL50 – Lethal Loading 50%
MARPOL – International Convention for the Prevention of Pollution from Ships
PBT – Persistent Bioaccumulative and Toxic
PEL – Permissible Exposure Limit
Predicted No Effect Concentration (PNEC)
PROC – Process category
REACH – REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals
STEL – Short Term Exposure Limit
SU – Sector of Use category
SVHC: Substances of Very High Concern for Authorization:

Legend Section 8: Exposure controls/personal protection

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	Sk*	Skin designation
+	Sensitizers		

Classification procedure	
Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - vapor	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	Calculation method
Respiratory sensitization	Calculation method
Skin sensitization	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	Calculation method
Reproductive toxicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration hazard	Calculation method
Ozone	Calculation method

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Key literature references and sources for data used to compile the SDS

Acute Exposure Guideline Level(s) (AEGL(s))
European Chemicals Agency (ECHA) (ECHA_API)
European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
NIOSH (National Institute for Occupational Safety and Health)

Supersedes Date 08-Dec-2023

Revision date 11-Dec-2023

Reason for revision Initial Release

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End of Safety Data Sheet

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Revision Date: 24-Jan-2023
Preparation Date 24-Jan-2023

Revision Number: 44
Internal ID Code HM001971

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product Identifier

Product Name NF-6
Internal ID Code HM001971

Other means of identification

Pure substance/mixture Mixture

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Defoamer

Sector of uses SU2 - Mining, (including offshore industries)

Product category(ies) PC20 - Products such as pH-regulators, flocculants, precipitants, neutralization agents, other unspecific

Process categories PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises

Uses advised against Consumer use

1.3. Details of the supplier of the safety data sheet

Halliburton BV
Columbusstraat 19
7825VP
Emmen
Netherlands
www.halliburton.com

Supplier:

Halliburton Manufacturing and Services Limited (Halliburton BV)
Columbusstraat 19
7825VP
Emmen
Netherlands

Tel: +31 591 636 111

For further information, please contact:

E-mail Address: fdunexchem@halliburton.com

1.4. Emergency telephone number

+44 8 08 189 0979 / 1-760-476-3961

Global Incident Response Access Code: 334305

Contract Number: 14012

Emergency telephone - Article 45 - (EC)1272/2008	
Austria	Poison Information Centre (AT): +43-(0)1-406 43 43
Belgium	Poison center (BE): +32 70 245 245
Bulgaria	Bulgarian poison centre: +359 2 915-44-09 or +359 2 915-43-46
Croatia	Centar za kontrolu otrovanja (CKO): (+385 1) 23-48-342 (Poison Control Center (PCC) - Institute for Medical Research and Occupational Health)
Cyprus	1401
Czech Republic	+420 224 919 293; +420 224 915 402

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Denmark	Poison Control Hotline (DK): +45 82 12 12 12
Estonia	16662 (Local Poison Information Centre); (+372) 626 93 90 (International Poison Information Centre)
Europe	112
Finland	Poison Information Centre (FI): +358 9 471 977
France	ORFILA (FR): + 01 45 42 59 59
Germany	Poison Center Berlin (DE): +49 030 30686 790
Greece	+30 210 779 3777
Hungary	+36 (06) 80 201-199
Iceland	543 2222 / 543 1000
Ireland	National Poisons Information Centre (IE): +353 1 8379964
Italy	Poison Center, Milan (IT): +39 02 6610 1029
Latvia	(+371) 67042473 (International number for the National Toxicology Centre)
Lithuania	+370 (85) 2362052
Luxembourg	(+352) 8002 5500
Malta	2122 4071
Netherlands	National Poisons Information Center (NL): +31 30 274 88 88 (NB: this service is only available to health professionals)
Norway	Poisons Information (NO): + 47 22 591300
Poland	Poison Control and Information Centre, Warsaw (PL): +48 22 619 66 54; +48 22 619 08 97
Portugal	CIAV - Centro de Informação Antivenenos (Portuguese Poison Centre): + 351 213 303 271
Romania	+40 21 318 36 06
Slovakia	+421 2 4854 4511
Slovenia	112
Spain	Poison Information Service (ES): +34 91 562 04 20
Sweden	Poisons Information Center (SV): +46 8 33 12 31
Switzerland	Poison Center: Tel 145; +41 44 251 51 51
Turkey	Ulusal Zehir Danisma Merkezi (UZEM) :114 Acil Saglik Hizmetleri : 112
United Kingdom	NHS Direct (UK): +44 0845 46 47

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Not classified

Additional information: No information available

For full text of Hazard- and EU Hazard-statements: see SECTION 16.

2.2. Label Elements

Not classified

Hazard Pictograms

Signal Word: None

Hazard Statements:

Not Classified

Precautionary Statements:

None

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Contains Substances

Contains no hazardous substances in concentrations above cut-off values according to the competent authority

CAS Number

NA

Additional information: No information available

2.3. Other Hazards

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).
This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors

Substances	CAS Number	EU - REACH (1907/2006) - Article 59(1) - Candidate List of Substances of Very High Concern (SVHC) for Authorisation	EU - REACH (1907/2006) - Endocrine Disruptor Assessment List of Substances	Endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100(3) or Commission Regulation (EU) 2018/605(4)
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	-	-	-

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Mixture

Substances	EINECS	CAS Number	REACH Reg. No	PERCENT (w/w)	EU - CLP Substance Classification
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	NA	-	60 - 100%	

Substances	EINECS	PERCENT (w/w)	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	60 - 100%	-	-	-

Classification according to Regulation (EC) No. 1272/2008 [CLP]

For the full text of the H-phrases mentioned in this Section, see Section 16

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No data available	No data available	No data available

Rat = Rat, Rabbit = Rabbit, dust = dust

This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (Regulation (EC) No.

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1907/2006 (REACH), Article 59)

Additional information: No information available

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
Eyes	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.
Skin	Wash with soap and water. Get medical attention if irritation persists.
Ingestion	Do NOT induce vomiting. Give nothing by mouth. Obtain immediate medical attention.
Protection of First-aiders	No information available.

4.2. Most important symptoms and effects, both acute and delayed

No significant hazards expected.

4.3. Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media

Carbon dioxide, dry chemical, foam.

Extinguishing media which must not be used for safety reasons

None known.

5.2. Special hazards arising from the substance or mixture

Special exposure hazards in a fire

Use water spray to cool fire exposed surfaces. Decomposition in fire may produce harmful gases.

5.3. Advice for firefighters

Special protective equipment for firefighters

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use appropriate protective equipment. Avoid contact with skin, eyes and clothing. Avoid breathing vapors. Ensure adequate ventilation.

See Section 8 for additional information.

6.2. Environmental precautions

Prevent from entering sewers, waterways, or low areas.

6.3. Methods and material for containment and cleaning up

Isolate spill and stop leak where safe. Contain spill with sand or other inert materials. Scoop up and remove.

6.4. Reference to other sections

See Section 8 and 13 for additional information.

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid contact with eyes, skin, or clothing. Avoid breathing vapors. Ensure adequate ventilation. Wash hands after use. Launder contaminated clothing before reuse. Use appropriate protective equipment.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Store away from oxidizers. Keep container closed when not in use.

7.3. Specific end use(s)

Exposure scenario No information available

Other Guidelines No information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits

Substances	CAS Number	EU	UK	Netherlands	France
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Germany	Spain	Portugal	Finland
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Austria	Ireland	Switzerland	Norway
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Italy	Poland	Hungary	Czech Republic
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Denmark	Romania	Croatia	Cyprus
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable	Not applicable	Not applicable

Derived No Effect Level (DNEL)
Worker

No information available

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General Population

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Engineering Controls	A well ventilated area to control dust levels. Local exhaust ventilation should be used in areas without good cross ventilation.
Personal protective equipment	If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.
Respiratory Protection	If engineering controls and work practices cannot keep exposure below occupational exposure limits or if exposure is unknown, wear a NIOSH certified, European Standard EN 149, AS/NZS 1715:2009, or equivalent respirator when using this product. Selection of and instruction on using all personal protective equipment, including respirators, should be performed by an Industrial Hygienist or other qualified professional. Organic vapor respirator with a dust/mist filter. (A2P2/P3)
Hand Protection	Chemical-resistant protective gloves (EN 374) Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374): Polyvinylchloride gloves. (>= 8 mm thickness) This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced. Manufacturer's directions for use should be observed because of great diversity of types.
Skin Protection	Wear protective clothing impervious to the chemical substance, including boots, gloves, lab coat, apron, rainjacket, pants or coverall, as appropriate, to prevent skin contact. Normal work coveralls.
Eye Protection	Chemical goggles; also wear a face shield if splashing hazard exists. (EN-166)
Other Precautions	Eyewash fountains and safety showers must be easily accessible.

Environmental Exposure Controls Do not allow material to contaminate ground water system.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical State: Liquid	Color	Yellow
Odor: Mild	Odor	No information available
	Threshold:	
<u>Property</u>	<u>Values</u>	
<u>Remarks/ - Method</u>		
pH:	No data available	
Freezing Point / Range	No data available	
Melting Point / Range	No data available	
Boiling Point / Range	182 °C / 360 °F	
Flash Point	> 170 °C / > 340 °F	
Flammability (solid, gas)	No data available	
Upper flammability limit	No data available	
Lower flammability limit	No data available	
Evaporation rate	No data available	
Vapor Pressure	No data available	
Relative Vapor Density	No data available	

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Relative Density	0.93
Liquid Density	7.70 lbs/gal
Water Solubility	Dispersible
Solubility in other solvents	No data available
Partition coefficient: n-octanol/water	No data available
Autoignition Temperature	385 °C / 725 °F
Decomposition Temperature	No data available
Viscosity	No data available
Explosive Properties	No information available
Oxidizing Properties	No information available

9.2. Other information

Pour Point / Range	No data available
VOC Content (%)	No data available

9.2.1 Information with regard to physical hazard classes No information available

9.2.2. Other safety characteristics No information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Not expected to be reactive.

10.2. Chemical stability

Stable

10.3. Possibility of hazardous reactions

Will Not Occur

10.4. Conditions to avoid

None anticipated

10.5. Incompatible materials

Strong oxidizers.

10.6. Hazardous decomposition products

Hydrocarbons. Carbon monoxide and carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute Toxicity

Inhalation	May cause mild respiratory irritation.
Eye Contact	None known.
Skin Contact	None known.
Ingestion	May cause abdominal pain, vomiting, nausea, and diarrhea.

Chronic Effects/Carcinogenicity No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Contains no hazardous	NA	No data available	No data available	No data available

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substances in concentrations above cut-off values according to the competent authority				
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Rat = Rat, Rabbit = Rabbit, dust = dust

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors

11.2.2 Other Information

Other Adverse Effects No information available

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity effects

Contains no substances known to be hazardous to the environment.

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available	No information available	No information available	No information available

growth rate = growth rate, similar substance = similar substance, activated sludge = activated sludge, reproduction = reproduction

12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

12.3. Bioaccumulative potential

Bioaccumulative Potential

Substances	CAS Number	Bioaccumulation
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

12.4. Mobility in soil

Substances	CAS Number	Mobility
Contains no hazardous substances in concentrations	NA	No information available

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above cut-off values according to the competent authority		
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12.5. Results of PBT and vPvB assessment

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT). This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

Substances	PBT and vPvB assessment
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	Not applicable

12.6 Endocrine disrupting properties

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors

12.7 Other adverse effects

No information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal methods

Contaminated Packaging

Dispose in accordance with local regulations.

Follow all applicable national or local regulations. Contaminated packaging may be disposed of by: rendering packaging incapable of containing any substance, or treating packaging to remove residual contents, or treating packaging to make sure the residual contents are no longer hazardous, or by disposing of packaging into commercial waste collection.

SECTION 14: Transport information

IMDG/IMO

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

ADN

UN Number	Not restricted
UN proper shipping name:	Not restricted
Packing Group	Not applicable
Environmental Hazards:	Not applicable

ADR/RID

UN Number	Not restricted
UN proper shipping name:	Not restricted
Packing Group	Not applicable
Environmental Hazards:	Not applicable

IATA/ICAO

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

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14.1. UN Number Not restricted

14.2. UN proper shipping name: Not restricted

14.3.

14.4. Packing Group Not applicable

14.5. Environmental Hazards: Not applicable

14.6. Special Precautions for User None

14.7. Maritime transport in bulk according to IMO instruments No information available

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

International Inventories

US TSCA Inventory All components listed on inventory or are exempt.
Canadian Domestic Substances List (DSL) All components listed on inventory or are exempt.

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

Denmark PR No.: 1191209

Germany, Water Endangering Classes (WGK) WGK 1: Low hazard to waters.

Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.
Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

Substances	CAS Number	Seveso III	TA LUFT
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable

Substances	CAS Number	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable

15.2. Chemical safety assessment

No information available

SECTION 16: Other information

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Full text of H-Statements referred to under sections 2 and 3

None

Key or legend to abbreviations and acronyms used in the safety data sheet

bw – body weight

CAS – Chemical Abstracts Service

CLP – REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on Classification, Labelling and Packaging of substances and mixtures

EC – European Commission

EC10 – Effective Concentration 10%

EC50 – Effective Concentration 50%

EEC – European Economic Community

ErC50 – Effective Concentration growth rate 50%

IBC Code – International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk

LC50 – Lethal Concentration 50%

LD50 – Lethal Dose 50%

LL0 – Lethal Loading 0%

LL50 – Lethal Loading 50%

MARPOL – International Convention for the Prevention of Pollution from Ships

mg/kg – milligram/kilogram

mg/L – milligram/liter

NIOSH – National Institute for Occupational Safety and Health

NOEC – No Observed Effect Concentration

NTP – National Toxicology Program

OEL – Occupational Exposure Limit

PBT – Persistent Bioaccumulative and Toxic

PC – Chemical Product category

PEL – Permissible Exposure Limit

ppm – parts per million

PROC – Process category

REACH – REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals

STEL – Short Term Exposure Limit

SU – Sector of Use category

Key literature references and sources for data

www.ChemADVISOR.com/

NZ CCID

Cosmetic Ingredient Review

Revision Date: 24-Jan-2023
Reason for Revision Update to Format

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Disclaimer Statement

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End of Safety Data Sheet

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Revision Number: 21
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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product Identifier

Product Name LATEX 4000
Internal ID Code HM008963

Other means of identification

Pure substance/mixture Mixture

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Additive

Sector of uses SU2 - Mining, (including offshore industries)
Uses advised against Consumer use

1.3. Details of the supplier of the safety data sheet

Halliburton BV
Columbusstraat 19
7825VP
Emmen
Netherlands

www.halliburton.com

Supplier:

Halliburton Manufacturing and Services Limited (Halliburton BV)
Columbusstraat 19
7825VP
Emmen
Netherlands
Tel: +31 591 636 111

For further information, please contact:

E-mail Address: fdunexchem@halliburton.com

1.4. Emergency telephone number

+44 8 08 189 0979 / 1-760-476-3961
Global Incident Response Access Code: 334305
Contract Number: 14012

Emergency telephone - Article 45 - (EC)1272/2008	
Austria	Poison Information Centre (AT): +43-(0)1-406 43 43
Belgium	Poison center (BE): +32 70 245 245
Bulgaria	Bulgarian poison centre: +359 2 915-44-09 or +359 2 915-43-46
Croatia	Centar za kontrolu otrovanja (CKO): (+385 1) 23-48-342 (Poison Control Center (PCC) - Institute for Medical Research and Occupational Health)
Cyprus	1401
Czech Republic	+420 224 919 293; +420 224 915 402
Denmark	Poison Control Hotline (DK): +45 82 12 12 12
Estonia	16662 (Local Poison Information Centre); (+372) 626 93 90 (International Poison Information Centre)
Europe	112

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Finland	Poison Information Centre (FI):+358 9 471 977
France	ORFILA (FR): + 01 45 42 59 59
Germany	Poison Center Berlin (DE): +49 030 30686 790
Greece	+30 210 779 3777
Hungary	+36 (06) 80 201-199
Iceland	543 2222 / 543 1000
Ireland	National Poisons Information Centre (IE): +353 1 8379964
Italy	Poison Center, Milan (IT): +39 02 6610 1029
Latvia	(+371) 67042473 (International number for the National Toxicology Centre)
Lithuania	+370 (85) 2362052
Luxembourg	(+352) 8002 5500
Malta	2122 4071
Netherlands	National Poisons Information Center (NL): +31 30 274 88 88 (NB: this service is only available to health professionals)
Norway	Poisons Information (NO):+ 47 22 591300
Poland	Poison Control and Information Centre, Warsaw (PL): +48 22 619 66 54; +48 22 619 08 97
Portugal	CIAV - Centro de Informação Antivenenos (Portuguese Poison Centre): + 351 213 303 271
Romania	+40 21 318 36 06
Slovakia	+421 2 4854 4511
Slovenia	112
Spain	Poison Information Service (ES): +34 91 562 04 20
Sweden	Poisons Information Center (SV):+46 8 33 12 31
Switzerland	Poison Center: Tel 145; +41 44 251 51 51
Turkey	Ulusal Zehir Danisma Merkezi (UZEM) :114 Acil Saglik Hizmetleri : 112
United Kingdom	NHS Direct (UK): +44 0845 46 47

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Not classified

Additional information: No information available

For the full text of the H-phrases mentioned in this Section, see Section 16

2.2. Label Elements

Not classified

Hazard Pictograms

Signal Word: None

Hazard Statements:

Not Classified

Precautionary Statements:

None

Contains

Substances

Contains no hazardous substances in concentrations above

CAS Number

NA

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cut-off values according to the competent authority

Additional information: No information available

2.3. Other Hazards

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).
This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors

Substances	CAS Number	EU - REACH (1907/2006) - Article 59(1) - Candidate List of Substances of Very High Concern (SVHC) for Authorisation	EU - REACH (1907/2006) - Endocrine Disruptor Assessment List of Substances	Endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100(3) or Commission Regulation (EU) 2018/605(4)
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	-	-	-

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Mixture

Substances	EINECS	CAS Number	REACH Reg. No	PERCENT (w/w)	EU - CLP Substance Classification
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	NA	-	60 - 100%	

Substances	EINECS	PERCENT (w/w)	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	60 - 100%	-	-	-

Classification according to Regulation (EC) No. 1272/2008 [CLP]

For the full text of the H-phrases mentioned in this Section, see Section 16

Acute Toxicity Estimate

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No data available	No data available	No data available

Rat = Rat, Rabbit = Rabbit, dust = dust

This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (Regulation (EC) No. 1907/2006 (REACH), Article 59)

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Additional information: No information available

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	Remove person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, get immediate medical attention.
Eyes	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.
Skin	Flush skin with large amounts of water. If irritation persists, get medical attention.
Ingestion	Rinse mouth with water many times. Get medical attention, if symptoms occur
Protection of First-aiders	No information available.

4.2. Most important symptoms and effects, both acute and delayed

No significant hazards expected.

4.3. Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media

All standard fire fighting media.

Extinguishing media which must not be used for safety reasons

None known.

5.2. Special hazards arising from the substance or mixture

Special exposure hazards in a fire

Decomposition in fire may produce harmful gases.

5.3. Advice for firefighters

Special protective equipment for firefighters

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use appropriate protective equipment. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing.
See Section 8 for additional information.

6.2. Environmental precautions

None known.

6.3. Methods and material for containment and cleaning up

Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

6.4. Reference to other sections

See Section 8 and 13 for additional information.

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Use appropriate protective equipment. Ensure adequate ventilation. Avoid contact with eyes, skin, or clothing.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Information

Keep from freezing. Keep containers tightly closed in a cool, well ventilated place

7.3. Specific end use(s)

Exposure scenario No information available

Other Guidelines No information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits

Substances	CAS Number	EU	UK	Netherlands	France
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Germany	Spain	Portugal	Finland
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Austria	Ireland	Switzerland	Norway
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Italy	Poland	Hungary	Czech Republic
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Denmark	Romania	Croatia	Cyprus
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Bulgaria	Turkey
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable

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Derived No Effect Level (DNEL)
Worker No information available

General Population

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Engineering Controls	Use approved industrial ventilation and local exhaust as required to maintain exposures below applicable exposure limits.
Personal protective equipment	If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.
Respiratory Protection	If engineering controls and work practices cannot keep exposure below occupational exposure limits or if exposure is unknown, wear a NIOSH certified, European Standard EN 149, AS/NZS 1715:2009, or equivalent respirator when using this product. Selection of and instruction on using all personal protective equipment, including respirators, should be performed by an Industrial Hygienist or other qualified professional. Dust/mist respirator. (N95, P2/P3)
Hand Protection	Use gloves which are suitable for the chemicals present in this product as well as other environmental factors in the workplace.
Skin Protection	Wear protective clothing appropriate for the work environment.
Eye Protection	Safety glasses with side-shields. If splashes are likely to occur, wear: Goggles, Face-shield. (EN-166)
Other Precautions	Eyewash fountains and safety showers must be easily accessible.

Environmental Exposure Controls No information available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical State:	Liquid	Color	Milky white
Odor:	Faint	Odor	No information available
Property		Threshold:	
Remarks/ - Method		Values	
pH:		6.5-7.5	
Freezing Point / Range		0 °C	
Melting Point / Range		No data available	
Boiling Point / Range		100 °C	
Flash Point		Not applicable.	
Flammability (solid, gas)		No data available	
Upper flammability limit		No data available	
Lower flammability limit		No data available	
Evaporation rate		No data available	
Vapor Pressure		No data available	
Relative Vapor Density		No data available	
Relative Density		1.02	
Water Solubility		Soluble in water	

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Solubility in other solvents	No data available
Partition coefficient: n-octanol/water	No data available
Autoignition Temperature	No data available
Decomposition Temperature	No data available
Viscosity	No data available
Explosive Properties	No information available
Oxidizing Properties	No information available

9.2. Other information

Pour Point / Range	No data available
VOC Content (%)	MAX 0.05%

9.2.1 Information with regard to physical hazard classes No information available

9.2.2. Other safety characteristics No information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Not expected to be reactive.

10.2. Chemical stability

Stable

10.3. Possibility of hazardous reactions

Will Not Occur

10.4. Conditions to avoid

None anticipated

10.5. Incompatible materials

Strong oxidizers. Strong acids. Strong alkalis.

10.6. Hazardous decomposition products

Thermal decomposition can lead to release of toxic/corrosive gases and vapors

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute Toxicity

Inhalation	May cause respiratory irritation.
Eye Contact	May cause mild eye irritation.
Skin Contact	May cause mild skin irritation.
Ingestion	May cause abdominal pain, vomiting, nausea, and diarrhea.

Chronic Effects/Carcinogenicity

No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Contains no hazardous substances in concentrations above	NA	No data available	No data available	No data available

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cut-off values according to the competent authority				
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Rat = Rat, Rabbit = Rabbit, dust = dust

Substances	CAS Number	Skin corrosion/irritation
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	

Substances	CAS Number	Serious eye damage/irritation
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	

Substances	CAS Number	Skin Sensitization
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	

Substances	CAS Number	Respiratory Sensitization
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors

11.2.2 Other Information

Other Adverse Effects No information available

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity effects

Product is not classified as hazardous to the environment.

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Contains no hazardous	NA	No information available	No information available	No information available	No information available

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substances in concentrations above cut-off values according to the competent authority					
--	--	--	--	--	--

growth rate = growth rate, similar substance = similar substance, activated sludge = activated sludge, reproduction = reproduction

12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

12.3. Bioaccumulative potential

Bioaccumulative Potential

Substances	CAS Number	Bioaccumulation
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

12.4. Mobility in soil

Substances	CAS Number	Mobility
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

12.5. Results of PBT and vPvB assessment

Substances	PBT and vPvB assessment
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	Not applicable

12.6 Endocrine disrupting properties

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors

12.7 Other adverse effects

No information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal methods

Follow all applicable community, national or regional regulations regarding waste management methods.

Contaminated Packaging

Follow all applicable national or local regulations.

SECTION 14: Transport information

IMDG/IMO

UN Number

Not restricted

SAFETY DATA SHEET

LATEX 4000

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Preparation Date 25-Jan-2023

Revision Number: 21
Internal ID Code HM008963

UN proper shipping name: Not restricted
Transport Hazard Class(es): Not applicable
Packing Group: Not applicable
Environmental Hazards: Not applicable

ADN

UN Number Not restricted
UN proper shipping name: Not restricted
Packing Group Not applicable
Environmental Hazards: Not applicable

ADR/RID

UN Number Not restricted
UN proper shipping name: Not restricted
Packing Group Not applicable
Environmental Hazards: Not applicable

IATA/ICAO

UN Number Not restricted
UN proper shipping name: Not restricted
Transport Hazard Class(es): Not applicable
Packing Group: Not applicable
Environmental Hazards: Not applicable

14.1. UN Number Not restricted

14.2. UN proper shipping name: Not restricted

14.3.

14.4. Packing Group Not applicable

14.5. Environmental Hazards: Not applicable

14.6. Special Precautions for User None

14.7. Maritime transport in bulk according to IMO instruments No information available

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

International Inventories

US TSCA Inventory All components listed on inventory or are exempt.
Canadian Domestic Substances List (DSL) All components listed on inventory or are exempt.

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

Denmark PR No.: 4497959

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Preparation Date 25-Jan-2023

Revision Number: 21
Internal ID Code HM008963

Germany, Water Endangering WGK 1: Low hazard to waters.

Classes (WGK)

Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

Substances	CAS Number	Seveso III	TA LUFT
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable

Substances	CAS Number	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable

15.2. Chemical safety assessment

No information available

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3

None

Key or legend to abbreviations and acronyms used in the safety data sheet

bw – body weight

CAS – Chemical Abstracts Service

CLP – REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on Classification, Labelling and Packaging of substances and mixtures

EC – European Commission

EC10 – Effective Concentration 10%

EC50 – Effective Concentration 50%

EEC – European Economic Community

ErC50 – Effective Concentration growth rate 50%

IBC Code – International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk

LC50 – Lethal Concentration 50%

LD50 – Lethal Dose 50%

LL0 – Lethal Loading 0%

LL50 – Lethal Loading 50%

MARPOL – International Convention for the Prevention of Pollution from Ships

mg/kg – milligram/kilogram

mg/L – milligram/liter

NIOSH – National Institute for Occupational Safety and Health

NOEC – No Observed Effect Concentration

NTP – National Toxicology Program

OEL – Occupational Exposure Limit

PBT – Persistent Bioaccumulative and Toxic

PC – Chemical Product category

PEL – Permissible Exposure Limit

ppm – parts per million

PROC – Process category

SAFETY DATA SHEET

LATEX 4000

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Revision Date: 30-Jun-2023
Preparation Date 25-Jan-2023

Revision Number: 21
Internal ID Code HM008963

REACH – REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals
STEL – Short Term Exposure Limit
SU – Sector of Use category

Key literature references and sources for data
www.ChemADVISOR.com/

Revision Date: 30-Jun-2023
Reason for Revision SDS sections updated:
15

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Disclaimer Statement

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End of Safety Data Sheet

SAFETY DATA SHEET

HR-4L

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Revision Date: 24-Jan-2023
Preparation Date 24-Jan-2023

Revision Number: 33
Internal ID Code HM000898

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product Identifier

Product Name HR-4L
Internal ID Code HM000898

Other means of identification

Pure substance/mixture Mixture

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Cement Retarder

Sector of uses SU2 - Mining, (including offshore industries)

Product category(ies) PC20 - Products such as pH-regulators, flocculants, precipitants, neutralization agents, other unspecific

Process categories PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises

Uses advised against Consumer use

1.3. Details of the supplier of the safety data sheet

Halliburton BV
Columbusstraat 19
7825VP
Emmen
Netherlands
www.halliburton.com

Supplier:

Halliburton Manufacturing and Services Limited (Halliburton BV)
Columbusstraat 19
7825VP
Emmen
Netherlands

Tel: +31 591 636 111

For further information, please contact:

E-mail Address: fdunexchem@halliburton.com

1.4. Emergency telephone number

+44 8 08 189 0979 / 1-760-476-3961

Global Incident Response Access Code: 334305

Contract Number: 14012

Emergency telephone - Article 45 - (EC)1272/2008	
Austria	Poison Information Centre (AT): +43-(0)1-406 43 43
Belgium	Poison center (BE): +32 70 245 245
Bulgaria	Bulgarian poison centre: +359 2 915-44-09 or +359 2 915-43-46
Croatia	Centar za kontrolu otrovanja (CKO): (+385 1) 23-48-342 (Poison Control Center (PCC) - Institute for Medical Research and Occupational Health)
Cyprus	1401
Czech Republic	+420 224 919 293; +420 224 915 402

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Denmark	Poison Control Hotline (DK): +45 82 12 12 12
Estonia	16662 (Local Poison Information Centre); (+372) 626 93 90 (International Poison Information Centre)
Europe	112
Finland	Poison Information Centre (FI): +358 9 471 977
France	ORFILA (FR): + 01 45 42 59 59
Germany	Poison Center Berlin (DE): +49 030 30686 790
Greece	+30 210 779 3777
Hungary	+36 (06) 80 201-199
Iceland	543 2222 / 543 1000
Ireland	National Poisons Information Centre (IE): +353 1 8379964
Italy	Poison Center, Milan (IT): +39 02 6610 1029
Latvia	(+371) 67042473 (International number for the National Toxicology Centre)
Lithuania	+370 (85) 2362052
Luxembourg	(+352) 8002 5500
Malta	2122 4071
Netherlands	National Poisons Information Center (NL): +31 30 274 88 88 (NB: this service is only available to health professionals)
Norway	Poisons Information (NO): + 47 22 591300
Poland	Poison Control and Information Centre, Warsaw (PL): +48 22 619 66 54; +48 22 619 08 97
Portugal	CIAV - Centro de Informação Antivenenos (Portuguese Poison Centre): + 351 213 303 271
Romania	+40 21 318 36 06
Slovakia	+421 2 4854 4511
Slovenia	112
Spain	Poison Information Service (ES): +34 91 562 04 20
Sweden	Poisons Information Center (SV): +46 8 33 12 31
Switzerland	Poison Center: Tel 145; +41 44 251 51 51
Turkey	Ulusal Zehir Danisma Merkezi (UZEM) :114 Acil Saglik Hizmetleri : 112
United Kingdom	NHS Direct (UK): +44 0845 46 47

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Not classified

Additional information: No information available

For full text of Hazard- and EU Hazard-statements: see SECTION 16.

2.2. Label Elements

Not classified

Hazard Pictograms

Signal Word: None

Hazard Statements:

Not Classified

Precautionary Statements:

None

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Contains Substances

Contains no hazardous substances in concentrations above cut-off values according to the competent authority

CAS Number

NA

Additional information: No information available

2.3. Other Hazards

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).

This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors

Substances	CAS Number	EU - REACH (1907/2006) - Article 59(1) - Candidate List of Substances of Very High Concern (SVHC) for Authorisation	EU - REACH (1907/2006) - Endocrine Disruptor Assessment List of Substances	Endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100(3) or Commission Regulation (EU) 2018/605(4)
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	-	-	-

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Mixture

Substances	EINECS	CAS Number	REACH Reg. No	PERCENT (w/w)	EU - CLP Substance Classification
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	NA	-	60 - 100%	

Substances	EINECS	PERCENT (w/w)	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	60 - 100%	-	-	-

Classification according to Regulation (EC) No. 1272/2008 [CLP]

For the full text of the H-phrases mentioned in this Section, see Section 16

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No data available	No data available	No data available

Rat = Rat, Rabbit = Rabbit, dust = dust

This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (Regulation (EC) No.

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1907/2006 (REACH), Article 59)

Additional information: No information available

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
Eyes	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.
Skin	Wash with soap and water. Get medical attention if irritation persists.
Ingestion	Under normal conditions, first aid procedures are not required.
Protection of First-aiders	No information available.

4.2. Most important symptoms and effects, both acute and delayed

No significant hazards expected.

4.3. Indication of any immediate medical attention and special treatment needed

Notes to Physician	Treat symptomatically
---------------------------	-----------------------

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media

Water fog, carbon dioxide, foam, dry chemical.

Extinguishing media which must not be used for safety reasons

None known.

5.2. Special hazards arising from the substance or mixture

Special exposure hazards in a fire

Decomposition in fire may produce harmful gases.

5.3. Advice for firefighters

Special protective equipment for firefighters

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use appropriate protective equipment. Avoid contact with skin, eyes and clothing. Avoid breathing vapors. Ensure adequate ventilation.

See Section 8 for additional information.

6.2. Environmental precautions

Prevent from entering sewers, waterways, or low areas.

6.3. Methods and material for containment and cleaning up

Isolate spill and stop leak where safe. Contain spill with sand or other inert materials. Scoop up and remove.

6.4. Reference to other sections

See Section 8 and 13 for additional information.

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Preparation Date 24-Jan-2023

Revision Number: 33
Internal ID Code HM000898

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid contact with eyes, skin, or clothing. Avoid breathing vapors. Ensure adequate ventilation. Wash hands after use. Launder contaminated clothing before reuse. Use appropriate protective equipment.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Store away from oxidizers. Keep container closed when not in use.

7.3. Specific end use(s)

Exposure scenario No information available

Other Guidelines No information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits

Substances	CAS Number	EU	UK	Netherlands	France
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Germany	Spain	Portugal	Finland
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Austria	Ireland	Switzerland	Norway
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Italy	Poland	Hungary	Czech Republic
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Denmark	Romania	Croatia	Cyprus
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable	Not applicable	Not applicable

Derived No Effect Level (DNEL)
Worker

No information available

SAFETY DATA SHEET

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General Population

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Engineering Controls

Use in a well ventilated area.

Personal protective equipment

If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

Respiratory Protection

Not normally necessary.

Hand Protection

Normal work gloves.

Skin Protection

Normal work coveralls.

Eye Protection

Wear safety glasses or goggles to protect against exposure. (EN-166)

Other Precautions

Eyewash fountains and safety showers must be easily accessible.

Environmental Exposure Controls Do not allow material to contaminate ground water system.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical State: Liquid

Color

Dark brown

Odor: Slight

Odor

No information available

Threshold:

Values

Property

Remarks/ - Method

pH:

No data available

Freezing Point / Range

No data available

Melting Point / Range

No data available

Boiling Point / Range

100 °C / 212 °F

Flash Point

No data available

Flammability (solid, gas)

No data available

Upper flammability limit

No data available

Lower flammability limit

No data available

Evaporation rate

No data available

Vapor Pressure

7.5

Relative Vapor Density

No data available

Relative Density

1.18 - 1.21

Water Solubility

Soluble in water

Solubility in other solvents

No data available

Partition coefficient: n-octanol/water

No data available

Autoignition Temperature

No data available

Decomposition Temperature

No data available

Viscosity

No data available

Explosive Properties

No information available

Oxidizing Properties

No information available

9.2. Other information

Pour Point / Range

No data available

VOC Content (%)

No data available

9.2.1 Information with regard to physical hazard classes No information available

9.2.2. Other safety characteristics No information available

SAFETY DATA SHEET

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SECTION 10: Stability and reactivity

10.1. Reactivity

Not expected to be reactive.

10.2. Chemical stability

Stable

10.3. Possibility of hazardous reactions

Will Not Occur

10.4. Conditions to avoid

None anticipated

10.5. Incompatible materials

Strong oxidizers.

10.6. Hazardous decomposition products

Oxides of sulfur. Carbon monoxide and carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute Toxicity

Inhalation	None known.
Eye Contact	May cause mild eye irritation.
Skin Contact	None known.
Ingestion	None known.

Chronic Effects/Carcinogenicity No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No data available	No data available	No data available

Rat = Rat, Rabbit = Rabbit, dust = dust

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

SAFETY DATA SHEET

HR-4L

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Preparation Date 24-Jan-2023

Revision Number: 33
Internal ID Code HM000898

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors

11.2.2 Other Information
Other Adverse Effects No information available

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity effects

Contains no substances known to be hazardous to the environment.

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available	No information available	No information available	No information available

growth rate = growth rate, similar substance = similar substance, activated sludge = activated sludge, reproduction = reproduction

12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

12.3. Bioaccumulative potential

Bioaccumulative Potential

Substances	CAS Number	Bioaccumulation
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

12.4. Mobility in soil

Substances	CAS Number	Mobility
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

12.5. Results of PBT and vPvB assessment

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT). This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

Substances	PBT and vPvB assessment
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	Not applicable

12.6 Endocrine disrupting properties

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors

12.7 Other adverse effects

No information available

SECTION 13: Disposal considerations

SAFETY DATA SHEET

HR-4L

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Revision Date: 24-Jan-2023
Preparation Date 24-Jan-2023

Revision Number: 33
Internal ID Code HM000898

13.1. Waste treatment methods

Disposal methods

Contaminated Packaging

Disposal should be made in accordance with federal, state, and local regulations.
Follow all applicable national or local regulations.

EWC Waste Disposal No.:

16 03 06
annet organisk avfall enn det nevnt i 16 03 05 / organic wastes other than those mentioned in 16 03 05

SECTION 14: Transport information

IMDG/IMO

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

ADN

UN Number	Not restricted
UN proper shipping name:	Not restricted
Packing Group	Not applicable
Environmental Hazards:	Not applicable

ADR/RID

UN Number	Not restricted
UN proper shipping name:	Not restricted
Packing Group	Not applicable
Environmental Hazards:	Not applicable

IATA/ICAO

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

14.1. UN Number Not restricted

14.2. UN proper shipping name: Not restricted

14.3.

14.4. Packing Group Not applicable

14.5. Environmental Hazards: Not applicable

14.6. Special Precautions for User None

14.7. Maritime transport in bulk according to IMO instruments

No information available

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

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Preparation Date 24-Jan-2023

Revision Number: 33
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International Inventories

US TSCA Inventory All components listed on inventory or are exempt.
Canadian Domestic Substances List (DSL) All components listed on inventory or are exempt.

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

Denmark PR No.: 2416756

Germany, Water Endangering WGK 1: Low hazard to waters.
Classes (WGK)

Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.
Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

Substances	CAS Number	Seveso III	TA LUFT
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable

Substances	CAS Number	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable

15.2. Chemical safety assessment

No information available

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3

None

Key or legend to abbreviations and acronyms used in the safety data sheet

bw – body weight
CAS – Chemical Abstracts Service
CLP – REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on Classification, Labelling and Packaging of substances and mixtures
EC – European Commission
EC10 – Effective Concentration 10%
EC50 – Effective Concentration 50%
EEC – European Economic Community
ErC50 – Effective Concentration growth rate 50%
IBC Code – International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
LC50 – Lethal Concentration 50%
LD50 – Lethal Dose 50%
LL0 – Lethal Loading 0%
LL50 – Lethal Loading 50%
MARPOL – International Convention for the Prevention of Pollution from Ships
mg/kg – milligram/kilogram

SAFETY DATA SHEET

HR-4L

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Preparation Date 24-Jan-2023

Revision Number: 33
Internal ID Code HM000898

mg/L – milligram/liter

NIOSH – National Institute for Occupational Safety and Health

NOEC – No Observed Effect Concentration

NTP – National Toxicology Program

OEL – Occupational Exposure Limit

PBT – Persistent Bioaccumulative and Toxic

PC – Chemical Product category

PEL – Permissible Exposure Limit

ppm – parts per million

PROC – Process category

REACH – REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals

STEL – Short Term Exposure Limit

SU – Sector of Use category

Key literature references and sources for data

www.ChemADVISOR.com/

Revision Date: 24-Jan-2023
Reason for Revision Update to Format

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End of Safety Data Sheet

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture
Trade name : API-MODIFIED
Product code : J221
Product group : Mixtures

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Industrial/Professional use spec : Industrial
Function or use category : Lubricants and additives

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Manufacturer

Whitmore Manufacturing LLC
930 Whitmore Drive
75087 Rockwall, Texas
USA
T 1.972.771.1000
Regulatory@whitmores.com - www.jetlube.com

Distributor

Whitmore Europe Limited
Unit 9
Foster Avenue, Woodside Park Industrial Estate
Dunstable, Bedfordshire, LU5 5TA
United Kingdom
T +44 1707 379870
Regulatory@whitmores.com - www.whitmores.com

1.4. Emergency telephone number

Emergency number : For Chemical Emergency Call CHEMTREC 24hr/day 7days/week
Within USA and Canada: 1.800.424.9300
Outside USA and Canada: +1.703.527.3887
(collect calls accepted)

Country	Organisation/Company	Address	Emergency number	Comment
United Kingdom	National Poisons Information Service (Birmingham Centre) City Hospital	Dudley Road B18 7QH Birmingham	0344 892 0111	Only for healthcare professionals
United Kingdom	Chemtrec - United Kingdom	London	Local (City) +44 20 3807 3798	
United Kingdom	Chemtrec - United Kingdom		Local (National) +44 870 820 0418	

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Serious eye damage/eye irritation, Category 2 H319
Carcinogenicity, Category 1B H350
Reproductive toxicity, Category 1A H360
Reproductive toxicity, Additional category, Effects on or via lactation H362
Specific target organ toxicity – Repeated exposure, Category 1 H372
Hazardous to the aquatic environment – Acute Hazard, Category 1 H400
Hazardous to the aquatic environment – Chronic Hazard, Category 1 H410
Full text of H- and EUH-statements: see section 16

Adverse physicochemical, human health and environmental effects

May cause harm to breast-fed children. Causes serious eye irritation. Very toxic to aquatic life with long lasting effects.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



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Signal word (CLP)	: Danger
Contains	: lead massive: [particle diameter $\geq 1\text{mm}$]
Hazard statements (CLP)	: H319 - Causes serious eye irritation. H350 - May cause cancer. H360 - May damage fertility or the unborn child. H362 - May cause harm to breast-fed children. H372 - Causes damage to organs through prolonged or repeated exposure. H410 - Very toxic to aquatic life with long lasting effects.
Precautionary statements (CLP)	: P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P260 - Do not breathe dust/fume/gas/mist/vapours/spray. P263 - Avoid contact during pregnancy and while nursing. P264 - Wash hands, forearms and face thoroughly after handling. P270 - Do not eat, drink or smoke when using this product. P273 - Avoid release to the environment. P280 - Wear protective gloves/protective clothing/eye protection/face protection/hearing protection. P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P314 - Get medical advice/attention if you feel unwell. P337+P313 - If eye irritation persists: Get medical advice/attention. P391 - Collect spillage. P405 - Store locked up. P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

Contains no PBT/vPvB substances $\geq 0.1\%$ assessed in accordance with REACH Annex XIII

Component	
lead massive: [particle diameter $\geq 1\text{mm}$] (7439-92-1)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
graphite (7782-42-5)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
Zinc (7440-66-6)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
copper (7440-50-8)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
calcium oxide (1305-78-8)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
quartz, $1\% \leq \text{conc respirable crystalline silica} < 10\%$ (14808-60-7)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
zinc oxide (1314-13-2)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
calcium carbonate (471-34-1)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
magnesium oxide (1309-48-4)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
lead monoxide (1317-36-8)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
cadmium oxide, stabilized (1306-19-0)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

Component	
lead massive: [particle diameter $\geq 1\text{mm}$](7439-92-1)	The substance is not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605

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Component	
lead monoxide(1317-36-8)	The substance is not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605
cadmium oxide, stabilized(1306-19-0)	The substance is not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
lead massive: [particle diameter ≥1mm] substance listed as REACH Candidate (Lead) substance with national workplace exposure limit(s) (GB); substance with a Community workplace exposure limit	CAS-No.: 7439-92-1 EC-No.: 231-100-4 EC Index-No.: 082-014-00-7	29.4098 – 29.55985	Carc. 1B, H350 Repr. 1A, H360 Lact., H362 STOT RE 1, H372 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
graphite substance with national workplace exposure limit(s) (GB)	CAS-No.: 7782-42-5 EC-No.: 231-955-3	17.8125 – 18.675	Aquatic Chronic 2, H411
Zinc	CAS-No.: 7440-66-6 EC-No.: 231-175-3 EC Index-No.: 030-001-01-9	11.71 – 12.31	Aquatic Acute 1, H400 Aquatic Chronic 1, H410
copper substance with national workplace exposure limit(s) (GB); substance with a Community workplace exposure limit	CAS-No.: 7440-50-8 EC-No.: 231-159-6	2.79	Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410 (M=10)
calcium oxide substance with national workplace exposure limit(s) (GB); substance with a Community workplace exposure limit	CAS-No.: 1305-78-8 EC-No.: 215-138-9	1.47 – 1.5	Eye Dam. 1, H318 Skin Irrit. 2, H315 STOT SE 3, H335
quartz, 1%≤conc respirable crystalline silica<10% substance with national workplace exposure limit(s) (GB); substance with a Community workplace exposure limit	CAS-No.: 14808-60-7 EC-No.: 238-878-4	0.0765 – 0.85125	Not classified
zinc oxide	CAS-No.: 1314-13-2 EC-No.: 215-222-5 EC Index-No.: 030-013-00-7	< 0.6	Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410 (M=10)
calcium carbonate substance with national workplace exposure limit(s) (GB)	CAS-No.: 471-34-1 EC-No.: 207-439-9	0.03	Not classified
magnesium oxide substance with national workplace exposure limit(s) (GB)	CAS-No.: 1309-48-4 EC-No.: 215-171-9	0.03	Not classified
lead monoxide substance listed as REACH Candidate (Lead monoxide (lead oxide)) substance with national workplace exposure limit(s) (GB); substance with a Community workplace exposure limit	CAS-No.: 1317-36-8 EC-No.: 215-267-0 EC Index-No.: 082-001-00-6	≤ 0.024	Repr. 1A, H360Df Acute Tox. 4 (Inhalation), H332 Acute Tox. 4 (Oral), H302 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

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Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
cadmium oxide, stabilized substance listed as REACH Candidate (Cadmium oxide) substance with national workplace exposure limit(s) (GB); substance with a Community workplace exposure limit	CAS-No.: 1306-19-0 EC-No.: 215-146-2 EC Index-No.: 048-002-00-0	≤ 0.0072	Acute Tox. 3 (Oral), H301 Acute Tox. 2 (Inhalation), H330 Muta. 2, H341 Carc. 1B, H350 Repr. 2, H361fd STOT RE 1, H372 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410 (M=10)

Specific concentration limits:		
Name	Product identifier	Specific concentration limits
lead monoxide	CAS-No.: 1317-36-8 EC-No.: 215-267-0 EC Index-No.: 082-001-00-6	(0.5 ≤C < 100) STOT RE 2, H373 (2.5 ≤C < 100) Repr. 2, H361f

Full text of H- and EUH-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: If exposed or concerned: Get medical advice/attention.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Wash skin with plenty of water.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after eye contact	: Eye irritation.
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4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Water spray. Dry powder. Foam.
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5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire	: Toxic fumes may be released.
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5.3. Advice for firefighters

Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures	: Exercise caution. Spill area may be slippery. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes.
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6.1.2. For emergency responders

Protective equipment	: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
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6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment	: Collect spillage.
Methods for cleaning up	: Mechanically recover the product.
Other information	: Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	: Ensure good ventilation of the work station. Obtain special instructions before use. Avoid contact during pregnancy/while nursing. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes. Wear personal protective equipment.
Hygiene measures	: Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	: Store in a well-ventilated place. Keep cool.
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7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

lead monoxide (1317-36-8)	
EU - Indicative Occupational Exposure Limit (IOEL)	
IOEL TWA	0.15 mg/m ³
United Kingdom - Occupational Exposure Limits	
WEL TWA (OEL TWA) [1]	0.15 mg/m ³
cadmium oxide, stabilized (1306-19-0)	
EU - Indicative Occupational Exposure Limit (IOEL)	
IOEL TWA	0.001 mg/m ³ (Inhalable fraction. Limit value 0,004 mg/m ³ until 11 July 2027. Respirable fraction in those Member States that implement, on the date of the entry into force of this Directive, a biomonitoring system with a biological limit value not exceeding 0,002 mg Cd/g creatinine in urine.)
United Kingdom - Occupational Exposure Limits	
Local name	Cadmium oxide
WEL TWA (OEL TWA) [1]	0.025 mg/m ³ fume (as Cd)
WEL STEL (OEL STEL)	0.05 mg/m ³ fume (as Cd)
Remark	Carc (Capable of causing cancer and/or heritable genetic damage)
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE
graphite (7782-42-5)	
United Kingdom - Occupational Exposure Limits	
WEL TWA (OEL TWA) [1]	10 mg/m ³ 4 mg/m ³
quartz, 1%≤conc respirable crystalline silica<10% (14808-60-7)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Silica crystalline (Quartz)
IOEL TWA	0.05 mg/m ³ (respirable dust)
Remark	(Year of adoption 2003)
Regulatory reference	SCOEL Recommendations
United Kingdom - Occupational Exposure Limits	
Local name	Silica
WEL TWA (OEL TWA) [1]	0.1 mg/m ³ respirable crystalline
Regulatory reference	EH40/2005 (Third edition, 2018). HSE
copper (7440-50-8)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Copper Kobber

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copper (7440-50-8)	
IOEL TWA	0.01 mg/m ³ (respirable fraction)
Remark	(Year of adoption 2014) (Adopsjonsår 2014)
Regulatory reference	SCOEL Recommendations SCOEL anbefalinger
United Kingdom - Occupational Exposure Limits	
Local name	Copper
WEL TWA (OEL TWA) [1]	0.2 mg/m ³ fume (as Cu) 1 mg/m ³ and compounds, dusts and mists (as Cu)
WEL STEL (OEL STEL)	2 mg/m ³ and compounds, dusts and mists (as Cu)
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE
lead massive: [particle diameter ≥1mm] (7439-92-1)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Inorganic lead and its compounds Uorganisk bly og dets forbindelser
IOEL TWA	0.15 mg/m ³ (BOEL)
Remark	Inorganic lead (lead fumes and dusts of < 10 µm) (Year of adoption 2002) Uorganisk bly (blydamp og -støv < 10 µm) (adopsjonsår 2002)
Regulatory reference	COUNCIL DIRECTIVE 98/24/EC RÅDSDIREKTIV 98/24/EF
EU - Binding Occupational Exposure Limit (BOEL)	
Local name	Inorganic lead and its compounds Uorganisk bly og dets forbindelser
BOEL TWA	0.15 mg/m ³
Regulatory reference	COUNCIL DIRECTIVE 98/24/EC RÅDSDIREKTIV 98/24/EF
EU - Biological Limit Value (BLV)	
Local name	Lead and its inorganic compounds Bly og dets uorganiske forbindelser
BLV	30 µg/100ml Parameter: Pb
Regulatory reference	SCOEL List of recommended health-based BLVs and BGVs SCOEL Liste over anbefalte helsebaserte BLV-er og BGV-er
United Kingdom - Occupational Exposure Limits	
WEL TWA (OEL TWA) [1]	0.15 mg/m ³
calcium oxide (1305-78-8)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Calcium oxide
IOEL TWA	1 mg/m ³ (Respirable fraction)
IOEL STEL	4 mg/m ³ (Respirable fraction)
Regulatory reference	COMMISSION DIRECTIVE (EU) 2017/164
United Kingdom - Occupational Exposure Limits	
Local name	Calcium oxide
WEL TWA (OEL TWA) [1]	2 mg/m ³ 1 mg/m ³ Respirable fraction
WEL STEL (OEL STEL)	4 mg/m ³ Respirable fraction
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

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calcium carbonate (471-34-1)	
United Kingdom - Occupational Exposure Limits	
WEL TWA (OEL TWA) [1]	10 mg/m ³ 4 mg/m ³
magnesium oxide (1309-48-4)	
United Kingdom - Occupational Exposure Limits	
Local name	Magnesium oxide
WEL TWA (OEL TWA) [1]	4 mg/m ³ (as Mg) fume and respirable dust 10 mg/m ³ (as Mg) inhalable dust fume
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

8.2.2. Personal protection equipment

8.2.2.1. Eye and face protection

Eye protection:

Chemical goggles or safety glasses

8.2.2.2. Skin protection

Skin and body protection:

Wear suitable protective clothing

Hand protection:

Neoprene or nitrile rubber gloves

Hand protection					
Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Disposable gloves	Nitrile rubber (NBR), Neoprene rubber (HNBR)	6 (> 480 minutes)	> 0.6 mm		

8.2.2.3. Respiratory protection

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Solid

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Colour	: Metallic.
Appearance	: Paste.
Odour	: petroleum-like odour.
Odour threshold	: Not available
Melting point	: Not available
Freezing point	: Not available
Boiling point	: Not available
Flammability	: Non flammable.
Explosive limits	: Not applicable
Lower explosion limit	: Not applicable
Upper explosion limit	: Not applicable
Flash point	: > 221 °C Open cup
Auto-ignition temperature	: Not applicable
Decomposition temperature	: Not available
pH	: Not available
pH solution	: Not available
Viscosity, kinematic	: Not applicable
Solubility	: insoluble in water.
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapour pressure	: Not available
Vapour pressure at 50 °C	: Not available
Density	: Not available
Relative density	: Not available
Relative vapour density at 20 °C	: Not applicable
Particle size	: Not available
Particle size distribution	: Not available
Particle shape	: Not available
Particle aspect ratio	: Not available
Particle aggregation state	: Not available
Particle agglomeration state	: Not available
Particle specific surface area	: Not available
Particle dustiness	: Not available

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

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Zinc (7440-66-6)	
LD50 oral rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
LC50 Inhalation - Rat	> 5.41 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity)
zinc oxide (1314-13-2)	
LD50 oral rat	> 5000 mg/kg (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral)
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
LC50 Inhalation - Rat	> 5.7 mg/l (Equivalent or similar to OECD 403, 4 h, Rat, Male / female, Experimental value, Inhalation (dust))
lead monoxide (1317-36-8)	
LD50 oral rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method)
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
LC50 Inhalation - Rat	> 5.05 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity)
cadmium oxide, stabilized (1306-19-0)	
LD50 oral rat	2330 mg/kg bodyweight (Rat, Read-across, Oral)
LD50 oral	72 mg/kg
LC50 Inhalation - Rat	0.056 mg/l (4 h, Rat, Male / female, Read-across, Inhalation (aerosol), (Cd 2+))
LC50 Inhalation - Rat (Dust/Mist)	0.012 mg/l/4h
graphite (7782-42-5)	
LD50 oral rat	> 2000 mg/kg (OECD 423: Acute Oral Toxicity – Acute Toxic Class Method, Rat, Female, Experimental value, Oral)
LC50 Inhalation - Rat	> 2000 mg/m ³ air (OECD 403: Acute Inhalation Toxicity, 4 h, Rat, Male / female, Experimental value, Inhalation (dust))
LC50 Inhalation - Rat (Dust/Mist)	> 2 mg/l Source: ECHA
lead massive: [particle diameter ≥1mm] (7439-92-1)	
LD50 oral rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method)
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
LC50 Inhalation - Rat	> 5.05 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity)
calcium oxide (1305-78-8)	
LD50 oral rat	> 2000 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 420 (Acute Oral Toxicity - Fixed Dose Method)
LD50 oral	5000 mg/kg
LD50 dermal rabbit	> 5000 mg/kg bodyweight Animal: rabbit, Guideline: other:US Federal Register 38: 187, Part 1500, Section 41, 1973.
calcium carbonate (471-34-1)	
LD50 oral rat	> 2000 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 420 (Acute Oral Toxicity - Fixed Dose Method), Guideline: EU Method B.1 bis (Acute Oral Toxicity - Fixed Dose Procedure)
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Guideline: EU Method B.3 (Acute Toxicity (Dermal))
LC50 Inhalation - Rat	> 3 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity), Guideline: EU Method B.2 (Acute Toxicity (Inhalation)), Guideline: EPA OPPTS 870.1300 (Acute inhalation toxicity)

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magnesium oxide (1309-48-4)	
LD50 oral rat	> 5000 mg/kg (Rat, Literature study, Oral)
LD50 dermal rabbit	> 2000 mg/kg bodyweight (Rabbit, Literature study, Dermal)
Skin corrosion/irritation	: Not classified (Based on available data, the classification criteria are not met)
zinc oxide (1314-13-2)	
pH	6.07 – 6.55 (2.9 mg/l, 20 °C, OECD 105: Water Solubility)
lead monoxide (1317-36-8)	
pH	9.9 (100 g/l)
cadmium oxide, stabilized (1306-19-0)	
pH	No data available in the literature
graphite (7782-42-5)	
pH	7 (1.3 %)
quartz, 1%≤conc respirable crystalline silica<10% (14808-60-7)	
pH	5 – 8 (40 %, 20 °C)
calcium oxide (1305-78-8)	
pH	12.8 Temp.: 25 °C Concentration: 1,65 g/L
calcium carbonate (471-34-1)	
pH	8 – 9 (10 %, 20 °C)
magnesium oxide (1309-48-4)	
pH	11 (10 %)
Serious eye damage/irritation	: Causes serious eye irritation.
zinc oxide (1314-13-2)	
pH	6.07 – 6.55 (2.9 mg/l, 20 °C, OECD 105: Water Solubility)
lead monoxide (1317-36-8)	
pH	9.9 (100 g/l)
cadmium oxide, stabilized (1306-19-0)	
pH	No data available in the literature
graphite (7782-42-5)	
pH	7 (1.3 %)
quartz, 1%≤conc respirable crystalline silica<10% (14808-60-7)	
pH	5 – 8 (40 %, 20 °C)
calcium oxide (1305-78-8)	
pH	12.8 Temp.: 25 °C Concentration: 1,65 g/L
calcium carbonate (471-34-1)	
pH	8 – 9 (10 %, 20 °C)
magnesium oxide (1309-48-4)	
pH	11 (10 %)
Respiratory or skin sensitisation	: Not classified (Based on available data, the classification criteria are not met)
Germ cell mutagenicity	: Not classified (Based on available data, the classification criteria are not met)
Carcinogenicity	: May cause cancer. (Based on available data, the classification criteria are not met)
lead monoxide (1317-36-8)	
IARC group	2A - Probably carcinogenic to humans

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cadmium oxide, stabilized (1306-19-0)	
IARC group	1 - Carcinogenic to humans
quartz, 1%≤conc respirable crystalline silica<10% (14808-60-7)	
IARC group	1 - Carcinogenic to humans
lead massive: [particle diameter ≥1mm] (7439-92-1)	
IARC group	2A - Probably carcinogenic to humans
Reproductive toxicity	: May damage fertility or the unborn child. May cause harm to breast-fed children.
STOT-single exposure	: Not classified (Based on available data, the classification criteria are not met)
calcium oxide (1305-78-8)	
STOT-single exposure	May cause respiratory irritation.
STOT-repeated exposure	: Causes damage to organs through prolonged or repeated exposure. (Based on available data, the classification criteria are not met)
Zinc (7440-66-6)	
NOAEL (oral, rat, 90 days)	31.52 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
zinc oxide (1314-13-2)	
LOAEL (dermal, rat/rabbit, 90 days)	75 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 410 (Repeated Dose Dermal Toxicity: 21/28-Day Study)
NOAEL (oral, rat, 90 days)	31.52 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
lead monoxide (1317-36-8)	
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.
cadmium oxide, stabilized (1306-19-0)	
STOT-repeated exposure	Causes damage to organs (bone, lungs, kidneys) through prolonged or repeated exposure (if inhaled).
graphite (7782-42-5)	
NOAEC (inhalation, rat, dust/mist/fume, 90 days)	0.000279 mg/l air Animal: rat, Guideline: OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day Study)
lead massive: [particle diameter ≥1mm] (7439-92-1)	
STOT-repeated exposure	Causes damage to organs through prolonged or repeated exposure.
calcium oxide (1305-78-8)	
LOAEL (oral, rat, 90 days)	300 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
NOAEC (inhalation, rat, dust/mist/fume, 90 days)	0.413 mg/l air Animal: rat, Animal sex: male, Guideline: OECD Guideline 412 (Subacute Inhalation Toxicity: 28-Day Study)
calcium carbonate (471-34-1)	
NOAEL (oral, rat, 90 days)	1000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
Aspiration hazard	: Not classified (Based on available data, the classification criteria are not met)
Zinc (7440-66-6)	
Viscosity, kinematic	> 72.464 mm²/s
cadmium oxide, stabilized (1306-19-0)	
Viscosity, kinematic	Not applicable (solid)
calcium oxide (1305-78-8)	
Viscosity, kinematic	230.303 mm²/s

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calcium carbonate (471-34-1)	
Viscosity, kinematic	Not applicable (solid)

11.2. Information on other hazards

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Very toxic to aquatic life with long lasting effects.
Hazardous to the aquatic environment, short-term (acute) : Very toxic to aquatic life.
Hazardous to the aquatic environment, long-term (chronic) : Very toxic to aquatic life with long lasting effects.
Not rapidly degradable

Zinc (7440-66-6)	
LC50 - Fish [1]	0.169 mg/l
LC50 - Fish [2]	0.78 mg/l
EC50 - Crustacea [1]	1.833 mg/l
ErC50 algae	0.15 mg/l

zinc oxide (1314-13-2)	
LC50 - Fish [1]	0.169 mg/l (ASTM E729-88, 96 h, Oncorhynchus mykiss, Static system, Fresh water, Read-across, Zinc ion)
EC50 - Crustacea [1]	0.098 mg/l
NOEC chronic algae	0.0299 mg/l

lead monoxide (1317-36-8)	
LC50 - Fish [1]	1170 µg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
LC50 - Fish [2]	107 µg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
ErC50 algae	388 µg/l (OECD 201: Alga, Growth Inhibition Test, 48 h, Chlorella sp., Static system, Fresh water, Experimental value, Respiration)

cadmium oxide, stabilized (1306-19-0)	
LC50 - Fish [1]	748 µg/l (4 day(s), Carassius auratus, Flow-through system, Fresh water, Read-across, Nominal concentration)
ErC50 algae	0.09 mg/l

graphite (7782-42-5)	
LC50 - Fish [1]	> 100 mg/l
EC50 - Crustacea [1]	> 100 mg/l
EC50 72h - Algae [1]	19 mg/l
EC50 72h - Algae [2]	7.2 mg/l
ErC50 algae	> 100 mg/l
NOEC (chronic)	47 mg/l

copper (7440-50-8)	
LC50 - Fish [1]	38.4 – 256.2 µg/l (96 h, Pimephales promelas, Flow-through system, Fresh water, Read-across)
EC50 - Crustacea [1]	3.8 – 118.5 µg/l (US EPA, 48 h, Daphnia magna, Static system, Fresh water, Weight of evidence)

lead massive: [particle diameter ≥1mm] (7439-92-1)	
LC50 - Fish [1]	1170 µg/l
LC50 - Fish [2]	107 µg/l

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calcium oxide (1305-78-8)	
LC50 - Fish [1]	387 mg/l Test organisms (species): Poecilia reticulata
EC50 - Crustacea [1]	≥ 159.6 mg/l (EPA OPP 72-2, 24 h, Crustacea, Static system, Fresh water, Experimental value, Lethal)
EC50 72h - Algae [1]	> 100 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
EC50 96h - Algae [1]	1130.3 mg/l Test organisms (species): Navicula seminulum
NOEC chronic fish	100 mg/l Test organisms (species): other:Tilapia nilotica Duration: '46 d'
calcium carbonate (471-34-1)	
LC50 - Fish [1]	> 100 % (OECD 203: Fish, Acute Toxicity Test, 96 h, Oncorhynchus mykiss, Semi-static system, Fresh water, Experimental value, Saturated solution)
EC50 - Crustacea [1]	> 100 % (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Saturated solution)
EC50 72h - Algae [1]	> 14 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
EC50 96h - Algae [1]	22000 mg/l Source: Ecological Structure Activity Relationships
12.2. Persistence and degradability	
zinc oxide (1314-13-2)	
Persistence and degradability	Not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
lead monoxide (1317-36-8)	
Persistence and degradability	Not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)
cadmium oxide, stabilized (1306-19-0)	
Persistence and degradability	Not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)
quartz, 1%≤conc respirable crystalline silica<10% (14808-60-7)	
Persistence and degradability	Not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
calcium oxide (1305-78-8)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
calcium carbonate (471-34-1)	
Persistence and degradability	Biodegradability in soil: not applicable. Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
magnesium oxide (1309-48-4)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable

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12.3. Bioaccumulative potential

Zinc (7440-66-6)	
BCF - Other aquatic organisms [1]	116
Partition coefficient n-octanol/water (Log Pow)	-0.47
zinc oxide (1314-13-2)	
Partition coefficient n-octanol/water (Log Pow)	1.53 (Estimated value)
Bioaccumulative potential	Slightly or not bioaccumulative.
lead monoxide (1317-36-8)	
Bioaccumulative potential	Bioaccumulative potential.
cadmium oxide, stabilized (1306-19-0)	
BCF - Fish [1]	1385 (92 day(s), Salmo salar, Flow-through system, Fresh water, Read-across, Fresh weight)
Bioaccumulative potential	Slightly or not bioaccumulative.
quartz, 1%≤conc respirable crystalline silica<10% (14808-60-7)	
Bioaccumulative potential	Bioaccumulation unlikely.
lead massive: [particle diameter ≥1mm] (7439-92-1)	
Partition coefficient n-octanol/water (Log Pow)	0.73 (estimated value)
calcium carbonate (471-34-1)	
Partition coefficient n-octanol/water (Log Pow)	-2.12 (Estimated value)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).
magnesium oxide (1309-48-4)	
Bioaccumulative potential	Not applicable.
12.4. Mobility in soil	
zinc oxide (1314-13-2)	
Surface tension	Not applicable
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	2.2 (log Koc, Literature study)
Ecology - soil	Low potential for adsorption in soil.
lead monoxide (1317-36-8)	
Ecology - soil	Adsorbs into the soil.
cadmium oxide, stabilized (1306-19-0)	
Surface tension	No data available in the literature
Ecology - soil	Adsorbs into the soil.
quartz, 1%≤conc respirable crystalline silica<10% (14808-60-7)	
Ecology - soil	Low potential for mobility in soil.
copper (7440-50-8)	
Ecology - soil	Product adsorbs onto the soil.
lead massive: [particle diameter ≥1mm] (7439-92-1)	
Ecology - soil	Product adsorbs onto the soil.
calcium oxide (1305-78-8)	
Ecology - soil	No (test) data on mobility of the substance available.
calcium carbonate (471-34-1)	
Mobility in soil	4.971 Source: Quantitative Structure Activity Relation

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calcium carbonate (471-34-1)

Ecology - soil

Adsorbs into the soil.

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
Special provision(s) applied : 375	Special provision(s) applied : 969	Special provision(s) applied : A197	Special provision(s) applied : 375	Special provision(s) applied : 375

These substances when carried in single or combination packagings containing a net quantity per single or inner packaging of 5 l or less for liquids or having a net mass per single or inner packaging of 5 kg or less for solids, are not subject to any other provisions of ADR provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.

14.1. UN number or ID number

UN 3077	UN 3077	UN 3077	UN 3077	UN 3077
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14.2. UN proper shipping name

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CONTAINS : lead massive: [particle diameter ≥1mm])	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CONTAINS : lead massive: [particle diameter ≥1mm])	Environmentally hazardous substance, solid, n.o.s. (CONTAINS : lead massive: [particle diameter ≥1mm])	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CONTAINS : lead massive: [particle diameter ≥1mm])	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CONTAINS : lead massive: [particle diameter ≥1mm])
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Transport document description

UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CONTAINS : lead massive: [particle diameter ≥1mm]), 9, III, (-)	UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CONTAINS : lead massive: [particle diameter ≥1mm]), 9, III, MARINE POLLUTANT	UN 3077 Environmentally hazardous substance, solid, n.o.s. (CONTAINS : lead massive: [particle diameter ≥1mm]), 9, III	UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CONTAINS : lead massive: [particle diameter ≥1mm]), 9, III	UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CONTAINS : lead massive: [particle diameter ≥1mm]), 9, III
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14.3. Transport hazard class(es)

9	9	9	9	9
				

14.4. Packing group

III	III	III	III	III
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14.5. Environmental hazards

Dangerous for the environment: Yes	Dangerous for the environment: Yes Marine pollutant: Yes	Dangerous for the environment: Yes	Dangerous for the environment: Yes	Dangerous for the environment: Yes
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No supplementary information available

14.6. Special precautions for user

Overland transport

Classification code (ADR) : M7

Special provisions (ADR) : 274, 335, 375, 601

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Limited quantities (ADR)	: 5kg
Excepted quantities (ADR)	: E1
Packing instructions (ADR)	: P002, IBC08, LP02, R001
Special packing provisions (ADR)	: PP12, B3
Mixed packing provisions (ADR)	: MP10
Portable tank and bulk container instructions (ADR)	: T1, BK1, BK2, BK3
Portable tank and bulk container special provisions (ADR)	: TP33
Tank code (ADR)	: SGAV, LGBV
Vehicle for tank carriage	: AT
Transport category (ADR)	: 3
Special provisions for carriage - Packages (ADR)	: V13
Special provisions for carriage - Bulk (ADR)	: VC1, VC2
Special provisions for carriage - Loading, unloading and handling (ADR)	: CV13
Hazard identification number (Kemler No.)	: 90
Orange plates	:



Tunnel restriction code (ADR)	: -
EAC code	: 2Z

Transport by sea

Special provisions (IMDG)	: 274, 335, 966, 967, 969
Limited quantities (IMDG)	: 5 kg
Excepted quantities (IMDG)	: E1
Packing instructions (IMDG)	: LP02, P002
Special packing provisions (IMDG)	: PP12
IBC packing instructions (IMDG)	: IBC08
IBC special provisions (IMDG)	: B3
Tank instructions (IMDG)	: BK1, BK2, BK3, T1
Tank special provisions (IMDG)	: TP33
EmS-No. (Fire)	: F-A
EmS-No. (Spillage)	: S-F
Stowage category (IMDG)	: A
Stowage and handling (IMDG)	: SW23

Air transport

PCA Excepted quantities (IATA)	: E1
PCA Limited quantities (IATA)	: Y956
PCA limited quantity max net quantity (IATA)	: 30kgG
PCA packing instructions (IATA)	: 956
PCA max net quantity (IATA)	: 400kg
CAO packing instructions (IATA)	: 956
CAO max net quantity (IATA)	: 400kg
Special provisions (IATA)	: A97, A158, A179, A197, A215
ERG code (IATA)	: 9L

Inland waterway transport

Classification code (ADN)	: M7
Special provisions (ADN)	: 274, 335, 375, 601
Limited quantities (ADN)	: 5 kg
Excepted quantities (ADN)	: E1
Carriage permitted (ADN)	: T* B**
Equipment required (ADN)	: PP, A***

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Number of blue cones/lights (ADN) : 0
Additional requirements/Remarks (ADN) : * Only in the molten state. ** For carriage in bulk see also 7.1.4.1. ** * Only in the case of transport in bulk.

Rail transport

Classification code (RID) : M7
Special provisions (RID) : 274, 335, 375, 601
Limited quantities (RID) : 5kg
Excepted quantities (RID) : E1
Packing instructions (RID) : P002, IBC08, LP02, R001
Special packing provisions (RID) : PP12, B3
Mixed packing provisions (RID) : MP10
Portable tank and bulk container instructions (RID) : T1, BK1, BK2, BK3
Portable tank and bulk container special provisions (RID) : TP33
Tank codes for RID tanks (RID) : SGAV, LGBV
Transport category (RID) : 3
Special provisions for carriage – Packages (RID) : W13
Special provisions for carriage – Bulk (RID) : VC1, VC2
Special provisions for carriage - Loading, unloading and handling (RID) : CW13, CW31
Colis express (express parcels) (RID) : CE11
Hazard identification number (RID) : 90

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations

REACH Annex XVII (Restriction List)

Contains no REACH substances with Annex XVII restrictions

REACH Annex XIV (Authorisation List)

Contains no REACH Annex XIV substances

REACH Candidate List (SVHC)

Contains a substance on the REACH candidate list: Lead monoxide (lead oxide) (EC 215-267-0, CAS 1317-36-8), Cadmium oxide (EC 215-146-2, CAS 1306-19-0), Lead (EC 231-100-4, CAS 7439-92-1)

PIC Regulation (Prior Informed Consent)

Substances subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals: lead monoxide (1317-36-8), cadmium oxide (non-pyrophoric) (1306-19-0)

POP Regulation (Persistent Organic Pollutants)

Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

Ozone Regulation (1005/2009)

Contains no substance subject to REGULATION (EU) No 1005/2009 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 September 2009 on substances that deplete the ozone layer.

Explosives Precursors Regulation (2019/1148)

Contains no substance subject to Regulation (EU) 2019/1148 of the European Parliament and of the Council of 20 June 2019 on the marketing and use of explosives precursors.

Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on drug precursors)

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

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SECTION 16: Other information

Abbreviations and acronyms:

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS-No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified
vPvB	Very Persistent and Very Bioaccumulative
ED	Endocrine disrupting properties

Full text of H- and EUH-statements:

Acute Tox. 2 (Inhalation)	Acute toxicity (inhal.), Category 2
Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Acute 1	Hazardous to the aquatic environment – Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment – Chronic Hazard, Category 1

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Full text of H- and EUH-statements:	
Aquatic Chronic 2	Hazardous to the aquatic environment – Chronic Hazard, Category 2
Carc. 1B	Carcinogenicity, Category 1B
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H360	May damage fertility or the unborn child.
H360Df	May damage the unborn child. Suspected of damaging fertility.
H361f	Suspected of damaging fertility.
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.
H362	May cause harm to breast-fed children.
H372	Causes damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
Lact.	Reproductive toxicity, Additional category, Effects on or via lactation
Muta. 2	Germ cell mutagenicity, Category 2
Repr. 1A	Reproductive toxicity, Category 1A
Repr. 2	Reproductive toxicity, Category 2
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT RE 1	Specific target organ toxicity – Repeated exposure, Category 1
STOT RE 2	Specific target organ toxicity – Repeated exposure, Category 2
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.



A CSW Industrials Company

SAFETY DATA SHEET

Issuing Date No data available

Revision Date 20-Feb-2019

Revision Number 1



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1. IDENTIFICATION

Product identifier

Product Name Jet-Lube® Korr-Guard™

Other means of identification

Product Code(s) 788

(M)SDS Number 1505417

Synonyms Korr-Guard™

Recommended use of the chemical and restrictions on use

Recommended Use For industrial use only

Uses advised against No information available

Details of the supplier of the safety data sheet

Supplier Identification Jet-Lube , LLC.

Address Jet Lube LLC
930 Whitmore Drive
Rockwall, Texas USA 75087

Telephone US Office: Phone:+1-972-771-1000 Fax:+1-972-722-2108

E-mail Sales@jetlube.com

Emergency telephone number

Company Emergency Phone Number 1-800-699-6318

Emergency Telephone Number CHEMTREC: +1-703-527-3887 (INTERNATIONAL)
1-800-424-9300 (NORTH AMERICA)

2. HAZARDS IDENTIFICATION

Classification

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS).



Appearance Light Olive**Physical state** Paste / Gel**Odor** Petroleum**GHS Label elements, including precautionary statements**

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS).

Precautionary Statements - Prevention

Obtain special instructions before use

Wear personal protective equipment/face protection

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Other information**3. COMPOSITION/INFORMATION ON INGREDIENTS****Substance****Synonyms**

Korr-Guard™

Chemical Name	CAS-No	Weight-%	Hazardous Material Information Review Act registry number (HMIRA registry #)	Date HMIRA filed and date exemption granted (if applicable)
Lubricating greases A complex combination of hydrocarbons having carbon numbers predominantly in the range of C12 through C50. may contain organic salts of alkali metals, alkaline earth metals, etc.	74869-21-9	90-100	-	-

4. FIRST AID MEASURES**First aid measures****Inhalation**

Remove to fresh air.

Eye contact

Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin contact

Wash skin with soap and water.



Ingestion Clean mouth with water and drink afterwards plenty of water.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical No information available.

Explosion Data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Special protective equipment for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation.

Environmental precautions

Environmental precautions See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labeled containers.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place.



8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Appropriate engineering controls

Engineering controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection No special protective equipment required.

Skin and body protection No special protective equipment required.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

Physical state Paste / Gel

Appearance Light Olive

Odor Petroleum

Color Light green

Odor Threshold No information available

<u>Property</u>	<u>Values</u>	<u>Remarks Method</u>
pH	Neutral	None known
Melting / freezing point	> 200 °C	None known
Boiling point / boiling range	> 260 °C	None known
Flash Point	> 221 °C	None known
Evaporation Rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air	No data available	None known
Upper flammability limit	No data available	
Lower flammability limit	No data available	
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Relative density	0.95	None known
Water Solubility	Insoluble in water	None known
Solubility(ies)	No data available	None known
Partition coefficient: n-octanol/water	No information available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Explosive properties	No information available	

Oxidizing properties No information available

Other Information

Softening Point No information available

Molecular Weight No information available

VOC Content (%) Negligible

Liquid Density No information available

Bulk Density No information available

Particle Size No information available

Particle Size Distribution No information available

10. STABILITY AND REACTIVITY

Reactivity No information available.

Chemical stability Stable under normal conditions.

Possibility of Hazardous Reactions None under normal processing.

Conditions to avoid None known based on information supplied.

Incompatible materials None known based on information supplied.

Hazardous Decomposition Products None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation No known hazard by inhalation.

Eye contact None known.

Skin contact None known.

Ingestion Not an expected route of exposure. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Information on toxicological effects

Symptoms No information available.

Numerical measures of toxicity

Acute Toxicity

Unknown acute toxicity No information available

Chemical Name	LD50 Oral	LD50 Dermal	Inhalation LC50
Lubricating greases A complex combination of hydrocarbons having carbon numbers predominantly in the range of C12 through C50. may contain organic salts of alkali metals,	= 2280 mg/kg (Rat)		

alkaline earth metals, etc.			
-----------------------------	--	--	--

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	No information available.
Serious eye damage/eye irritation	No information available.
Respiratory or skin sensitization	No information available.
Germ cell mutagenicity	No information available.
Carcinogenicity	No information available.
Reproductive toxicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Aspiration hazard	No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity The environmental impact of this product has not been fully investigated.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Lubricating greases A complex combination of hydrocarbons having carbon numbers predominantly in the range of C12 through C50. may contain organic salts of alkali metals, alkaline earth metals, etc.	>1001 mg/l	96h LC50: > 2000 mg/L (Salmo gairdneri)	-	

Persistence and Degradability	No information available.
Bioaccumulation	There is no data for this product.
Mobility	No information available.
Other adverse effects	No information available.

13. DISPOSAL CONSIDERATIONS**Waste treatment methods**

Waste from residues/unused products	Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
Contaminated packaging	Do not reuse empty containers.



14. TRANSPORT INFORMATION

<u>DOT</u>	NOT REGULATED
<u>TDG</u>	Not regulated
<u>MEX</u>	NOT REGULATED
<u>ICAO</u>	NOT REGULATED
<u>IATA</u>	Not regulated
<u>IMDG</u>	Not regulated
<u>RID</u>	NOT REGULATED
<u>ADR</u>	NOT REGULATED
<u>ADN</u>	NOT REGULATED

15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

International Regulations

Ozone-depleting substances (ODS) Not applicable

Persistent Organic Pollutants Not applicable

Export Notification requirements Not applicable

International Inventories

TSCA	Complies.
DSL/NDSL	Complies.
EINECS/ELINCS	Complies.
ENCS	Complies.
KECL	Complies.
PICCS	Complies.
AICS	Complies.

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372



Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

US State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product does not contain any substances above threshold limits that are regulated by state right-to-know.

16. OTHER INFORMATION

NFPA	Health hazards 0	Flammability 1	Instability 0	Physical and Chemical Properties -
HMIS	Health hazards 0	Flammability 1	Physical hazards 0	Personal Protection X

Prepared By Product Stewardship
23 British American Blvd.
Latham, NY 12110
1-800-572-6501

Revision Date 20-Feb-2019

Revision Note No information available

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of Safety Data Sheet





A CSW Industrials Company

SAFETY DATA SHEET

Issuing Date No data available

Revision Date 20-Feb-2019

Revision Number 1



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1. IDENTIFICATION

Product identifier

Product Name Jet-Lube® Korr-Guard™

Other means of identification

Product Code(s) 788

(M)SDS Number 1505417

Synonyms Korr-Guard™

Recommended use of the chemical and restrictions on use

Recommended Use For industrial use only

Uses advised against No information available

Details of the supplier of the safety data sheet

Supplier Identification Jet-Lube , LLC.

Address Jet Lube LLC
930 Whitmore Drive
Rockwall, Texas USA 75087

Telephone US Office: Phone:+1-972-771-1000 Fax:+1-972-722-2108

E-mail Sales@jetlube.com

Emergency telephone number

Company Emergency Phone Number 1-800-699-6318

Emergency Telephone Number CHEMTREC: +1-703-527-3887 (INTERNATIONAL)
1-800-424-9300 (NORTH AMERICA)

2. HAZARDS IDENTIFICATION

Classification

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS).



Appearance Light Olive**Physical state** Paste / Gel**Odor** Petroleum**GHS Label elements, including precautionary statements**

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS).

Precautionary Statements - Prevention

Obtain special instructions before use

Wear personal protective equipment/face protection

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Other information**3. COMPOSITION/INFORMATION ON INGREDIENTS****Substance****Synonyms**

Korr-Guard™

Chemical Name	CAS-No	Weight-%	Hazardous Material Information Review Act registry number (HMIRA registry #)	Date HMIRA filed and date exemption granted (if applicable)
Lubricating greases A complex combination of hydrocarbons having carbon numbers predominantly in the range of C12 through C50. may contain organic salts of alkali metals, alkaline earth metals, etc.	74869-21-9	90-100	-	-

4. FIRST AID MEASURES**First aid measures****Inhalation**

Remove to fresh air.

Eye contact

Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin contact

Wash skin with soap and water.



Ingestion Clean mouth with water and drink afterwards plenty of water.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical No information available.

Explosion Data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Special protective equipment for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation.

Environmental precautions

Environmental precautions See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labeled containers.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place.



8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Appropriate engineering controls

Engineering controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection No special protective equipment required.

Skin and body protection No special protective equipment required.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

Physical state Paste / Gel
Appearance Light Olive

Odor Petroleum
Color Light green
Odor Threshold No information available

<u>Property</u>	<u>Values</u>	<u>Remarks Method</u>
pH	Neutral	None known
Melting / freezing point	> 200 °C	None known
Boiling point / boiling range	> 260 °C	None known
Flash Point	> 221 °C	None known
Evaporation Rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air	No data available	None known
Upper flammability limit	No data available	
Lower flammability limit	No data available	
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Relative density	0.95	None known
Water Solubility	Insoluble in water	None known
Solubility(ies)	No data available	None known
Partition coefficient: n-octanol/water	No information available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Explosive properties	No information available	

Oxidizing properties No information available

Other Information

Softening Point No information available
Molecular Weight No information available
VOC Content (%) Negligible
Liquid Density No information available
Bulk Density No information available
Particle Size No information available
Particle Size Distribution No information available

10. STABILITY AND REACTIVITY

Reactivity No information available.
Chemical stability Stable under normal conditions.
Possibility of Hazardous Reactions None under normal processing.
Conditions to avoid None known based on information supplied.
Incompatible materials None known based on information supplied.
Hazardous Decomposition Products None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation No known hazard by inhalation.
Eye contact None known.
Skin contact None known.
Ingestion Not an expected route of exposure. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Information on toxicological effects

Symptoms No information available.

Numerical measures of toxicity

Acute Toxicity

Unknown acute toxicity No information available

Chemical Name	LD50 Oral	LD50 Dermal	Inhalation LC50
Lubricating greases A complex combination of hydrocarbons having carbon numbers predominantly in the range of C12 through C50. may contain organic salts of alkali metals,	= 2280 mg/kg (Rat)		

alkaline earth metals, etc.			
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Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	No information available.
Serious eye damage/eye irritation	No information available.
Respiratory or skin sensitization	No information available.
Germ cell mutagenicity	No information available.
Carcinogenicity	No information available.
Reproductive toxicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Aspiration hazard	No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity The environmental impact of this product has not been fully investigated.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Lubricating greases A complex combination of hydrocarbons having carbon numbers predominantly in the range of C12 through C50. may contain organic salts of alkali metals, alkaline earth metals, etc.	>1001 mg/l	96h LC50: > 2000 mg/L (Salmo gairdneri)	-	

Persistence and Degradability	No information available.
Bioaccumulation	There is no data for this product.
Mobility	No information available.
Other adverse effects	No information available.

13. DISPOSAL CONSIDERATIONS**Waste treatment methods**

Waste from residues/unused products	Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
Contaminated packaging	Do not reuse empty containers.



14. TRANSPORT INFORMATION

<u>DOT</u>	NOT REGULATED
<u>TDG</u>	Not regulated
<u>MEX</u>	NOT REGULATED
<u>ICAO</u>	NOT REGULATED
<u>IATA</u>	Not regulated
<u>IMDG</u>	Not regulated
<u>RID</u>	NOT REGULATED
<u>ADR</u>	NOT REGULATED
<u>ADN</u>	NOT REGULATED

15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

International Regulations

Ozone-depleting substances (ODS) Not applicable

Persistent Organic Pollutants Not applicable

Export Notification requirements Not applicable

International Inventories

TSCA	Complies.
DSL/NDSL	Complies.
EINECS/ELINCS	Complies.
ENCS	Complies.
KECL	Complies.
PICCS	Complies.
AICS	Complies.

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372



Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

US State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product does not contain any substances above threshold limits that are regulated by state right-to-know.

16. OTHER INFORMATION

NFPA	Health hazards 0	Flammability 1	Instability 0	Physical and Chemical Properties -
HMIS	Health hazards 0	Flammability 1	Physical hazards 0	Personal Protection X

Prepared By Product Stewardship
23 British American Blvd.
Latham, NY 12110
1-800-572-6501

Revision Date 20-Feb-2019

Revision Note No information available

Disclaimer

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End of Safety Data Sheet



This SDS conforms to REACH SDS CLP regulation 2015/830.

Issuing Date 04-Jun-2014**Revision Date** 18-Mar-2019**Revision Number** 4

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Section 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Product Code(s) 101
(M)SDS Number WPS-JLI-001CLP
Product Name KOPR-KOTE®
Chemical name

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Lubricants, Greases and Release Products.
Uses advised against No information available.

1.3. Details of the supplier of the safety data sheet

Supplier Address Jet Lube LLC
930 Whitmore Drive
Rockwall, Texas USA 75087
Supplier Phone Number US Office: Phone:+1-972-771-1000 Fax:+1-972-722-2108
Supplier Email Sales@jetlube.com

<u>Importer</u>	<u>Manufacturer</u>
Jet-Lube (UK) Ltd	Jet Lube LLC
City Park, Watchmead	930 Whitmore Drive
Welwyn Garden City, Hertfordshire	Rockwall, Texas USA 75087
AL7 1LT	
United Kingdom	

For further information, please contact.

Responsible Persons	Regulatory & Laboratory Team Member(s)
E-mail Address	Regulatory@jetlube.com
Non-Emergency Telephone Number	+44-1628-631913 (JL UK Office) +1-972-771-1000 (USA Office)

1.4. Emergency telephone number

Emergency Telephone Number +44-1628-631913 (JL UK Office)

Emergency telephone §45 - (EC)1272/2008	
Europe	112
Austria	Poison Information Center (AT): +43-(0)1-406 43 43
Belgium	Poison Center (BE): +32 70 245 245
Denmark	Poison Control Hotline (DK): +45 82 12 12 12
Finland	Poison Information Centre (FI): +358 9 471 977
France	ORFILA (FR): + 01 45 42 59 59
Germany	Poison Center Berlin (DE): +49 030 30686 790 (24 h service, Advice in German and English)
Ireland	National Poisons Information Centre (IE): +353 1 8379964
Italy	Poison Center, Milan (IT): +39 02 6610 1029
Netherlands	National Poisons Information Center (NL): +31 30 274 88 88 (NB: this service is only available to health professionals)
Norway	Poisons Information (NO): + 47 22 591300
Poland	Poison Control and Information Centre, Warsaw (PL): +48 22 619 66 54; +48 22 619 08 97
Portugal	Poison Information Center (PT): +351 21 330 3284
Spain	Poison Information Service (ES): +34 91 562 04 20
Sweden	Poisons Information Center (SV): +46 8 33 12 31
Switzerland	Poison Center (CH): Tel 145: +41 44 251 51 51
United Kingdom	NHS Direct (UK): +44 0845 46 47

Section 2: Hazards Identification**2.1. Classification of the substance or mixture****Regulation (EC) No 1272/2008**

Skin corrosion/irritation	Category 2 - (H315)
Serious eye damage/eye irritation	Category 2 - (H319)

2.2. Label elements

Signal word

Warning

Hazard Statements

H315 - Causes skin irritation

H319 - Causes serious eye irritation

Precautionary Statements - EU (§28, 1272/2008)

P264 - Wash face, hands and any exposed skin thoroughly after handling

P280 - Wear protective gloves and eye/face protection

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water

P332 + P313 - If skin irritation occurs: Get medical advice/attention

P362 - Take off contaminated clothing and wash before reuse

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P337 + P313 - If eye irritation persists: Get medical advice/attention

2.3. Other hazards

None known

Section 3: Composition/Information

3.1 Substances

Not applicable.

3.2 Mixtures

Chemical Name	EC No	CAS-No	Weight-%	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH Reg. No.
Lubricating greases A complex combination of hydrocarbons having carbon numbers predominantly in the range of C12 through C50. may contain organic salts of alkali metals, alkaline earth metals, etc.	278-011-7	74869-21-9	50-70	No data available	No data available
Graphite	231-955-3	7782-42-5	10-15	No data available	01-2119486977-12
Copper	231-159-6	7440-50-8	8-13	Eye Irrit. 2 (H319) Skin Irrit. 2 (H315)	01-2119480154-42

Full text of H- and EUH-phrases: see section 16

Note

The producer of "74869-21-9" declares that it contains less than 3% DMSO extractable material by IP-346 The classification as a carcinogen need not apply if it can be shown that the substance contains less than 3 % DMSO extract as measured by IP 346. This note applies only to certain complex oil derived substances in Annex I

This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (Regulation (EC) No. 1907/2006 (REACH), Article 59)

Section 4: First aid measures

4.1. Description of first aid measures

General advice

IF exposed or concerned: Get medical advice/attention. Show this safety data sheet to the doctor in attendance.

Inhalation

Remove to fresh air. Get medical attention immediately if symptoms occur.



Skin contact	Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists. Do not rub affected area.
Ingestion	Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a physician.
Self-protection of the first aider	Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

4.2. Most important symptoms and effects, both acute and delayed

Symptoms	Burning sensation.
-----------------	--------------------

4.3. Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptomatically.
---------------------------	------------------------

Section 5: FIRE FIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
-------------------------------------	---

Unsuitable extinguishing media	No information available.
---------------------------------------	---------------------------

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

Hazardous Combustion Products

Carbon oxides.

5.3. Advice for firefighters

Special protective equipment for fire-fighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required.
Other Information	Refer to protective measures listed in Sections 7 and 8.
For emergency responders	Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so.

6.3. Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Take up mechanically, placing in appropriate containers for disposal.

6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

Section 7: HANDLING AND STORAGE**7.1. Precautions for safe handling**

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse.

General Hygiene Considerations Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product. Wear suitable gloves and eye/face protection. Avoid contact with skin, eyes or clothing.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

7.3. Specific end use(s)

Risk Management Methods (RMM) The information required is contained in this Material Safety Data Sheet.

Section 8: Exposure control/personal protection equipment**8.1. Control parameters****Exposure Limits**

Chemical Name	EU	United Kingdom	France	Spain	Germany
Graphite 7782-42-5	-	STEL: 30 mg/m ³ STEL: 12 mg/m ³ TWA: 10 mg/m ³ TWA: 4 mg/m ³	TWA: 2 mg/m ³	TWA: 2 mg/m ³	-
Copper 7440-50-8	-	TWA: 1 mg/m ³ TWA: 0.2 mg/m ³ STEL: 0.6 mg/m ³ STEL: 2 mg/m ³	TWA: 0.2 mg/m ³ TWA: 1 mg/m ³ STEL: 2 mg/m ³	TWA: 0.2 mg/m ³ TWA: 1 mg/m ³	-
Chemical Name	Italy	Portugal	Netherlands	Finland	Denmark
Graphite 7782-42-5	-	TWA: 2 mg/m ³	-	TWA: 2 mg/m ³	TWA: 2.5 mg/m ³
Copper	TWA: 0.2 mg/m ³	TWA: 0.2 mg/m ³	TWA: 0.1 mg/m ³	TWA: 1 mg/m ³	TWA: 1.0 mg/m ³

7440-50-8		TWA: 1 mg/m ³		TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³
Chemical Name	Austria	Switzerland	Poland	Norway	Ireland
Graphite 7782-42-5	STEL 10 mg/m ³ TWA: 5 mg/m ³	TWA: 2.5 mg/m ³ TWA: 5 mg/m ³	TWA: 4.0 mg/m ³ TWA: 1.0 mg/m ³ TWA: 6.0 mg/m ³	TWA: 5 mg/m ³ TWA: 2 mg/m ³ TWA: 10 mg/m ³ TWA: 4 mg/m ³ STEL: 10 mg/m ³ STEL: 4 mg/m ³ STEL: 15 mg/m ³ STEL: 8 mg/m ³	TWA: 10 mg/m ³ TWA: 4 mg/m ³ STEL: 30 mg/m ³ STEL: 12 mg/m ³
Copper 7440-50-8	STEL: 4 mg/m ³ STEL: 0.4 mg/m ³ TWA: 1 mg/m ³ TWA: 0.1 mg/m ³	STEL: 0.2 mg/m ³ TWA: 0.1 mg/m ³	TWA: 0.2 mg/m ³	TWA: 0.1 mg/m ³ TWA: 1 mg/m ³ STEL: 0.1 mg/m ³ STEL: 1 mg/m ³	TWA: 0.2 mg/m ³ TWA: 1 mg/m ³ STEL: 0.6 mg/m ³ STEL: 2 mg/m ³
Chemical name	Romania	Ukraine TLVs	Sweden TLVs	Hungary	Turkey TLVs
Graphite 7782-42-5	TWA: 2 mg/m ³		LLV: 5 mg/m ³		
Copper 7440-50-8	TWA: 0.5 mg/m ³ STEL: 0.2 mg/m ³ STEL: 1.5 mg/m ³		LLV: 1 mg/m ³ LLV: 0.2 mg/m ³	STEL: 4 mg/m ³ STEL: 0.4 mg/m ³ TWA: 1 mg/m ³ TWA: 0.1 mg/m ³	

Derived No Effect Level (DNEL) No information available

Predicted No Effect Concentration (PNEC) No information available

8.2. Exposure controls

Personal protective equipment

Eye/face protection	If splashes are likely to occur, wear safety glasses with side-shields. None required for consumer use.
Hand Protection	Wear suitable gloves. Impervious gloves. Nitrile rubber.
Skin and body protection	Wear suitable protective clothing. Long sleeved clothing.

Environmental exposure controls No information available.

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Paste / Gel
Appearance	Copper Bronze
Odor	Petroleum
Color	Copper
Odor Threshold	No data available

<u>Property</u>	<u>Values</u>	<u>Remarks Method</u>
pH	7	
Melting / freezing point	232 °C	None known
Boiling point / boiling range	316 °C	
Flash Point	> 221 °C	Open cup
Evaporation Rate	No data available	None known



Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability limit	No data available	
Lower flammability limit	No data available	
Vapor pressure	<0.01&20	None known
Vapor density	>5	None known
Relative density	1.15	
Water Solubility	Insoluble in water	
Solubility(ies)	No data available	None known
Partition coefficient: n-octanol/water	0	
Autoignition temperature	>260 °C	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Viscosity	No data available	None known

9.2. Other information

Softening Point	No information available
Molecular Weight	No information available
VOC Content (%)	None
None	
Liquid Density	No information available
Bulk Density	No information available
Particle Size	No information available
Particle Size Distribution	No information available

Section 10: Stability and reactivity

10.1. Reactivity

No data available.

10.2. Chemical stability

Stable under normal conditions.

Explosion Data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

10.3. Possibility of hazardous reactions

Possibility of Hazardous Reactions None under normal processing.

Hazardous Polymerization Hazardous polymerization does not occur.

10.4. Conditions to avoid

None known.

10.5. Incompatible materials

Strong acids, Strong bases, Strong oxidizing agents.

10.6. Hazardous decomposition products



Carbon oxides.

Section 11: Toxicological information

11.1. Information on toxicological effects

Information on likely routes of exposure

Product Information

Inhalation	No known hazard by inhalation.
Eye contact	Specific test data for the substance or mixture is not available. Irritating to eyes. (based on components). May cause redness, itching, and pain. Causes serious eye irritation.
Skin contact	Specific test data for the substance or mixture is not available. Causes skin irritation. (based on components). May cause irritation. Prolonged contact may cause redness and irritation.
Ingestion	Not an expected route of exposure. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Information on toxicological effects

Symptoms Redness. May cause redness and tearing of the eyes.

Numerical measures of toxicity

Acute Toxicity

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral) 2,280.00 mg/kg

Unknown acute toxicity

Component Information

Chemical Name	LD50 Oral	LD50 Dermal	Inhalation LC50
Lubricating greases A complex combination of hydrocarbons having carbon numbers predominantly in the range of C12 through C50. may contain organic salts of alkali metals, alkaline earth metals, etc.	= 2280 mg/kg (Rat)		

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	Classification based on data available for ingredients. Irritating to skin.
Serious eye damage/eye irritation	Classification based on data available for ingredients. Irritating to eyes.
Respiratory or skin sensitization	No information available.

Germ cell mutagenicity	No information available.
Carcinogenicity	No information available.
Reproductive Toxicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Aspiration hazard	No information available.

Section 12: Ecological information

12.1. Toxicity

Ecotoxicity

The environmental impact of this product has not been fully investigated.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Lubricating greases A complex combination of hydrocarbons having carbon numbers predominantly in the range of C12 through C50. may contain organic salts of alkali metals, alkaline earth metals, etc.	>1001 mg/l	96h LC50: > 2000 mg/L (Salmo gairdneri)	-	
Copper	EC50 96 h: 0.031 - 0.054 mg/L static (Pseudokirchneriella subcapitata) EC50 72 h: 0.0426 - 0.0535 mg/L static (Pseudokirchneriella subcapitata)	LC50 96 h: 0.0068 - 0.0156 mg/L (Pimephales promelas) LC50 96 h: < 0.3 mg/L static (Pimephales promelas) LC50 96 h: = 0.052 mg/L flow-through (Oncorhynchus mykiss) LC50 96 h: = 0.112 mg/L flow-through (Poecilia reticulata) LC50 96 h: = 0.2 mg/L flow-through (Pimephales promelas) LC50 96 h: = 0.3 mg/L semi-static (Cyprinus)	-	EC50 48 h: = 0.03 mg/L Static (Daphnia magna)

		carpio) LC50 96 h: = 0.8 mg/L static (Cyprinus carpio) LC50 96 h: = 1.25 mg/L static (Lepomis macrochirus)		
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12.2. Persistence and degradability

Persistence and Degradability No information available.

12.3. Bioaccumulative potential

Bioaccumulation No information available.

12.4. Mobility in soil

Mobility in soil No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment No information available.

Chemical Name	PBT and vPvB assessment
Graphite	The substance is not PBT / vPvB PBT assessment does not apply
Copper	The substance is not PBT / vPvB PBT assessment does not apply

12.6. Other adverse effects

Other adverse effects No information available.

Section 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging No information available.

Section 14: Transport information

IMDG	Not regulated
14.1 UN Number	Not regulated
14.2 Proper Shipping Name	NOT REGULATED
14.3 Hazard Class	Not regulated
14.4 Packing Group	Not regulated
14.5 Marine Pollutant	Not applicable
14.6 Special Provisions	None
14.7 Transport in bulk	No information available

according to Annex II of
MARPOL and the IBC Code

RID	NOT REGULATED
14.1 UN-No.	NOT REGULATED
14.2 Proper Shipping Name	NOT REGULATED
14.3 Hazard Class	NOT REGULATED
14.4 Packing Group	NOT REGULATED
14.5 Environmental hazard	Not applicable
14.6 Special Provisions	None

ADR	NOT REGULATED
14.1 UN-No.	NOT REGULATED
14.2 Proper Shipping Name	NOT REGULATED
14.3 Hazard Class	NOT REGULATED
14.4 Packing Group	NOT REGULATED
14.5 Environmental hazard	Not applicable
14.6 Special Provisions	None

IATA	Not regulated
14.1 UN Number	Not regulated
14.2 Proper Shipping Name	NOT REGULATED
14.3 Hazard Class	Not regulated
14.4 Packing Group	Not regulated
14.5 Environmental hazard	Not applicable
14.6 Special Provisions	None

Section 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations

France

Occupational Illnesses (R-463-3, France)

Chemical Name	French RG number	Title
Graphite 7782-42-5	RG 16 RG 25	-
Copper 7440-50-8	RG 5, RG 14, RG 15, RG 15bis, RG 20bis	-

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work .

Authorizations and/or restrictions on use:

This product does not contain substances subject to authorization (Regulation (EC) No. 1907/2006 (REACH), Annex XIV).

Persistent Organic Pollutants

Not applicable.



Ozone-depleting substances (ODS) regulation (EC) 1005/2009

Not applicable.

International Inventories

TSCA	Complies.
DSL/NDL	Complies.
EINECS/ELINCS	Complies.
ENCS	Not determined.
IECSC	Contact supplier for inventory compliance status.
KECL	Not determined.
PICCS	Complies.
AICS	Complies.

Legend**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory**DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances**ENCS** - Japan Existing and New Chemical Substances**IECSC** - China Inventory of Existing Chemical Substances**KECL** - Korean Existing and Evaluated Chemical Substances**PICCS** - Philippines Inventory of Chemicals and Chemical Substances**AICS** - Australian Inventory of Chemical Substances**15.2. Chemical safety assessment**

No information available.

Section 16: Other Information**Key or legend to abbreviations and acronyms used in the safety data sheet****Full text of H-Statements referred to under sections 2 and 3**

H315 - Causes skin irritation

H319 - Causes serious eye irritation

Legend

SVHC: Substances of Very High Concern for Authorization:

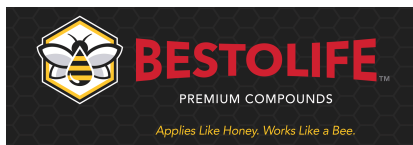
Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	-	Skin designation

Key literature references and sources for datawww.ChemADVISOR.com/**Issuing Date** 04-Jun-2014**Revision Date** 18-Mar-2019**Disclaimer****The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and**

belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet



SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
REACH Regulation (EC) 1907/2006 amended by Regulation (UK) SI 2019/758

Revision date 11-Aug-2023

Revision Number 2

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product Code(s) 1101111

Product Name HONEY KOTE

Pure substance/mixture Mixture

Contains Residual oils (petroleum), hydrotreated, Distillates (petroleum), solvent dewaxed light paraffinic; baseoil - unspecified, Distillates (petroleum), solvent-dewaxed heavy paraffinic, Calcium carbonate

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended use Industrial Use Thread Compound (Pipe Dope) and Jacking grease for use in Offshore industries; Mining (without offshore industries)

Uses advised against Do not use on oxygen lines or in oxygen enriched atmospheres.

1.3. Details of the supplier of the safety data sheet

Manufacturer

Bestolife Corporation
2126 Vanco Drive
Irving TX 75061
855-243-9164/972-865-8961
Telefax 214-631-3047

ITS TESTING SERVICES (UK) Ltd.
Caleb Brett House
734 London Road
West Thurrock, Grays Essex RM20 3NL
United Kingdom

Email address: lorraine.dene@intertek.com

1.4. Emergency telephone number

Emergency Telephone For chemical emergency call CHEMTREC Day & Night: +1 703-527-3887

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Acute toxicity - Oral	Category 4 - (H302)
Acute toxicity - Dermal	Category 4 - (H312)
Acute aquatic toxicity	Category 1 - (H400)
Chronic aquatic toxicity	Category 1 - (H410)

Adverse physiochemical, human health and environment effects

H302 - Harmful if swallowed

H312 - Harmful in contact with skin

H410 - Very toxic to aquatic life with long lasting effects

2.2. Label elements

Contains Residual oils (petroleum), hydrotreated, Distillates (petroleum), solvent dewaxed light paraffinic; baseoil - unspecified, Distillates (petroleum), solvent-dewaxed heavy paraffinic, Calcium carbonate

**Signal word**

Warning

Hazard statements

H302 - Harmful if swallowed

H312 - Harmful in contact with skin

H410 - Very toxic to aquatic life with long lasting effects

Precautionary statements

P201 - Obtain special instructions before use

P264 - Wash face, hands and any exposed skin thoroughly after handling

P273 - Avoid release to the environment

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P391 - Collect spillage

Unknown acute toxicity

70.06127 % of the mixture consists of ingredient(s) of unknown acute oral toxicity.

73.28707 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity.

Unknown aquatic toxicity

Contains 0 % of components with unknown hazards to the aquatic environment.

Additional information

This product requires tactile warnings if supplied to the general public.

2.3. Other hazards**PBT & vPvB** This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

Causes mild skin irritation.

SECTION 3: Composition/information on ingredients**3.1 Substances**

Not applicable

3.2 Mixtures

Chemical name	Weight-%	EC No (EU Index No)	UK REACH registration number	Classification according to GB CLP (SI 2020/1567 as amended)	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
Distillates	>= 30 - <	(649-465-00)	-	-	-	-	-

(petroleum), hydrotreated heavy naphthenic 64742-52-5	50	-7) 265-155-0					
Graphite 7782-42-5	>= 10 - < 20	231-955-3	-	-	-	-	-
Residual oils (petroleum), hydrotreated 64742-57-0	>= 10 - < 20	(649-470-00 -4) 265-160-8	-	Carc. 1B (H350)	-	-	-
Talc 14807-96-6	>= 10 - < 20	238-877-9	-	-	-	-	-
Copper metal powder 7440-50-8	>= 5 - < 10	(029-024-00 -X) 231-159-6	-	Aquatic Chronic 2 (H411)	-	-	-
Calcium carbonate 471-34-1	>= 5 - < 10	207-439-9	-	-	-	-	-
Distillates (petroleum), hydrotreated heavy paraffinic 64742-54-7	>= 1 - < 5	(649-467-00 -8) 265-157-1	-	-	-	-	-
Dolomite 16389-88-1	>= 1 - < 5	240-440-2	-	-	-	-	-
Calcium oxide 1305-78-8	>= 1 - < 5	215-138-9	UK-01-6025516321-8	-	-	-	-
Distillates (petroleum), solvent-dewaxed heavy paraffinic 64742-65-0	>= 1 - < 5	(649-474-00 -6) 265-169-7	-	Carc. 1B (H350)	-	-	-
Distillates (petroleum), solvent dewaxed light paraffinic; baseoil - unspecified 64742-56-9	>= 1 - < 5	(649-469-00 -9) 265-159-2	-	Carc. 1B (H350)	-	-	-
Distillates (petroleum), hydrotreated light paraffinic 64742-55-8	>= 1 - < 5	(649-468-00 -3) 265-158-7	-	Carc. 1B (H350)	-	-	-
Distillates (petroleum), hydrotreated light naphthenic 64742-53-6	>= 1 - < 5	(649-466-00 -2) 265-156-6	UK-01-7893359663-3	-	-	-	-
Calcium hydroxide 1305-62-0	>= 1 - < 5	215-137-3	-	-	-	-	-
Acetic acid 64-19-7	>= 1 - < 5	(607-002-00 -6) 200-580-7	-	Flam. Liq. 3 (H226) Skin Corr. 1A (H314)	Eye Irrit. 2 :: 10%<=C<25% Skin Corr. 1A :: C>=90% Skin Corr. 1B :: 25%<=C<90% Skin Irrit. 2 :: 10%<=C<25%	-	-
Quartz 14808-60-7	>= 1 - < 5	238-878-4	-	-	-	-	-
Calcium bis(dinonylnaphthal	>= 1 - < 5	939-717-7	-	-	-	-	-

enesulphonate) 1474044-79-5							
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Full text of H- and EUH-phrases: see section 16

Additional information

NOTE: As per Note L, the carcinogen classification does NOT apply to this preparation because the producer of "Petroleum distillates, hydrotreated heavy naphthenic" declares that it contains less than 3% DMSO extractable substance by IP-346. This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (UK REACH Article 59)

4.1. Description of first aid measures

General advice	Show this safety data sheet to the doctor in attendance. IF exposed or concerned: Get medical advice/attention.
Inhalation	Remove to fresh air.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Skin contact	Wash off immediately with plenty of water for at least 15 minutes. If symptoms persist, call a physician.
Ingestion	Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Call a physician.
Self-protection of the first aider	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Wear personal protective clothing (see section 8).

4.2. Most important symptoms and effects, both acute and delayed

Symptoms	Prolonged contact may cause redness and irritation.
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4.3. Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptomatically.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media	Dry chemical, CO ₂ , water spray or alcohol-resistant foam.
Large Fire	CAUTION: Use of water spray when fighting fire may be inefficient.
Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical	No information available.
Hazardous combustion products	Carbon oxides. Metal oxides. Phosphorus oxides. Oxides of sulfur.

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.
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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required.
Other information	Refer to protective measures listed in Sections 7 and 8.
For emergency responders	Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions	Prevent further leakage or spillage if safe to do so.
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6.3. Methods and material for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so.
Methods for cleaning up	Use appropriate personal protective equipment (PPE). Carefully shovel or sweep up spilled material and place in suitable container. Avoid generating dust.
Prevention of secondary hazards	Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections	See section 8 for more information. See section 13 for more information.
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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling	Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Do not eat, drink or smoke when using this product. Remove contaminated clothing and shoes.
General hygiene considerations	Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up.
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7.3. Specific end use(s)

Specific use(s)
See section 1 for more information.

Risk Management Methods (RMM)	The information required is contained in this Safety Data Sheet.
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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits

Chemical name	United Kingdom
Graphite 7782-42-5	TWA: 10 mg/m ³ TWA: 4 mg/m ³ STEL: 30 mg/m ³ STEL: 12 mg/m ³
Talc 14807-96-6	TWA: 1 mg/m ³ STEL: 3 mg/m ³
Copper metal powder 7440-50-8	TWA: 1 mg/m ³ TWA: 0.2 mg/m ³ STEL: 0.6 mg/m ³ STEL: 2 mg/m ³
Calcium carbonate 471-34-1	TWA: 10 mg/m ³ TWA: 4 mg/m ³ STEL: 30 mg/m ³ STEL: 12 mg/m ³
Calcium oxide 1305-78-8	TWA: 1 mg/m ³ TWA: 2 mg/m ³ STEL: 4 mg/m ³ STEL: 6 mg/m ³
Calcium hydroxide 1305-62-0	TWA: 1 mg/m ³ TWA: 5 mg/m ³ STEL: 4 mg/m ³ STEL: 15 mg/m ³
Acetic acid 64-19-7	TWA: 10 ppm TWA: 25 mg/m ³ STEL: 20 ppm STEL: 50 mg/m ³
Quartz 14808-60-7	TWA: 0.1 mg/m ³ STEL: 0.3 mg/m ³

Other information

Note: These substance(s) are inextricably bound in the product and therefore do not contribute to a dust inhalation hazard.

Biological occupational exposure limits

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Derived No Effect Level (DNEL) - Workers

Chemical name	Oral	Dermal	Inhalation
Distillates (petroleum), hydrotreated heavy naphthenic 64742-52-5		0.97 mg/kg bw/day [4] [6]	2.73 mg/m ³ [4] [6] 5.58 mg/m ³ [5] [6]
Graphite 7782-42-5			1.2 mg/m ³ [4] [6] 1.2 mg/m ³ [5] [6]
Residual oils (petroleum), hydrotreated 64742-57-0		0.97 mg/kg bw/day [4] [6]	2.73 mg/m ³ [4] [6] 5.58 mg/m ³ [5] [6]
Talc 14807-96-6		43.2 mg/kg bw/day [4] [6] 4.54 mg/cm ² [5] [6]	2.16 mg/m ³ [4] [6] 2.16 mg/m ³ [4] [7] 3.6 mg/m ³ [5] [6] 3.6 mg/m ³ [5] [7]
Copper metal powder 7440-50-8		137 mg/kg bw/day [4] [6] 273 mg/kg bw/day [4] [7]	
Calcium carbonate 471-34-1			6.36 mg/m ³ [5] [6]
Distillates (petroleum), hydrotreated		0.97 mg/kg bw/day [4] [6]	2.73 mg/m ³ [4] [6]

Chemical name	Oral	Dermal	Inhalation
heavy paraffinic 64742-54-7			5.58 mg/m ³ [5] [6]
Calcium oxide 1305-78-8			1 mg/m ³ [5] [6] 4 mg/m ³ [5] [7]
Distillates (petroleum), hydrotreated light paraffinic 64742-55-8		0.97 mg/kg bw/day [4] [6]	2.73 mg/m ³ [4] [6] 5.58 mg/m ³ [5] [6]
Distillates (petroleum), solvent dewaxed light paraffinic; baseoil - unspecified 64742-56-9		0.97 mg/kg bw/day [4] [6]	2.73 mg/m ³ [4] [6] 5.58 mg/m ³ [5] [6]
Distillates (petroleum), solvent-dewaxed heavy paraffinic 64742-65-0		0.97 mg/kg bw/day [4] [6]	2.73 mg/m ³ [4] [6] 5.58 mg/m ³ [5] [6]
Distillates (petroleum), hydrotreated light naphthenic 64742-53-6		0.97 mg/kg bw/day [4] [6]	2.73 mg/m ³ [4] [6] 5.58 mg/m ³ [5] [6]
12-Hydroxystearic acid 106-14-9		250 mg/kg bw/day [4] [6]	
Calcium hydroxide 1305-62-0			1 mg/m ³ [5] [6] 4 mg/m ³ [5] [7]
Acetic acid 64-19-7			25 mg/m ³ [5] [6] 25 mg/m ³ [5] [7]
Calcium bis(dinonylnaphthalenesulphonate) 1474044-79-5		10 mg/kg bw/day [4] [6]	70 mg/m ³ [4] [6]
Stearic acid 57-11-4		10 mg/kg bw/day [4] [6]	17.632 mg/m ³ [4] [6]
Sulphuric acid 7664-93-9			0.05 mg/m ³ [5] [6] 0.1 mg/m ³ [5] [7]
Butylated Hydroxytoluene 128-37-0		0.5 mg/kg bw/day [4] [6]	3.5 mg/m ³ [4] [6]
Calcium Dodecylbenzene Sulfonate 26264-06-2		57.2 mg/kg bw/day [4] [6] 80 mg/kg bw/day [4] [7] 1.57 mg/cm ² [5] [6] 1.57 mg/cm ² [5] [7]	52 mg/m ³ [4] [6] 52 mg/m ³ [4] [7] 52 mg/m ³ [5] [6] 52 mg/m ³ [5] [7]

Notes

[4]	Systemic health effects.
[5]	Local health effects.
[6]	Long term.
[7]	Short term.

Derived No Effect Level (DNEL) - General Public

Chemical name	Oral	Dermal	Inhalation
Distillates (petroleum), hydrotreated heavy naphthenic 64742-52-5	0.74 mg/kg bw/day [4] [6]		1.19 mg/m ³ [5] [6]
Graphite 7782-42-5	813 mg/kg bw/day [4] [6]		0.3 mg/m ³ [5] [6]
Residual oils (petroleum), hydrotreated 64742-57-0	0.74 mg/kg bw/day [4] [6]		1.19 mg/m ³ [5] [6]
Talc 14807-96-6	160 mg/kg bw/day [4] [6] 160 mg/kg bw/day [4] [7]	2.27 mg/cm ² [5] [6]	1.08 mg/m ³ [4] [6] 1.08 mg/m ³ [4] [7] 1.8 mg/m ³ [5] [6] 1.8 mg/m ³ [5] [7]
Copper metal powder 7440-50-8	0.041 mg/kg bw/day [4] [6]	273 mg/kg bw/day [4] [6] 273 mg/kg bw/day [4] [7]	1 mg/m ³ [5] [6] 1 mg/m ³ [5] [7]

Chemical name	Oral	Dermal	Inhalation
Calcium carbonate 471-34-1	6.1 mg/kg bw/day [4] [6] 6.1 mg/kg bw/day [4] [7]		1.06 mg/m ³ [5] [6]
Distillates (petroleum), hydrotreated heavy paraffinic 64742-54-7	0.74 mg/kg bw/day [4] [6]		1.19 mg/m ³ [5] [6]
Calcium oxide 1305-78-8			1 mg/m ³ [5] [6] 4 mg/m ³ [5] [7]
Distillates (petroleum), hydrotreated light paraffinic 64742-55-8	0.74 mg/kg bw/day [4] [6]		1.19 mg/m ³ [5] [6]
Distillates (petroleum), solvent dewaxed light paraffinic; baseoil - unspecified 64742-56-9	0.74 mg/kg bw/day [4] [6]		1.19 mg/m ³ [5] [6]
Distillates (petroleum), solvent-dewaxed heavy paraffinic 64742-65-0	0.74 mg/kg bw/day [4] [6]		1.19 mg/m ³ [5] [6]
Distillates (petroleum), hydrotreated light naphthenic 64742-53-6	0.74 mg/kg bw/day [4] [6]		1.19 mg/m ³ [5] [6]
Calcium hydroxide 1305-62-0			1 mg/m ³ [5] [6] 4 mg/m ³ [5] [7]
Acetic acid 64-19-7			25 mg/m ³ [5] [6] 25 mg/m ³ [5] [7]
Stearic acid 57-11-4	2.5 mg/kg bw/day [4] [6]		4.348 mg/m ³ [4] [6]
Butylated Hydroxytoluene 128-37-0			0.86 mg/m ³ [4] [6]
Calcium Dodecylbenzene Sulfonate 26264-06-2	13 mg/kg bw/day [4] [6] 13 mg/kg bw/day [4] [7]	40 mg/kg bw/day [4] [6] 40 mg/kg bw/day [4] [7] 0.787 mg/cm ² [5] [6] 0.787 mg/cm ² [5] [7]	26 mg/m ³ [4] [6] 26 mg/m ³ [4] [7] 26 mg/m ³ [5] [6] 26 mg/m ³ [5] [7]

Notes

[4]

Systemic health effects.

[5]

Local health effects.

[6]

Long term.

[7]

Short term.

Predicted No Effect Concentration (PNEC)

Chemical name	Freshwater	Freshwater (intermittent release)	Marine water	Marine water (intermittent release)	Air
Talc 14807-96-6	597.97 mg/L	597.97 mg/L	141.26 mg/L	141.26 mg/L	10 mg/m ³
Copper metal powder 7440-50-8	7.8 µg/L		5.2 µg/L		
Calcium oxide 1305-78-8	0.37 mg/L	0.37 mg/L	0.24 mg/L	0.24 mg/L	
12-Hydroxystearic acid 106-14-9	0.1 mg/L	1 mg/L	0.01 mg/L		
Calcium hydroxide 1305-62-0	0.49 mg/L	0.49 mg/L	0.32 mg/L		
Acetic acid 64-19-7	3.058 mg/L	30.58 mg/L	0.3058 mg/L		
Calcium bis(dinonylnaphthalenesul phonate)	4 µg/L	2.7 µg/L	0.4 µg/L		

Chemical name	Freshwater	Freshwater (intermittent release)	Marine water	Marine water (intermittent release)	Air
1474044-79-5					
Sulphuric acid 7664-93-9	0.0025 mg/L		0.00025 mg/L		
Butylated Hydroxytoluene 128-37-0	0.199 µg/L	1.99 µg/L	0.0199 µg/L		
Calcium Dodecylbenzene Sulfonate 26264-06-2	0.28 mg/L	0.654 mg/L	0.458 mg/L		10 mg/m ³

Chemical name	Freshwater sediment	Marine sediment	Sewage treatment	Soil	Food chain
Distillates (petroleum), hydrotreated heavy naphthenic 64742-52-5					9.33 mg/kg food
Residual oils (petroleum), hydrotreated 64742-57-0					9.33 mg/kg food
Talc 14807-96-6	31.33 mg/kg sediment dw	3.13 mg/kg sediment dw			
Copper metal powder 7440-50-8	87 mg/kg sediment dw	676 mg/kg sediment dw	230 µg/L	65 mg/kg soil dw	
Calcium carbonate 471-34-1			100 mg/L		
Distillates (petroleum), hydrotreated heavy paraffinic 64742-54-7					9.33 mg/kg food
Calcium oxide 1305-78-8			2.27 mg/L	817.4 mg/kg soil dw	
Distillates (petroleum), hydrotreated light paraffinic 64742-55-8					9.33 mg/kg food
Distillates (petroleum), solvent dewaxed light paraffinic; baseoil - unspecified 64742-56-9					9.33 mg/kg food
Distillates (petroleum), solvent-dewaxed heavy paraffinic 64742-65-0					9.33 mg/kg food
Distillates (petroleum), hydrotreated light naphthenic 64742-53-6					9.33 mg/kg food
12-Hydroxystearic acid 106-14-9			300 mg/L		
Calcium hydroxide 1305-62-0			3 mg/L	1080 mg/kg soil dw	
Acetic acid 64-19-7	11.36 mg/kg sediment dw	1.136 mg/kg sediment dw	85 mg/L	0.47 mg/kg soil dw	
Calcium bis(dinonylnaphthalenesul phonate) 1474044-79-5	69 mg/kg sediment dw	6.9 mg/kg sediment dw	10 mg/L	13.9 mg/kg soil dw	22.2 mg/kg food

Chemical name	Freshwater sediment	Marine sediment	Sewage treatment	Soil	Food chain
Sulphuric acid 7664-93-9	0.002 mg/kg sediment dw	0.002 mg/kg sediment dw	8.8 mg/L		
Butylated Hydroxytoluene 128-37-0	99.6 µg/kg sediment dw	9.96 µg/kg sediment dw	0.17 mg/L	47.69 µg/kg soil dw	8.33 mg/kg food
Calcium Dodecylbenzene Sulfonate 26264-06-2	27.5 mg/kg sediment dw	2.75 mg/kg sediment dw	50 mg/L	25 mg/kg soil dw	20 mg/kg food

8.2. Exposure controls

Engineering controls

No information available.

Personal protective equipment

Eye/face protection

Wear safety glasses with side shields (or goggles).

Hand protection

PPE16 - Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training. Wear suitable gloves.

Skin and body protection

Wear suitable protective clothing. Long sleeved clothing.

Respiratory protection

No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations

Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Solid
Appearance	Viscous semi-solid
Color	copper
Odor	Petroleum.
Odor threshold	

Property	Values	Remarks • Method
Melting point / freezing point	No data available	None known
Initial boiling point and boiling range	No data available	None known
Flammability		None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Flash point	>= 200 °C	Method ASTM D 92, Cleveland open cup Distillates (petroleum), hydrotreated heavy naphthenic
Autoignition temperature	No data available	None known
Decomposition temperature		None known
pH	No data available	None known
pH (as aqueous solution)	No data available	None known
Kinematic viscosity		None known
Dynamic viscosity		None known

Water solubility	Negligible	None known
Solubility(ies)		None known
Partition coefficient		None known
Vapor pressure		None known
Relative density	1.3	None known
Bulk density		
None known		Relative vapor density No data available
		Particle characteristics
		Particle Size
		Particle Size
		Distribution
Explosive properties	No information available	
Oxidizing properties	No information available	

9.2. Other information**SECTION 10: Stability and reactivity****10.1. Reactivity**

Reactivity Not classified as a reactivity hazard.

10.2. Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Can react with strong oxidizing agents.

10.4. Conditions to avoid

Conditions to avoid None known based on information supplied.

10.5. Incompatible materials

Incompatible materials Strong oxidizing agents.

10.6. Hazardous decomposition products

Hazardous decomposition products None known based on information supplied.

SECTION 11: Toxicological information**11.1. Information on toxicological effects****Information on likely routes of exposure****Product Information**

Inhalation Specific test data for the substance or mixture is not available.

Eye contact Specific test data for the substance or mixture is not available.

Skin contact May be absorbed through the skin in harmful amounts. Specific test data for the substance or mixture is not available. Causes mild skin irritation. Harmful in contact with skin. (based

on components).

Ingestion

Specific test data for the substance or mixture is not available. Harmful if swallowed. (based on components).

Symptoms related to the physical, chemical and toxicological characteristics**Symptoms**

Prolonged contact may cause redness and irritation.

Acute toxicity**Numerical measures of toxicity**

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	1,869.70 mg/kg
ATEmix (dermal)	1,869.40 mg/kg
ATEmix (inhalation-dust/mist)	21.50 mg/l

Unknown acute toxicity

70.06127 % of the mixture consists of ingredient(s) of unknown acute oral toxicity.

73.28707 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity.

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Distillates (petroleum), hydrotreated heavy naphthenic	> 5000 mg/kg (Rat)	> 5000 mg/kg (Rabbit)	-
Graphite	-	-	> 2000 mg/m ³ (Rat) 4 h
Copper metal powder	-	-	> 5.11 mg/L (Rat) 4 h
Calcium carbonate	= 6450 mg/kg (Rat)	> 2000 mg/kg (Rat)	> 3 mg/L (Rat) 4 h
Distillates (petroleum), hydrotreated heavy paraffinic	> 15 g/kg (Rat)	> 5000 mg/kg (Rabbit)	-
Calcium oxide	= 500 mg/kg (Rat)	-	> 6.04 mg/L (Rat) 4 h
Distillates (petroleum), solvent-dewaxed heavy paraffinic	> 15000 mg/kg (Rat)	> 5000 mg/kg (Rabbit)	> 2400 mg/m ³ (Rat) 4 h
Distillates (petroleum), solvent dewaxed light paraffinic; baseoil - unspecified	> 5000 mg/kg (Rat)	> 5000 mg/kg (Rabbit)	> 5399 mg/m ³ (Rat) 4 h
Distillates (petroleum), hydrotreated light paraffinic	-	-	= 3900 mg/m ³ (Rat) 4 h
Distillates (petroleum), hydrotreated light naphthenic	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	= 2180 mg/m ³ (Rat) 4 h
Calcium hydroxide	= 7340 mg/kg (Rat)	> 2500 mg/kg (Rat)	> 6.04 mg/L (Rat) 4 h
Acetic acid	= 3310 mg/kg (Rat)	= 1060 mg/kg (Rabbit)	= 11.4 mg/L (Rat) 4 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure**Skin corrosion/irritation**

Classification based on data available for ingredients. Causes mild skin irritation.

Serious eye damage/eye irritation

No information available.

Respiratory or skin sensitization

No information available.

Germ cell mutagenicity

No information available.

Carcinogenicity

NOTE: As per Note L, the carcinogen classification does NOT apply to this preparation because the producer of "Petroleum distillates, hydrotreated heavy naphthenic" declares that it contains less than 3% DMSO extractable substance by IP-346.

Note: These substance(s) are inextricably bound in the product and therefore do not contribute to a dust inhalation hazard.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	United Kingdom
Distillates (petroleum), hydrotreated heavy naphthenic	Carc. 1B
Residual oils (petroleum), hydrotreated	Carc. 1B
Distillates (petroleum), hydrotreated heavy paraffinic	Carc. 1B
Distillates (petroleum), solvent-dewaxed heavy paraffinic	Carc. 1B
Distillates (petroleum), solvent dewaxed light paraffinic; baseoil - unspecified	Carc. 1B
Distillates (petroleum), hydrotreated light paraffinic	Carc. 1B
Distillates (petroleum), hydrotreated light naphthenic	Carc. 1B

Reproductive toxicity

Contains a known or suspected reproductive toxin. Classification based on data available for ingredients.

STOT - single exposure

No information available.

STOT - repeated exposure

No information available.

Aspiration hazard

No information available.

Other adverse effects**SECTION 12: Ecological information****12.1. Toxicity****Ecotoxicity**

Very toxic to aquatic life with long lasting effects.

Unknown aquatic toxicity

Contains 0 % of components with unknown hazards to the aquatic environment.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Distillates (petroleum), hydrotreated heavy naphthenic	-	LC50: >5000mg/L (96h, <i>Oncorhynchus mykiss</i>)	-	EC50: >1000mg/L (48h, <i>Daphnia magna</i>)
Graphite	-	LC50: >100mg/L (96h, <i>Danio rerio</i>)	-	-
Talc	-	LC50: >100g/L (96h, <i>Brachydanio rerio</i>)	-	-
Copper metal powder	EC50: 0.0426 - 0.0535mg/L (72h, <i>Pseudokirchneriella subcapitata</i>) EC50: 0.031 - 0.054mg/L	LC50: 0.0068 - 0.0156mg/L (96h, <i>Pimephales promelas</i>) LC50: <0.3mg/L (96h, <i>Pimephales promelas</i>)	-	EC50: =0.03mg/L (48h, <i>Daphnia magna</i>)

	(96h, <i>Pseudokirchneriella subcapitata</i>)	LC50: =0.2mg/L (96h, <i>Pimephales promelas</i>) LC50: =0.052mg/L (96h, <i>Oncorhynchus mykiss</i>) LC50: =1.25mg/L (96h, <i>Lepomis macrochirus</i>) LC50: =0.3mg/L (96h, <i>Cyprinus carpio</i>) LC50: =0.8mg/L (96h, <i>Cyprinus carpio</i>) LC50: =0.112mg/L (96h, <i>Poecilia reticulata</i>)		
Distillates (petroleum), hydrotreated heavy paraffinic	-	LC50: >5000mg/L (96h, <i>Oncorhynchus mykiss</i>)	-	EC50: >1000mg/L (48h, <i>Daphnia magna</i>)
Calcium oxide	-	LC50: =1070mg/L (96h, <i>Cyprinus carpio</i>)	-	-
Distillates (petroleum), solvent-dewaxed heavy paraffinic	-	LC50: >5000mg/L (96h, <i>Oncorhynchus mykiss</i>)	-	EC50: >1000mg/L (48h, <i>Daphnia magna</i>)
Distillates (petroleum), solvent dewaxed light paraffinic; baseoil - unspecified	-	LC50: >5000mg/L (96h, <i>Oncorhynchus mykiss</i>)	-	EC50: >1000mg/L (48h, <i>Daphnia magna</i>)
Distillates (petroleum), hydrotreated light paraffinic	-	LC50: >5000mg/L (96h, <i>Oncorhynchus mykiss</i>)	-	EC50: >1000mg/L (48h, <i>Daphnia magna</i>)
Distillates (petroleum), hydrotreated light naphthenic	-	LC50: >5000mg/L (96h, <i>Oncorhynchus mykiss</i>)	-	EC50: >1000mg/L (48h, <i>Daphnia magna</i>)
Acetic acid	-	LC50: =79mg/L (96h, <i>Pimephales promelas</i>) LC50: =75mg/L (96h, <i>Lepomis macrochirus</i>)	-	EC50: =65mg/L (48h, <i>Daphnia magna</i>)

12.2. Persistence and degradability**Persistence and degradability****12.3. Bioaccumulative potential****Bioaccumulation****Component Information**

Chemical name	Partition coefficient
Acetic acid	-0.17
Calcium bis(dinonylnaphthalenesulphonate)	6.6

12.4. Mobility in soil**Mobility in soil****12.5. Results of PBT and vPvB assessment****PBT and vPvB assessment**

The product does not contain any substance(s) classified as PBT or vPvB above the threshold of declaration.

Chemical name	PBT and vPvB assessment
Distillates (petroleum), hydrotreated heavy naphthenic	The substance is not PBT / vPvB
Graphite	The substance is not PBT / vPvB
Residual oils (petroleum), hydrotreated	The substance is not PBT / vPvB

Talc	The substance is not PBT / vPvB
Copper metal powder	The substance is not PBT / vPvB
Calcium carbonate	The substance is not PBT / vPvB
Distillates (petroleum), hydrotreated heavy paraffinic	The substance is not PBT / vPvB
Calcium oxide	The substance is not PBT / vPvB
Distillates (petroleum), solvent-dewaxed heavy paraffinic	The substance is not PBT / vPvB
Distillates (petroleum), solvent dewaxed light paraffinic; baseoil - unspecified	The substance is not PBT / vPvB
Distillates (petroleum), hydrotreated light paraffinic	The substance is not PBT / vPvB
Distillates (petroleum), hydrotreated light naphthenic	The substance is not PBT / vPvB
Calcium hydroxide	The substance is not PBT / vPvB
Acetic acid	The substance is not PBT / vPvB
Calcium bis(dinonylnaphthalenesulphonate)	The substance is not PBT / vPvB

12.6. Other adverse effects

No information available.

SECTION 13: Disposal considerations**13.1. Waste treatment methods****Waste from residues/unused products**

Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging

Do not reuse empty containers.

SECTION 14: Transport information**Remarks**

DG for domestic (ground) transport applies to containers over 119 gallons or 450 litres.

IMDG Clause 2.10.2.7 / IATA Special Provision A197: Marine pollutants or dangerous goods packaged in single or combination packages containing a net quantity per single or inner package of 5 L or less for liquids or 5 kg for solids are not subject to any other transport regulations, provided the packaging meets general provisions.

IATA**14.1 UN number or ID number**

UN3077

14.2 UN proper shipping name

Environmentally hazardous substance, solid, n.o.s. (Copper metal powder)

14.3 Transport hazard class(es)

9

14.4 Packing group

III

Description

UN3077, Environmentally hazardous substance, solid, n.o.s. (Copper metal powder), 9, III

14.5 Environmental hazards

Yes

14.6 Special precautions for user**Special Provisions**

A97, A158, A179, A197, A215

ERG Code

9L

IMDG**14.1 UN number or ID number**

UN3077

14.2 UN proper shipping name

Environmentally hazardous substance, solid, n.o.s. (Copper metal powder)

14.3 Transport hazard class(es)

9

14.4 Packing group

III

Description

UN3077, Environmentally hazardous substance, solid, n.o.s. (Copper metal powder), 9, III, Marine pollutant

14.5 Environmental hazards

Yes

14.6 Special precautions for user**Special Provisions**

274, 335, 966, 967, 969

EmS-No.

F-A, S-F

14.7 Maritime transport in bulk according to IMO instruments

RID

14.1 UN number or ID number	UN3077
14.2 UN proper shipping name	Environmentally hazardous substance, solid, n.o.s. (Copper metal powder)
14.3 Transport hazard class(es)	9
14.4 Packing group	III
Description	UN3077, Environmentally hazardous substance, solid, n.o.s. (Copper metal powder), 9, III
14.5 Environmental hazards	Yes
14.6 Special precautions for user	
Special Provisions	274, 335, 375, 601
Classification code	M7

ADR

14.1 UN number or ID number	UN3077
14.2 UN proper shipping name	Environmentally hazardous substance, solid, n.o.s. (Copper metal powder)
14.3 Transport hazard class(es)	9
14.4 Packing group	III
Description	UN3077, Environmentally hazardous substance, solid, n.o.s. (Copper metal powder), 9, III, (-)
14.5 Environmental hazards	Yes
14.6 Special precautions for user	
Special Provisions	274, 335, 601, 375
Classification code	M7
Tunnel restriction code	(-)

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulations****Authorizations and/or restrictions on use:**

This product contains one or more substances subject to restriction (UK REACH - Annex XVII).

Chemical name	Restricted substance per REACH Annex XVII	Substance subject to authorization per REACH Annex XIV
Distillates (petroleum), hydrotreated heavy naphthenic - 64742-52-5	Use restricted. See item 28. Restricted Carcinogen 1B	-
Residual oils (petroleum), hydrotreated - 64742-57-0	Use restricted. See item 28. Restricted Carcinogen 1B	-
Distillates (petroleum), hydrotreated heavy paraffinic - 64742-54-7	Use restricted. See item 28. Restricted Carcinogen 1B	-
Distillates (petroleum), solvent-dewaxed heavy paraffinic - 64742-65-0	Use restricted. See item 28. Restricted Carcinogen 1B	-
Distillates (petroleum), solvent dewaxed light paraffinic; baseoil - unspecified - 64742-56-9	Use restricted. See item 28. Restricted Carcinogen 1B	-
Distillates (petroleum), hydrotreated light paraffinic - 64742-55-8	Use restricted. See item 28. Restricted Carcinogen 1B	-
Distillates (petroleum), hydrotreated light naphthenic - 64742-53-6	Use restricted. See item 28. Restricted Carcinogen 1B	-

Persistent Organic Pollutants

Not applicable

Export Notification requirements

Not applicable

Dangerous substance category per COMAH Regulations 2015 (as amended)

E1 - Hazardous to the Aquatic Environment in Category Acute 1 or Chronic 1

Named dangerous substances per COMAH Regulations 2015 (as amended)

Not applicable

Chemical name	Lower-tier requirements (tons)	Upper-tier requirements (tons)
Distillates (petroleum), hydrotreated heavy naphthenic - 64742-52-5	-	25000

The Ozone-Depleting Substances Regulations 2015

Not applicable

The Biocidal Products Regulations 2001 (as amended)

Chemical name	The Biocidal Products Regulations 2001 (as amended)
Copper metal powder - 7440-50-8	Product-type 8: Wood preservatives Product-type 21: Antifouling products
Calcium oxide - 1305-78-8	Product-type 2: Disinfectants and algicides not intended for direct application to humans or animals Product-type 3: Veterinary hygiene
Calcium hydroxide - 1305-62-0	Product-type 2: Disinfectants and algicides not intended for direct application to humans or animals Product-type 3: Veterinary hygiene
Acetic acid - 64-19-7	Simplified procedure - Category A

The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 (as amended)

Not applicable

Poisons Act 1972 (Explosive Precursors) Regulations (as Amended)

Not applicable

International Inventories**TSCA**

All chemical substances in this product are either listed on the TSCA Inventory or are in compliance with a TSCA Inventory exemption

DSL/NDL

All components of this product are on the Canadian DSL

EINECS/ELINCS

Contact supplier for inventory compliance status

ENCS

Contact supplier for inventory compliance status

IECSC

Contact supplier for inventory compliance status

KECL

Contact supplier for inventory compliance status

PICCS

Contact supplier for inventory compliance status

AIIC

All components are listed on AICIS, or are exempt.

NZIoC

Contact supplier for inventory compliance status

Legend:**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory**DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances**ENCS** - Japan Existing and New Chemical Substances**IECSC** - China Inventory of Existing Chemical Substances**KECL** - Korean Existing and Evaluated Chemical Substances**PICCS** - Philippines Inventory of Chemicals and Chemical Substances**AIIC** - Australian Inventory of Industrial Chemicals**NZIoC** - New Zealand Inventory of Chemicals**15.2. Chemical safety assessment****Chemical Safety Report****SECTION 16: Other information****Key or legend to abbreviations and acronyms used in the safety data sheet**

Full text of H-Statements referred to under section 3

H226 - Flammable liquid and vapor

H314 - Causes severe skin burns and eye damage

H411 - Toxic to aquatic life with long lasting effects

Legend

SVHC: Substances of Very High Concern for Authorization:

Legend Section 8: Exposure controls/personal protection

TWA TWA (time-weighted average)

STEL

STEL (Short Term Exposure Limit)

Ceiling Maximum limit value

*

Skin designation

+ Sensitizers

Classification procedure

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Method Used

Acute oral toxicity

Calculation method

Acute dermal toxicity

Calculation method

Acute inhalation toxicity - gas

Calculation method

Acute inhalation toxicity - vapor

Calculation method

Acute inhalation toxicity - dust/mist

Calculation method

Skin corrosion/irritation

Calculation method

Serious eye damage/eye irritation

Calculation method

Respiratory sensitization

Calculation method

Skin sensitization

Calculation method

Mutagenicity

Calculation method

Carcinogenicity

Calculation method

Reproductive toxicity

Calculation method

STOT - single exposure

Calculation method

STOT - repeated exposure

Calculation method

Acute aquatic toxicity

Calculation method

Chronic aquatic toxicity

Calculation method

Aspiration hazard

Calculation method

Ozone

Calculation method

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)

U.S. Environmental Protection Agency ChemView Database

European Food Safety Authority (EFSA)

European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)

European Chemicals Agency (ECHA) (ECHA_API)

EPA (Environmental Protection Agency)

Acute Exposure Guideline Level(s) (AEGL(s))

U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act

U.S. Environmental Protection Agency High Production Volume Chemicals

Food Research Journal

Hazardous Substance Database

International Uniform Chemical Information Database (IUCLID)

National Institute of Technology and Evaluation (NITE)

Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)

NIOSH (National Institute for Occupational Safety and Health)

National Library of Medicine's ChemID Plus (NLM CIP)

National Library of Medicine's PubMed database (NLM PUBMED)

National Toxicology Program (NTP)

New Zealand's Chemical Classification and Information Database (CCID)

Organization for Economic Co-operation and Development Environment, Health, and Safety Publications

Organization for Economic Co-operation and Development High Production Volume Chemicals Program

Organization for Economic Co-operation and Development Screening Information Data Set

World Health Organization

Revision date

11-Aug-2023

This safety data sheet was created pursuant to the requirements of: UK REACH Regulations (SI 2019/758 as amended)**Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical**

agents at work

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

UK SDS version information - XGHS

UL release:

GHS Revision 7

2022 Q3

United Kingdom

Full process, including GHS and Transportation Wizards

Full text of H-Statements referred to under section 3 H226 - Flammable liquid and vapor H314 - Causes severe skin burns and eye damage H411 - Toxic to aquatic life with long lasting effects

Chemical name	Classification according to GB CLP (SI 2020/1567 as amended)	Specific concentration limit (SCL)
Residual oils (petroleum), hydrotreated	Carc. 1B (H350)	
Copper metal powder	Aquatic Chronic 2 (H411)	
Distillates (petroleum), solvent-dewaxed heavy paraffinic	Carc. 1B (H350)	
Distillates (petroleum), solvent dewaxed light paraffinic; baseoil - unspecified	Carc. 1B (H350)	
Distillates (petroleum), hydrotreated light paraffinic	Carc. 1B (H350)	
Acetic acid	Flam. Liq. 3 (H226) Skin Corr. 1A (H314)	Eye Irrit. 2 :: 10%≤C<25% Skin Corr. 1A :: C≥90% Skin Corr. 1B :: 25%≤C<90% Skin Irrit. 2 :: 10%≤C<25%



SAFETY DATA SHEET

SPECIALTY ELECTRONIC MATERIALS UK LIMITED

Safety Data Sheet according to Regulation (EC) No 1907/2006 - Annex II

Product name: MOLYKOTE® D-321 R Anti-Friction Coating
Spray

Revision Date: 13.09.2023
Version: 8.0
Date of last issue: 09.01.2023
Print Date: 14.09.2023

SPECIALTY ELECTRONIC MATERIALS UK LIMITED encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Product name: MOLYKOTE® D-321 R Anti-Friction Coating Spray

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses: Lubricants and lubricant additives

1.3 Details of the supplier of the safety data sheet

COMPANY IDENTIFICATION

SPECIALTY ELECTRONIC MATERIALS UK
LIMITED
KINGS COURT, LONDON ROAD
STEVENAGE
England
SG1 2NG
UNITED KINGDOM

Manufacturer DuPont Specialty Products GmbH & Co. KG

Customer Information Number: 00800-3876-6838
SDSQuestion-EU@dupont.com

1.4 EMERGENCY TELEPHONE NUMBER

24-Hour Emergency Contact: +(44)-870-8200418

Local Emergency Contact: +(44)-870-8200418

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008:

Aerosols - Category 1 - H222, H229

Specific target organ toxicity - repeated exposure - Category 2 - H373
Long-term (chronic) aquatic hazard - Category 3 - H412
For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008:

Hazard pictograms



Signal word: DANGER

Hazard statements

- H222 Extremely flammable aerosol.
H229 Pressurised container: May burst if heated.
H373 May cause damage to organs (Central nervous system) through prolonged or repeated exposure.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211 Do not spray on an open flame or other ignition source.
P251 Do not pierce or burn, even after use.
P260 Do not breathe dust or mist.
P260 Do not breathe spray.
P271 Use only outdoors or in a well-ventilated area.
P410 + P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F.

Supplemental information

EUH066 Repeated exposure may cause skin dryness or cracking.
The following percentage of the mixture consists of ingredient(s) with unknown acute dermal toxicity:
1.6 %

Contains naphtha (petroleum), hydrodesulphurized heavy

2.3 Other hazards

Endocrine disrupting properties (human health):

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Endocrine disrupting properties (environment):

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

PBT and vPvB assessment:

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature: Molybdenum disulfide, aerosol

3.2 Mixtures

This product is a mixture.

Identification number	Component	Classification according to Regulation (EU) 1272/2008 (CLP)	specific concentration limit/ M-Factors/ Acute toxicity estimate	%
CASRN 74-98-6 EC-No. 200-827-9 Index-No. 601-003-00-5 REACH No —	propane	Flam. Gas 1 - H220 Press. Gas Compr. Gas - H280	Inhalation ATE: > 425000 ppm (vapour)	>= 10.0 - < 20.0 %
CASRN 123-86-4 EC-No. 204-658-1 Index-No. 607-025-00-1 REACH No —	n-butyl acetate	Flam. Liq. 3 - H226 STOT SE 3 - H336 EUH066	Oral ATE: 12,789 mg/kg Dermal ATE: > 14,112 mg/kg	>= 10.0 - < 20.0 %
CASRN 64742-82-1 EC-No. 265-185-4 Index-No. 649-330-00-2 REACH No —	naphtha (petroleum), hydrodesulphurized heavy	Flam. Liq. 3 - H226 STOT SE 3 - H336 STOT RE 1 - H372 Asp. Tox. 1 - H304 Aquatic Chronic 2 - H411	Oral ATE: > 5,000 mg/kg Inhalation ATE: > 13.1 mg/l (vapour) Dermal ATE: > 4,000 mg/kg	>= 2.5 - < 10.0 %
CASRN 9022-96-2 EC-No. Polymer Index-No. — REACH No —	Polybutyl titanate	Flam. Liq. 3 - H226 Eye Irrit. 2 - H319	Oral ATE: > 2,000 mg/kg Dermal ATE: > 5,000 mg/kg	>= 1.0 - < 10.0 %
CASRN 1314-13-2 EC-No. 215-222-5 Index-No.	zinc oxide	Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410	M-Factor: 1 [Acute] 1 [Chronic] Oral ATE: > 5,000 mg/kg	>= 0.1 - < 0.25 %

030-013-00-7 REACH No 01-2119463881-32			Inhalation ATE: > 5 mg/l (dust/mist)	
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Substances with a workplace exposure limit

Identification number	Component	Classification according to Regulation (EU) 1272/2008 (CLP)	specific concentration limit/ M-Factors/ Acute toxicity estimate	%
CASRN 106-97-8 EC-No. 203-448-7 Index-No. 601-004-00-0 REACH No —	butane	Flam. Gas 1 - H220 Press. Gas Compr. Gas - H280	Inhalation ATE: 658 mg/l (vapour)	>= 50.0 - < 60.0 %
CASRN 1317-33-5 EC-No. 215-263-9 Index-No. — REACH No —	Molybdenum disulfide	Not classified	Oral ATE: > 2,000 mg/kg Dermal ATE: > 2,000 mg/kg	>= 1.0 - < 10.0 %
CASRN 7782-42-5 EC-No. 231-955-3 Index-No. — REACH No 01-2119486977-12	Graphite	Not classified	Oral ATE: > 2,000 mg/kg Inhalation ATE: > 2 mg/l (dust/mist)	>= 1.0 - < 10.0 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

Note

naphtha (petroleum), hydrosulphurized heavy:

The classification as a carcinogen or mutagen need not to apply because the substance contains less than 0.1% w/w benzene (EINECS No 200-753-7). Note P of Annex VI to Regulation (EC) 1272/2008.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

General advice:

First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: Move person to fresh air. If not breathing, give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask, etc). If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility.

Skin contact: Wash off with plenty of water.

Eye contact: Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.

Ingestion: No emergency medical treatment necessary.

4.2 Most important symptoms and effects, both acute and delayed:

Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician: Maintain adequate ventilation and oxygenation of the patient. May cause asthma-like (reactive airways) symptoms. Bronchodilators, expectorants, antitussives and corticosteroids may be of help. Exposure may increase "myocardial irritability". Do not administer sympathomimetic drugs such as epinephrine unless absolutely necessary. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Repeated excessive exposure may aggravate preexisting lung disease.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media: Water spray Alcohol-resistant foam Carbon dioxide (CO₂) Dry chemical

Unsuitable extinguishing media: Do not use direct water stream.

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products: Carbon oxides Sulphur oxides

Unusual Fire and Explosion Hazards: Flash back possible over considerable distance. May form explosive mixtures in air. Exposure to combustion products may be a hazard to health. If the temperature rises there is danger of the vessels bursting due to the high vapor pressure. Vapours may form explosive mixtures with air.

5.3 Advice for firefighters

Fire Fighting Procedures: Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. EXPLOSION HAZARD. Fight

advanced fires from a protected location. Do not use a solid water stream as it may scatter and spread fire.

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Fight fire remotely due to the risk of explosion. Use water spray to cool unopened containers. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.

Special protective equipment for firefighters: In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures: Remove all sources of ignition. Use personal protective equipment. Follow safe handling advice and personal protective equipment recommendations.

6.2 Environmental precautions: Do not release the product to the aquatic environment above defined regulatory levels. Prevent further leakage or spillage if safe to do so. Prevent spreading over a wide area (e.g. by containment or oil barriers). Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained.

6.3 Methods and materials for containment and cleaning up: Non-sparking tools should be used. Soak up with inert absorbent material. Suppress (knock down) gases/vapours/mists with a water spray jet. Clean up remaining materials from spill with suitable absorbant. Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable. For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

6.4 Reference to other sections:

See sections: 7, 8, 11, 12 and 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling: Avoid inhalation of vapour or mist. Do not swallow. Avoid contact with eyes. Avoid prolonged or repeated contact with skin. Keep away from heat and sources of ignition. Take precautionary measures against static discharges. Take care to prevent spills, waste and minimize release to the environment. Close valve after each use and when empty. Do NOT change or force fit connections. Open the valves slowly to prevent pressure surges. Handle in accordance with good industrial hygiene and safety practice. Do not spray on an open flame or other ignition source.

Use with local exhaust ventilation. Use only in an area equipped with explosion proof exhaust ventilation. See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

7.2 Conditions for safe storage, including any incompatibilities: Keep in a cool, well-ventilated place. Keep away from direct sunlight. Store in accordance with the particular national regulations. Do not pierce or burn, even after use. Keep cool. Protect from sunlight.

Do not store with the following product types: Oxidizing agents. Self-reactive substances and mixtures. Organic peroxides. Flammable solids. Pyrophoric liquids. Pyrophoric solids. Self-heating substances and mixtures. Substances and mixtures, which in contact with water, emit flammable gases. Explosives.

Unsuitable materials for containers: None known.

7.3 Specific end use(s): Information on specific end use(s) of this product may be provided in a technical data sheet/annex to the SDS (if available).

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

If exposure limits exist, they are listed below. If no exposure limits are displayed, then no values are applicable.

Component	Regulation	Type of listing	Value
propane	ACGIH		See Further information
	Further information: See Appendix F: Minimal Oxygen Content; EX: Explosion hazard: the substance is a flammable asphyxiant or excursions above the TLV® could approach 10% of the lower explosive limit.; asphyxia: Asphyxia; D: Simple asphyxiant; see discussion covering Minimal Oxygen Content found in the 'Definitions and Notations' section following the NIC tables		
n-butyl acetate	ACGIH	TWA	50 ppm
	Further information: URT irr: Upper Respiratory Tract irritation; eye irr: Eye irritation		
	ACGIH	STEL	150 ppm
	Further information: URT irr: Upper Respiratory Tract irritation; eye irr: Eye irritation		
	GB EH40	TWA	724 mg/m3 150 ppm
	GB EH40	STEL	966 mg/m3 200 ppm
	2019/1831/EU	STEL	723 mg/m3 150 ppm
	Further information: Indicative		
	2019/1831/EU	TWA	241 mg/m3 50 ppm
	Further information: Indicative		
zinc oxide	ACGIH	TWA Respirable particulate matter	2 mg/m3
	ACGIH	STEL Respirable particulate matter	10 mg/m3
butane	ACGIH	STEL	1,000 ppm
	Further information: EX: Explosion hazard: the substance is a flammable asphyxiant or excursions above the TLV® could approach 10% of the lower explosive limit.; CNS impair: Central Nervous System impairment		
	GB EH40	STEL	1,810 mg/m3 750 ppm
	Further information: Carc: Capable of causing cancer and/or heritable genetic damage.; Carcinogenic only applies if butane contains more than 0.1% of buta-1,3-diene		
	GB EH40	TWA	1,450 mg/m3 600 ppm
	Further information: Carc: Capable of causing cancer and/or heritable genetic damage.; Carcinogenic only applies if butane contains more than 0.1% of buta-1,3-diene		
Molybdenum disulfide	ACGIH	TWA Inhalable particulate matter	10 mg/m3 , Molybdenum
	ACGIH	TWA Respirable particulate matter	3 mg/m3 , Molybdenum

	GB EH40	TWA	10 mg/m3 , Molybdenum
	GB EH40	STEL	20 mg/m3 , Molybdenum
Graphite	ACGIH	TWA Respirable particulate matter	2 mg/m3
Further information: pneumoconiosis: Pneumoconiosis			
	GB EH40	TWA inhalable dust	10 mg/m3
	GB EH40	TWA Respirable dust	4 mg/m3

This material contains a simple asphyxiant which may displace oxygen. Insure adequate ventilation to prevent an oxygen deficient atmosphere.

The following substance(s), which have Occupational Exposure Limit(s) (OEL), may be formed during handling or processing:

butanol

Derived No Effect Level

n-butyl acetate

Workers

Acute systemic effects		Acute local effects		Long-term systemic effects		Long-term local effects	
Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation
n.a.	600 mg/m3	11 mg/kg bw/day	600 mg/m3	11 mg/kg bw/day	300 mg/m3	n.a.	300 mg/m3

Consumers

Acute systemic effects			Acute local effects		Long-term systemic effects			Long-term local effects	
Dermal	Inhalation	Oral	Dermal	Inhalation	Dermal	Inhalation	Oral	Dermal	Inhalation
6 mg/kg bw/day	300 mg/m3	2 mg/kg bw/day	n.a.	300 mg/m3	6 mg/kg bw/day	35.7 mg/m3	2 mg/kg bw/day	n.a.	35.7 mg/m3

naphtha (petroleum), hydrodesulphurized heavy

Workers

Acute systemic effects		Acute local effects		Long-term systemic effects		Long-term local effects	
Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation
n.a.	570 mg/m3	n.a.	330 mg/m3	44 mg/kg bw/day	330 mg/m3	n.a.	n.a.

Consumers

Acute systemic effects			Acute local effects		Long-term systemic effects			Long-term local effects	
Dermal	Inhalation	Oral	Dermal	Inhalation	Dermal	Inhalation	Oral	Dermal	Inhalation
n.a.	570 mg/m3	n.a.	n.a.	n.a.	26 mg/kg bw/day	71 mg/m3	26 mg/kg bw/day	n.a.	n.a.

zinc oxide

Workers

Acute systemic effects		Acute local effects		Long-term systemic effects		Long-term local effects	
Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation

Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation
n.a.	n.a.	n.a.	n.a.	83 mg/kg bw/day	5 mg/m3	n.a.	n.a.

Consumers

<i>Acute systemic effects</i>			<i>Acute local effects</i>		<i>Long-term systemic effects</i>			<i>Long-term local effects</i>	
Dermal	Inhalation	Oral	Dermal	Inhalation	Dermal	Inhalation	Oral	Dermal	Inhalation
n.a.	n.a.	n.a.	n.a.	n.a.	83 mg/kg bw/day	2.5 mg/m3	0.83 mg/kg bw/day	n.a.	n.a.

Graphite

Workers

Acute systemic effects		Acute local effects		Long-term systemic effects		Long-term local effects	
Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1.2 mg/m3

Consumers

<i>Acute systemic effects</i>			<i>Acute local effects</i>		<i>Long-term systemic effects</i>			<i>Long-term local effects</i>	
Dermal	Inhalation	Oral	Dermal	Inhalation	Dermal	Inhalation	Oral	Dermal	Inhalation
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	813 mg/kg bw/day	n.a.	0.3 mg/m3

Predicted No Effect Concentration

n-butyl acetate

Compartment	PNEC
Fresh water	0.18 mg/l
Marine water	0.018 mg/l
Intermittent use/release	0.36 mg/l
Fresh water sediment	0.981 mg/kg dry weight (d.w.)
Marine sediment	0.0981 mg/kg dry weight (d.w.)
Soil	0.09 mg/kg dry weight (d.w.)
Sewage treatment plant	35.6 mg/l

zinc oxide

Compartment	PNEC
Fresh water	20.6 µg/l
Marine water	6.1 µg/l
Sewage treatment plant	52 µg/l
Fresh water sediment	117.8 mg/kg
Marine sediment	56.5 mg/kg
Soil	35.6 mg/kg

8.2 Exposure controls

Engineering measures: Use engineering controls to maintain airborne level below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use only in enclosed systems or with local exhaust ventilation. Exhaust systems should be designed to move the air away from the source of vapor/aerosol generation and people working at this point. Lethal concentrations may exist in areas with poor ventilation.

Individual protection measures

Eye/face protection: Use safety glasses (with side shields). Safety glasses (with side shields) should be consistent with EN 166 or equivalent. If exposure causes eye discomfort, use a full-face respirator (meeting standard EN 136) with organic vapor cartridge (meeting standard EN 14387).

Skin protection

Hand protection: Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur. Use chemical resistant gloves classified under Standard EN374: Protective gloves against chemicals and micro-organisms. Examples of preferred glove barrier materials include: Chlorinated polyethylene. Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl alcohol ("PVA"). Viton. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber ("latex"). Polyvinyl chloride ("PVC" or "vinyl"). When prolonged or frequently repeated contact may occur, a glove with a protection class of 4 or higher (breakthrough time greater than 120 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class of 1 or higher (breakthrough time greater than 10 minutes according to EN 374) is recommended. Glove thickness alone is not a good indicator of the level of protection a glove provides against a chemical substance as this level of protection is also highly dependent on the specific composition of the material that the glove is fabricated from. The thickness of the glove must, depending on model and type of material, generally be more than 0.35 mm to offer sufficient protection for prolonged and frequent contact with the substance. As an exception to this general rule it is known that multilayer laminate gloves may offer prolonged protection at thicknesses less than 0.35 mm. Other glove materials with a thickness of less than 0.35 mm may offer sufficient protection when only brief contact is expected. NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Other protection: Wear clean, body-covering clothing.

Respiratory protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use an approved respirator. When respiratory protection is required, use an approved positive-pressure self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply. For emergency conditions, use an approved positive-pressure self-contained breathing apparatus. In confined or poorly ventilated areas, use an approved self-contained breathing apparatus or positive pressure air line with auxiliary self-contained air supply.

Environmental exposure controls

See SECTION 7: Handling and storage and SECTION 13: Disposal considerations for measures to prevent excessive environmental exposure during use and waste disposal.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state	aerosol (20 °C,) Form Aerosol containing a dissolved gas
Colour	black
Odour	solvent-like Odour Threshold No data available
Melting point/freezing point	Melting point/range: No data available
Boiling point or initial boiling point and boiling range	Boiling point/boiling range: Not applicable
Flammability	Gases/Solids Extremely flammable aerosol. Liquids No data available
Lower explosion limit and upper explosion limit / flammability limit	Lower explosion limit / Lower flammability limit No data available Upper explosion limit / Upper flammability limit No data available
Flash point	Not applicable
Auto-ignition temperature	No data available
Decomposition temperature	Thermal decomposition No data available
pH	Not applicable
Viscosity	Viscosity, kinematic Not applicable Viscosity, dynamic Not applicable
Solubility(ies)	Water solubility No data available
Partition coefficient: n-	No data available

octanol/water

Vapour pressure No data available

Density and / or relative density **Relative density**
1.05

Relative vapour density No data available

Particle characteristics **Particle size**
Not applicable

9.2 Other information

Oxidizing properties The substance or mixture is not classified as oxidizing.

Aerosols Extremely flammable aerosol.

Evaporation rate Not applicable

Molecular weight No data available

NOTE: The physical data presented above are typical values and should not be construed as a specification.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity: Not classified as a reactivity hazard.

10.2 Chemical stability: Stable under normal conditions.

10.3 Possibility of hazardous reactions: Can react with strong oxidizing agents. If the temperature rises there is danger of the vessels bursting due to the high vapor pressure. Vapours may form explosive mixture with air. Extremely flammable aerosol.

10.4 Conditions to avoid: Heat, flames and sparks.

10.5 Incompatible materials: Oxidizing agents

10.6 Hazardous decomposition products: Butanol.

SECTION 11: TOXICOLOGICAL INFORMATION

Toxicological information appears in this section when such data is available.

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Acute toxicity (Acute oral toxicity)

Not classified

Not classified due to lack of data. / Not classified due to data which are conclusive although insufficient for classification.

Product test data not available. Refer to component data.

Acute toxicity (Acute dermal toxicity)

Not classified

Not classified due to lack of data. / Not classified due to data which are conclusive although insufficient for classification.

Product test data not available. Refer to component data.

Acute toxicity (Acute inhalation toxicity)

Not classified

Not classified due to lack of data. / Not classified due to data which are conclusive although insufficient for classification.

Product test data not available. Refer to component data.

Skin corrosion/irritation

Not classified

Not classified due to lack of data. / Not classified due to data which are conclusive although insufficient for classification.

Repeated exposure may cause skin dryness or cracking.

Serious eye damage/eye irritation

Not classified

Not classified due to lack of data. / Not classified due to data which are conclusive although insufficient for classification.

Product test data not available. Refer to component data.

Respiratory or skin sensitisation

Not classified

Not classified due to lack of data. / Not classified due to data which are conclusive although insufficient for classification.

Product test data not available. Refer to component data.

Germ cell mutagenicity

Not classified

Not classified due to lack of data. / Not classified due to data which are conclusive although insufficient for classification.

Product test data not available. Refer to component data.

Carcinogenicity

Not classified

Not classified due to lack of data. / Not classified due to data which are conclusive although insufficient for classification.

Product test data not available. Refer to component data.

Reproductive toxicity

Not classified

Not classified due to lack of data. / Not classified due to data which are conclusive although insufficient for classification.

Toxicity to reproduction assessment :

Product test data not available. Refer to component data.

Assessment Teratogenicity:

Product test data not available. Refer to component data.

STOT - single exposure

Not classified

Not classified due to lack of data. / Not classified due to data which are conclusive although insufficient for classification.

Product test data not available. Refer to component data.

STOT - repeated exposure

Specific target organ toxicity - repeated exposure, Category 2

H373: May cause damage to organs through prolonged or repeated exposure.

Classification procedure: Calculation method

Product test data not available. Refer to component data.

Aspiration Hazard

Not classified

Not classified due to lack of data. / Not classified due to data which are conclusive although insufficient for classification.

Product test data not available. Refer to component data.

COMPONENTS INFLUENCING TOXICOLOGY:

propane

Acute toxicity (Acute oral toxicity)

Single dose oral LD50 has not been determined.

Acute toxicity (Acute dermal toxicity)

The dermal LD50 has not been determined.

Acute toxicity (Acute inhalation toxicity)

LC50, Rat, male and female, 4 Hour, vapour, > 425000 ppm

Skin corrosion/irritation

No hazard from gas.

Liquid may cause frostbite upon skin contact.
Effects may be delayed.

Serious eye damage/eye irritation

Essentially nonirritating to eyes.
Liquid may cause frostbite.

Respiratory or skin sensitisation

For skin sensitization:
No relevant data found.

For respiratory sensitization:
No relevant data found.

Germ cell mutagenicity

In vitro genetic toxicity studies were negative.

Carcinogenicity

No relevant data found.

Reproductive toxicity

Toxicity to reproduction assessment :
In animal studies, did not interfere with reproduction. In animal studies, did not interfere with fertility.

Assessment Teratogenicity:
Screening studies suggest that this material does not affect fetal development.

STOT - single exposure

Available data are inadequate to determine single exposure specific target organ toxicity.

STOT - repeated exposure

Based on available data, repeated exposures are not anticipated to cause additional significant adverse effects.

Aspiration Hazard

Based on physical properties, not likely to be an aspiration hazard.

n-butyl acetate**Acute toxicity (Acute oral toxicity)**

LD50, Rat, male, 12,789 mg/kg

LD50 Oral, Rat, female, 10,760 mg/kg

Acute toxicity (Acute dermal toxicity)

LD50, Rabbit, male and female, > 14,112 mg/kg

Acute toxicity (Acute inhalation toxicity)

The LC50 has not been determined.

Skin corrosion/irritation

Brief contact is essentially nonirritating to skin.
Prolonged contact may cause severe skin irritation with local redness and discomfort.

May cause drying and flaking of the skin.

Serious eye damage/eye irritation

May cause moderate eye irritation.

Corneal injury is unlikely.

Vapor may cause eye irritation experienced as mild discomfort and redness.

Respiratory or skin sensitisation

Did not cause allergic skin reactions when tested in guinea pigs.

Did not cause allergic skin reactions when tested in humans.

For respiratory sensitization:

No relevant data found.

Germ cell mutagenicity

In vitro genetic toxicity studies were negative.

Carcinogenicity

No relevant data found.

Reproductive toxicity

Toxicity to reproduction assessment :

In laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals. In animal studies, did not interfere with fertility. No toxicity to reproduction

Assessment Teratogenicity:

Has been toxic to the fetus in laboratory animals at doses toxic to the mother. Did not cause birth defects in laboratory animals.

STOT - single exposure

May cause drowsiness or dizziness.

Route of Exposure: Inhalation

Target Organs: Nervous system

STOT - repeated exposure

Based on available data, repeated exposures are not anticipated to cause additional significant adverse effects.

Aspiration Hazard

Aspiration into the lungs may occur during ingestion or vomiting, causing lung damage or even death due to chemical pneumonia.

naphtha (petroleum), hydrodesulphurized heavy**Acute toxicity (Acute oral toxicity)**

Based on data from similar materials LD50, Rat, male and female, > 5,000 mg/kg

Acute toxicity (Acute dermal toxicity)

Based on data from similar materials LD50, Rat, male and female, > 4,000 mg/kg No deaths occurred at this concentration.

Acute toxicity (Acute inhalation toxicity)

Based on data from similar materials LC50, Rat, 4 Hour, vapour, > 13.1 mg/l

Skin corrosion/irritation

Brief contact may cause slight skin irritation with local redness.
Prolonged or repeated skin contact can cause the following:
May cause drying and flaking of the skin.

Serious eye damage/eye irritation

May cause slight temporary eye irritation.
Corneal injury is unlikely.

Respiratory or skin sensitisation

For skin sensitization:
For similar material(s):
Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:
No relevant data found.

Germ cell mutagenicity

For similar material(s): In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

Carcinogenicity

No relevant data found.

Reproductive toxicity

Toxicity to reproduction assessment :
For similar material(s): In animal studies, did not interfere with fertility.

Assessment Teratogenicity:

For similar material(s): Has caused birth defects in laboratory animals only at doses toxic to the mother. Has been toxic to the fetus in laboratory animals at doses toxic to the mother.

STOT - single exposure

May cause drowsiness or dizziness.

STOT - repeated exposure

For similar material(s):
In humans, effects have been reported on the following organs:
Central nervous system.

Aspiration Hazard

May be fatal if swallowed and enters airways.

Polybutyl titanate

Acute toxicity (Acute oral toxicity)

LD50, Rat, > 2,000 mg/kg

Acute toxicity (Acute dermal toxicity)

LD50, Rat, > 5,000 mg/kg

Acute toxicity (Acute inhalation toxicity)

The LC50 has not been determined.

Skin corrosion/irritation

Essentially nonirritating to skin.

Serious eye damage/eye irritation

May cause severe eye irritation.

Respiratory or skin sensitisation

For skin sensitization:

No relevant data found.

For respiratory sensitization:

No relevant data found.

Germ cell mutagenicity

No relevant data found.

Carcinogenicity

No relevant data found.

Reproductive toxicity

Toxicity to reproduction assessment :

No relevant data found.

Assessment Teratogenicity:

No relevant data found.

STOT - single exposure

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

STOT - repeated exposure

No relevant data found.

Aspiration Hazard

Based on physical properties, not likely to be an aspiration hazard.

zinc oxide

Acute toxicity (Acute oral toxicity)

LD50, Rat, > 5,000 mg/kg

Acute toxicity (Acute dermal toxicity)

The dermal LD50 has not been determined.

Acute toxicity (Acute inhalation toxicity)

LC50, Rat, 4 Hour, dust/mist, > 5 mg/l No deaths occurred at this concentration.

Skin corrosion/irritation

Prolonged contact is essentially nonirritating to skin.

Serious eye damage/eye irritation

May cause slight temporary eye irritation.

Corneal injury is unlikely.

Respiratory or skin sensitisation

For skin sensitization:

No relevant data found.

For respiratory sensitization:

No relevant data found.

Germ cell mutagenicity

In vitro genetic toxicity studies were negative in some cases and positive in other cases.

Carcinogenicity

Available data are inadequate to evaluate carcinogenicity.

Reproductive toxicity

Toxicity to reproduction assessment :

In animal studies, did not interfere with reproduction. In animal studies, did not interfere with fertility.

Assessment Teratogenicity:

No relevant data found.

STOT - single exposure

Available data are inadequate to determine single exposure specific target organ toxicity.

Aspiration Hazard

Based on physical properties, not likely to be an aspiration hazard.

butane

Acute toxicity (Acute oral toxicity)

Single dose oral LD50 has not been determined.

Acute toxicity (Acute dermal toxicity)

The dermal LD50 has not been determined.

Acute toxicity (Acute inhalation toxicity)

LC50, Rat, 4 Hour, vapour, 658 mg/l

Skin corrosion/irritation

No hazard from gas.

Serious eye damage/eye irritation

No hazard from gas.

Respiratory or skin sensitisation

For skin sensitization:

No relevant data found.

For respiratory sensitization:

No relevant data found.

Germ cell mutagenicity

In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

Carcinogenicity

No relevant data found.

Reproductive toxicity

Toxicity to reproduction assessment :

No relevant data found.

Assessment Teratogenicity:

No relevant data found.

STOT - single exposure

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

STOT - repeated exposure

Based on available data, repeated exposures are not anticipated to cause additional significant adverse effects.

Aspiration Hazard

Based on physical properties, not likely to be an aspiration hazard.

Molybdenum disulfide

Acute toxicity (Acute oral toxicity)

LD50, Rat, > 2,000 mg/kg No deaths occurred at this concentration.

Acute toxicity (Acute dermal toxicity)

LD50, Rat, male and female, > 2,000 mg/kg No deaths occurred at this concentration.

Skin corrosion/irritation

Brief contact is essentially nonirritating to skin.

Prolonged contact may cause slight skin irritation with local redness.

Serious eye damage/eye irritation

May cause slight temporary eye irritation.

Corneal injury is unlikely.

Respiratory or skin sensitisation

For skin sensitization:

Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:

No relevant data found.

Germ cell mutagenicity

For similar material(s): In vitro genetic toxicity studies were negative.

Carcinogenicity

No relevant data found.

Reproductive toxicity

Toxicity to reproduction assessment :

No relevant data found.

Assessment Teratogenicity:

No relevant data found.

STOT - single exposure

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

STOT - repeated exposure

No relevant data found.

Aspiration Hazard

Based on physical properties, not likely to be an aspiration hazard.

Graphite**Acute toxicity (Acute oral toxicity)**

LD50, Rat, > 2,000 mg/kg OECD Test Guideline 423

Acute toxicity (Acute dermal toxicity)

The dermal LD50 has not been determined.

Acute toxicity (Acute inhalation toxicity)

An LC50/inhalation/4h/rat could not be determined because no mortality of rats was observed at the maximum achievable concentration. LC50, Rat, 4 Hour, dust/mist, > 2 mg/l OECD Test Guideline 403

Skin corrosion/irritation

Brief contact is essentially nonirritating to skin.

Serious eye damage/eye irritation

May cause slight temporary eye irritation.

Respiratory or skin sensitisation

Did not demonstrate the potential for contact allergy in mice.

Germ cell mutagenicity

In vitro genetic toxicity studies were negative.

Reproductive toxicity

Toxicity to reproduction assessment :

In animal studies, did not interfere with reproduction.

Assessment Teratogenicity:

Did not cause birth defects or any other fetal effects in laboratory animals.

STOT - single exposure

The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT - repeated exposure

Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

Aspiration Hazard

No aspiration toxicity classification

11.2. Information on other hazards

Endocrine disrupting properties

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Further information

No data available

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicological information appears in this section when such data is available.

12.1 Toxicity

propane

Acute toxicity to fish

Material is not classified as dangerous to aquatic organisms.

n-butyl acetate

Acute toxicity to fish

Material is harmful to aquatic organisms (LC50/EC50/IC50 between 10 and 100 mg/L in the most sensitive species).

LC50, Pimephales promelas (fathead minnow), flow-through test, 96 Hour, 18 mg/l

Acute toxicity to aquatic invertebrates

LC50, Daphnia magna (Water flea), 48 Hour, 44 mg/l

Acute toxicity to algae/aquatic plants

ErC50, Desmodesmus subspicatus (green algae), 72 Hour, Growth rate inhibition, 648 mg/l

Toxicity to bacteria

EC50, Bacteria, 16 Hour, > 1,000 mg/l

Chronic toxicity to aquatic invertebrates

NOEC, Daphnia magna (Water flea), 21 d, 23 mg/l

naphtha (petroleum), hydrodesulphurized heavy

Acute toxicity to fish

Material is toxic to aquatic organisms (LC50/EC50/IC50 between 1 and 10 mg/L in the most sensitive species).

Based on data from similar materials

LL50, Oncorhynchus mykiss (rainbow trout), 96 Hour, 10 - 30 mg/l, OECD Test Guideline 203

Acute toxicity to aquatic invertebrates

Based on data from similar materials

EL50, Daphnia magna (Water flea), 48 Hour, 10 - 22 mg/l, OECD Test Guideline 202

Acute toxicity to algae/aquatic plants

Based on data from similar materials

EL50, Pseudokirchneriella subcapitata (green algae), 72 Hour, 4.6 - 10 mg/l, OECD Test Guideline 201

Based on data from similar materials

NOELR, Pseudokirchneriella subcapitata (green algae), 72 Hour, 0.22 mg/l, OECD Test Guideline 201

Chronic toxicity to aquatic invertebrates

Based on data from similar materials

NOELR, Daphnia magna (Water flea), 21 d, 0.097 mg/l

Polybutyl titanate**Acute toxicity to fish**

Not expected to be acutely toxic to aquatic organisms.

zinc oxide**Acute toxicity to fish**

Material is very toxic to aquatic organisms (LC50/EC50/IC50 below 1 mg/L in the most sensitive species).

LC50, Oncorhynchus mykiss (rainbow trout), static test, 96 Hour, 0.14 - 1.1 mg/l

LC50, Danio rerio (zebra fish), 96 Hour, 1 - 10 mg/l

Acute toxicity to aquatic invertebrates

EC50, Daphnia magna (Water flea), 48 Hour, 1 - 10 mg/l

Acute toxicity to algae/aquatic plants

IC50, Selenastrum capricornutum (green algae), 72 Hour, Growth rate, 0.136 mg/l

Toxicity to bacteria

Based on data from similar materials

EC50, 3 Hour, 5.2 mg/l, OECD Test Guideline 209

Chronic toxicity to fish

NOEC, Danio rerio (zebra fish), 32 d, mortality, $\geq$ 0.540 mg/l

Chronic toxicity to aquatic invertebrates

NOEC, Daphnia magna (Water flea), 21 d, number of offspring, 0.04 mg/l

butane**Acute toxicity to fish**

Material is toxic to aquatic organisms (LC50/EC50/IC50 between 1 and 10 mg/L in the most sensitive species).

Molybdenum disulfide**Acute toxicity to fish**

Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species).

For similar material(s):

LC50, Fish, 96 Hour, > 100 mg/l

Acute toxicity to aquatic invertebrates

Based on data from similar materials

EC50, Daphnia magna (Water flea), 48 Hour, > 100 mg/l

Acute toxicity to algae/aquatic plants

Based on data from similar materials

ErC50, algae, 72 Hour, Growth rate, > 100 mg/l

Toxicity to bacteria

EC50, 30 Hour, Respiration rates., > 100 mg/l

Chronic toxicity to fish

Based on data from similar materials

NOEC, Fish, 34 d, > 10 mg/l

Chronic toxicity to aquatic invertebrates

Based on data from similar materials

NOEC, Daphnia magna, 21 d, > 10 mg/l

Graphite

Acute toxicity to fish

No toxicity at the limit of solubility

LC50, Danio rerio (zebra fish), 96 Hour, > 100 mg/l, OECD Test Guideline 203

Acute toxicity to aquatic invertebrates

No toxicity at the limit of solubility

EC50, Daphnia magna (Water flea), 48 Hour, > 100 mg/l, OECD Test Guideline 202

Acute toxicity to algae/aquatic plants

EC50, Raphidocelis subcapitata (freshwater green alga), 72 Hour, > 100 mg/l, OECD Test Guideline 201

NOEC, Raphidocelis subcapitata (freshwater green alga), 72 Hour, >= 100 mg/l, OECD Test Guideline 201

Toxicity to bacteria

EC50, 3 Hour, > 1,012.5 mg/l, OECD Test Guideline 209

12.2 Persistence and degradability

propane

Biodegradability: No relevant data found.

n-butyl acetate

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

10-day Window: Pass

Biodegradation: 83 %

Exposure time: 28 d

Method: OECD Test Guideline 301D or Equivalent

naphtha (petroleum), hydrodesulphurized heavy

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

Based on data from similar materials 10-day Window: Pass

Biodegradation: 74.7 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

Polybutyl titanate

Biodegradability: Biodegradability is not applicable to inorganic substances.

zinc oxide

Biodegradability: Biodegradability is not applicable to inorganic substances.

butane

Biodegradability: Material is expected to be readily biodegradable.

Molybdenum disulfide

Biodegradability: Biodegradability is not applicable to inorganic substances.

Graphite

Biodegradability: Not applicable

12.3 Bioaccumulative potential

propane

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient: n-octanol/water(log Pow): 2.36 Measured

n-butyl acetate

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient: n-octanol/water(log Pow): Pow: 3.2 at 25 °C Measured

Bioconcentration factor (BCF): 15 Fish Estimated.

naphtha (petroleum), hydrodesulphurized heavy

Bioaccumulation: Based on data from similar materials

Partition coefficient: n-octanol/water(log Pow): > 4

Polybutyl titanate

Bioaccumulation: No relevant data found.

zinc oxide

Bioaccumulation: Partitioning from water to n-octanol is not applicable.

Bioconcentration factor (BCF): 177 Fish

butane

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient: n-octanol/water(log Pow): 2.89 Measured

Molybdenum disulfide

Bioaccumulation: Partitioning from water to n-octanol is not applicable.

Graphite

Bioaccumulation: Not applicable Not applicable

12.4 Mobility in soil

propane

Potential for mobility in soil is very high (Koc between 0 and 50).

Partition coefficient (Koc): 24 - 460 Estimated.

n-butyl acetate

Potential for mobility in soil is very high (Koc between 0 and 50).

Partition coefficient (Koc): 19 - 70 Estimated.

naphtha (petroleum), hydrodesulphurized heavy

No relevant data found.

Polybutyl titanate

No relevant data found.

zinc oxide

No relevant data found.

butane

Potential for mobility in soil is very high (Koc between 0 and 50).

Partition coefficient (Koc): 44 - 900 Estimated.

Molybdenum disulfide

No relevant data found.

Graphite

No relevant data found.

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

propane

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

n-butyl acetate

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

naphtha (petroleum), hydrodesulphurized heavy

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

Polybutyl titanate

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

zinc oxide

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

butane

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

Molybdenum disulfide

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

Graphite

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

12.6 Endocrine disrupting properties

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects**propane**

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

n-butyl acetate

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

naphtha (petroleum), hydrodesulphurized heavy

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Polybutyl titanate

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

zinc oxide

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

butane

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Molybdenum disulfide

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Graphite

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Do not dump into any sewers, on the ground, or into any body of water. This product, when being disposed of in its unused and uncontaminated state should be treated as a hazardous waste according to EC Directive 2008/98/EC. Any disposal practices must be in compliance with all national and provincial laws and any municipal or local by-laws governing hazardous waste. For used, contaminated and residual materials additional evaluations may be required.

The definitive assignment of this material to the appropriate EWC group and thus its proper EWC code will depend on the use that is made of this material. Contact the authorized waste disposal services.

SECTION 14: TRANSPORT INFORMATION

Classification for ROAD and Rail transport (ADR/RID):

- | | | |
|------|------------------------------|---|
| 14.1 | UN number or ID number | UN 1950 |
| 14.2 | UN proper shipping name | AEROSOLS |
| 14.3 | Transport hazard class(es) | 2.1 |
| 14.4 | Packing group | Not applicable |
| 14.5 | Environmental hazards | Not considered environmentally hazardous based on available data. |
| 14.6 | Special precautions for user | No data available. |

Classification for SEA transport (IMO-IMDG):

- | | | |
|------|---|---|
| 14.1 | UN number or ID number | UN 1950 |
| 14.2 | UN proper shipping name | AEROSOLS |
| 14.3 | Transport hazard class(es) | 2.1 |
| 14.4 | Packing group | Not applicable |
| 14.5 | Environmental hazards | Not considered as marine pollutant based on available data. |
| 14.6 | Special precautions for user | EmS: F-D, S-U |
| 14.7 | Maritime transport in bulk according to IMO instruments | Consult IMO regulations before transporting ocean bulk |

Classification for AIR transport (IATA/ICAO):

- | | | |
|------|------------------------------|---------------------|
| 14.1 | UN number or ID number | UN 1950 |
| 14.2 | UN proper shipping name | Aerosols, flammable |
| 14.3 | Transport hazard class(es) | 2.1 |
| 14.4 | Packing group | Not applicable |
| 14.5 | Environmental hazards | Not applicable |
| 14.6 | Special precautions for user | No data available. |

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

REACH Regulation (EC) No 1907/2006

This product contains only components that have been either registered, are exempt from registration, are regarded as registered or are not subject to registration according to Regulation (EC) No. 1907/2006 (REACH). The aforementioned indications of the REACH registration status are provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. It is the buyer's/user's responsibility to ensure that his/her understanding of the regulatory status of this product is correct. Polymers are exempted from registration under REACH. All relevant starting materials and additives have been either registered, or are exempt from registration according to Regulation (EC) No. 1907/2006 (REACH).

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

Listed in Regulation: FLAMMABLE AEROSOLS

Number in Regulation: P3a

150 t

500 t

Listed in Regulation: Liquefied flammable gases (including LPG) and natural gas

Number in Regulation: 18

50 t

200 t

Listed in Regulation: Petroleum products: (a) gasolines and naphthas, (b) kerosenes (including jet fuels), (c) gas oils (including diesel fuels, home heating oils and gas oil blending streams), (d) heavy fuel oils (e) alternative fuels serving the same purposes and with similar properties as regards flammability and environmental hazards as the products referred to in points (a) to (d)

Number in Regulation: 34

2,500 t

25,000 t

Further information

Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

15.2 Chemical safety assessment

No Chemical Safety Assessment has been carried out for this substance/mixture.

SECTION 16: OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3.

H220 Extremely flammable gas.

H222	Extremely flammable aerosol.
H226	Flammable liquid and vapour.
H229	Pressurised container: May burst if heated.
H280	Contains gas under pressure; may explode if heated.
H304	May be fatal if swallowed and enters airways.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H372	Causes damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) No 1272/2008

Aerosol - 1 - H222 - Based on product data or assessment

STOT RE - 2 - H373 - Calculation method

Aquatic Chronic - 3 - H412 - Calculation method

Revision

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Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

2019/1831/EU	Europe. Commission Directive 2019/1831/EU establishing a fifth list of indicative occupational exposure limit values
ACGIH	USA. ACGIH Threshold Limit Values (TLV)
GB EH40	UK. EH40 WEL - Workplace Exposure Limits
STEL	Short-term exposure limit (15-minute reference period)
TWA	Long-term exposure limit (8-hour TWA reference period)
Aquatic Acute	Short-term (acute) aquatic hazard
Aquatic Chronic	Long-term (chronic) aquatic hazard
Asp. Tox.	Aspiration hazard
Eye Irrit.	Eye irritation
Flam. Gas	Flammable gases
Flam. Liq.	Flammable liquids
Press. Gas	Gases under pressure
STOT RE	Specific target organ toxicity - repeated exposure
STOT SE	Specific target organ toxicity - single exposure

Full text of other abbreviations

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS -

Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Information Source and References

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

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GB



HOUGHTON®

Revision Date 01-17-2019

Version 4

SAFETY DATA SHEET

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product Code(s) 20217900-M
Product Code(s) (DE): - 75820000
Product Code(s) (IT): - RVASS
Product Name RUST VETO AS
Product Registration number
Denmark -
Norway -
Sweden -
EC #
Pure substance/mixture

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Anticorrosion Metalworking fluid
Uses advised against Any other purpose.

1.3. Details of the supplier of the safety data sheet

Manufacturer, Importer, Supplier

Houghton plc
Beacon Road
Trafford Park
Manchester
M17 1AF
Tel: +44 (0)161 874 5000
productstewardship@houghtonintl.com

Houghton S.A.S.
604 Bd Albert Camus,
BP 60041
69652 Villefranche sur saone
France
Tel: (0) 4 74 65 65 00
Fax: (0) 4 74 60 08 44

Houghton Iberica S.A.
Pol. Ind. Can Salvatella-TorreMateu
08210 Barbera del Valles
Barcelona
SPAIN
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Fax: +(34 93) 718 93 00
msds.es@houghtonintl.com

Houghton Deutschland GmbH
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Dortmund
Deutschland
Tel: +49 (0) 231/9277-0
Fax: +49 (0)231/9277-120
MSDS@houghtonintl.com

Ragione Sociale: Houghton Italia S.p.A.
Indirizzo: Via Postiglione, 30
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ITALY
Telefono: (+39) 011 6475811
Fax: (+39) 0116472778.
ITTN-MSDS@houghtonintl.com

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13, Prirechnaya St.
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Fax: +38 (044) 426-27-76

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 info.tr@houghtonintl.com

Houghton CZ s.r.o.
 Bartošova 3
 602 00 Brno
 Czech Republic
Phone: +420 542 213 332
 office@houghton.cz

1.4. Emergency telephone number

Carechem 24 International: +44 1235 239670

Austria		Notfall-Telefonnummer +43 (0) 1 406 4343
Belgium		Telefoonnummer voor +32 (0)70 245 245
Bulgaria		Телефон за спешни случаи +359 2 9154 409
Croatia		Telefon za izvanredna stanja +385 1 2348 342
Czech Republic	Carechem 24 International: +420 228 882 830	Telefonní číslo pro naléhavé situace +420 224 919 293
Denmark	Carechem 24 International: +45 8988 2286	Ring til Giftlinjen på +45 82 12 12 12
Estonia		Mürgistusteabekeskuse +372 626 93 90
Finland	Carechem 24 International: +358 9 7479 0199	Hätäpuhelinnumero +358 09 471 977
France	Carechem 24 International: +33 1 72 11 00 03	Numéro d'appel d'urgence +33 (0)1 45 42 5959
Germany	Carechem 24 International: +49 69 222 25285	
Greece	Carechem 24 International: +30 21 1198 3182	
Hungary		Díjmentesen hívható zöld szám +36 80 20 11 99
Italy	Carechem 24 International: +39 02 3604 2884	Numeri telefonici dei principali CAV: FI 055 7947819, MI 02 66101029, PV 038 224444, RM 06 3054343, NA 081 7472870
Ireland		Emergency telephone number +353 1 809 2166
Latvia		Valsts Toksikoloģijas centra Saindēšanās un zāļu informācijas centrs +371 6704 2473
Lithuania		Neatidėliotina informacija apsinuodijus +370 5 236 20 52
Netherlands	Carechem 24 International: +31 10 713 8195	National Poisons Information Center (NL): +31 30 274 88 88 (NB: this service is only available to health professionals)
Norway	Carechem 24 International: +47 2103 4452	Giftinformasjon +47 22 59 13 00
Poland	Carechem 24 International: +48 22 307 3690	112
Portugal	Carechem 24 International: +351 30880 4750	Número de telefone de emergência +351 808 250 143

Romania		Număr de telefon care poate fi apelat în caz de urgență +021 318 36 06 (08:00-15:00)
Slovakia		Národné toxikologické informačné centrum +421 2 5477 4166
South Africa	Carechem 24 International: +27 21 300 2732	
Spain	Carechem 24 International: +34 91 114 2520	
Sweden	Carechem 24 International: +46 8 566 42573	112 – Ask for poisons information
Switzerland		145; +41 44 251 51 51 (www.toxi.ch)
Turkey	Carechem 24 International: +90 212 375 5231	Ulusal Zehir Danışma Merkezi (UZEM): 114 Acil Sağlık Hizmetleri: 112

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Contains Benzene, mono-C10-13-alkyl derivs., distn. residues, sulfonated, barium salts May produce an allergic reaction.

2.2. Label Elements

EUH208 - Contains Benzene, mono-C10-13-alkyl derivs., distn. residues, sulfonated, barium salts May produce an allergic reaction.

2.3. Other hazards

No information available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances / 3.2. Mixtures

This product is a mixture. Health hazard information is based on its ingredients

Chemical name	EC-No	CAS No	Weight-%	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH Registration Number
Highly refined base oil (Viscosity >20.5 cSt @40°C)	-	-	50% - 100%	**	-
Hydrocarbon waxes (petroleum), oxidized, Me esters, barium salts	271-637-1	68603-10-1	2.5% - 10%	Acute Tox. 4 (H302) Acute Tox. 4 (H332)	no data available
Benzene, mono-C10-13-alkyl derivs., distn. residues, sulfonated, barium salts	947-582-0	NOT AVAILABLE	2.5% - 10%	Skin Sens. 1B (H317)	01-2120767409-42-xxx x
Overbased calcium sulfonate thickener with 5% molybdenum disulfide	-	NOT AVAILABLE	1% - 2.5%	**	no data available

Product containing mineral oil with less than 3% DMSO extract as measured by IP 346. The highly refined base oil may be

described by one or more of the following generic CAS identifiers: 64742-54-7, 64742-65-0, 64742-52-5, 64742-53-6, 64742-62-7, 64742-57-0, 64742-01-4, 64741-88-4, 64741-96-4, 64741-97-5, 64742-55-8, 64742-56-9, 64741-89-5, 64742-47-8, 8042-47-5. The base oils may be used interchangeably to provide a product which is equivalent from both a regulatory and technical perspective. For full information on potential descriptors for the interchangeable base oil blend, please see Section 15 of this Safety Data Sheet.

** Substances for which there are Community workplace exposure limits

Full text of H- and EUH-phrases: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of first-aid measures

General advice	May produce an allergic reaction. When symptoms persist or in all cases of doubt seek medical advice.
Inhalation	Move to fresh air.
Skin contact	Wash off immediately with plenty of water for at least 15 minutes. Remove and wash contaminated clothing before re-use. May cause an allergic skin reaction. If symptoms persist, call a physician.
Eye contact	Rinse thoroughly with plenty of water, also under the eyelids. Keep eye wide open while rinsing.
Ingestion	Clean mouth with water. Drink plenty of water. Do not induce vomiting without medical advice.
Protection of First-aiders	Use personal protective equipment. Avoid contact with skin, eyes and clothing.

4.2. Most important symptoms and effects, both acute and delayed

Main Symptoms	None
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4.3. Indication of immediate medical attention and special treatment needed

Notes to physician	May cause sensitization of susceptible persons. Treat symptomatically.
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SECTION 5: FIRE FIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.; Use CO2, dry chemical, or foam, Water spray or fog, Cool containers / tanks with water spray

Extinguishing media which shall not be used for safety reasons

Do not use a solid water stream as it may scatter and spread fire

5.2. Special hazards arising from the substance or mixture

Special Hazard

In the event of fire and/or explosion do not breathe fumes. Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke). Thermal decomposition can lead to release of irritating gases and vapors. This material creates a fire hazard because it floats on water.

Hazardous decomposition products

Incomplete combustion and thermolysis produces potentially toxic gases such as carbon monoxide and carbon dioxide

5.3. Advice for firefighters

Special protective equipment for fire-fighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

SECTION 6: ACCIDENTAL RELEASE MEASURES**6.1. Personal precautions, protective equipment and emergency procedures**

Remove all sources of ignition. Ensure adequate ventilation. Use personal protective equipment. Avoid contact with skin, eyes and clothing.

Advice for non-emergency personnel

Material can create slippery conditions.

Advice for emergency responders For personal protection see section 8.

6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system.

6.3. Methods and materials for containment and cleaning up

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Dike to collect large liquid spills.

6.4. Reference to other sections

See Section 8/12/13 for additional information

SECTION 7: HANDLING AND STORAGE**7.1. Precautions for safe handling**

Keep away from open flames, hot surfaces and sources of ignition. Handle in accordance with good industrial hygiene and safety practice. Ensure adequate ventilation. Do not eat, drink or smoke when using this product. Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Remove and wash contaminated clothing before re-use.

7.2. Conditions for safe storage, including any incompatibilities**Technical measures/Storage conditions**

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition. Keep at temperatures between 5 and 40 °C.

Recommended Shelf Life

Shelf life 24 months.

Incompatible materials

Strong oxidizing agents, Strong acids, Strong bases

7.3. Specific end uses**Specific use(s)**

Anticorrosion Metalworking fluid

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**8.1. Control parameters**

Exposure limits

Legend

(s) - Skin; TWA - Time-Weighted Average; STEL - Short Term Exposure Limit; Ceiling - Ceiling Value; TLV® - Threshold Limit Value; PEL (Permissible Exposure Limit)

Chemical name	European Union	United Kingdom	France	Spain
Highly refined base oil (Viscosity >20.5 cSt @40°C)				VLA-EC: 10 mg/m ³ VLA-ED: 5 mg/m ³

Spain Límites de Exposición Profesional Para Agentes Químicos en España (Ley 31/1995).

Chemical name	Germany	Italy	Portugal	Netherlands
Highly refined base oil (Viscosity >20.5 cSt @40°C)		TWA: 5 mg/m ³	TWA: 5 mg/m ³ STEL: 10 mg/m ³	
Hydrocarbon waxes (petroleum), oxidized, Me esters, barium salts	AGW TWA: 0.5 mg Ba/m ³ (Einatembare Fraktion) Überschreitungsfaktor 1 (I)			
Overbased calcium sulfonate thickener with 5% molybdenum disulfide	AGW TWA: 5 mg/m ³ (Alveolengängiger Anteil) Überschreitungsfaktor 4 (II)			

Germany TRGS 900 - Arbeitsplatzgrenzwerte, Technische Regeln für Gefahrstoffe (TRGS).

Italy Istituto Superiore per la Prevenzione e la Sicurezza del Lavoro (ISPESL), Allegato XXXVIII e Allegato XLIII - Valori Limite di Esposizione Professionale.

Portugal Valores-limite e índices biológicos de exposição profissional a agentes químicos. Quadro 1 - Valores Limite de Exposição (Norma Portuguesa NP 1796:2014).

Chemical name	Austria	Switzerland	Poland	Ireland
Highly refined base oil (Viscosity >20.5 cSt @40°C)			TWA: 5 mg/m ³ frakcja wdychalna	STEL: 10 mg/m ³ TWA: 5 mg/m ³ (Mist)

Poland Rozporządzenie Ministra Pracy i Polityki Społecznej z dnia 6 czerwca 2014 w sprawie najwyższych dopuszczalnych stężeń i natężeń czynników szkodliwych dla zdrowia w środowisku pracy (Dz.U. 2016 Nr. 944).

Ireland 2016 Code of Practice for the Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001.

Chemical name	Finland	Denmark	Norway	Sweden
Highly refined base oil (Viscosity >20.5 cSt @40°C)	TWA: 5mg/m ³ (Öljysumu)		TWA: 1 mg/m ³ (Oljetåke)	TWA: 1 mg/m ³ (Olietåge)
Hydrocarbon waxes (petroleum), oxidized, Me esters, barium salts			TWA: 0.5 mg/m ³ - (Ba) STEL: 1.5 mg/m ³	

Finland Förordningen om koncentrationer som befunnits skadliga, 268/2014 - HTP-arvot 2014.

Norway Forskrift om tiltaksverdier og grenseverdier for fysiske og kjemiske faktorer i arbeidsmiljøet samt smitterisikogrupper for biologiske faktorer (Forskrift om tiltaks- og grenseverdier), FOR-2011-12-06-1358, FOR-2016-06-21-760, FOR-2016-12-22-1860.

Sweden Arbetsmiljöverkets föreskrifter om hygieniska gränsvärden och allmänna råd om tillämpningen av föreskrifterna.

Chemical name	Czech Republic	Hungary	Bulgaria	Romania
Highly refined base oil (Viscosity >20.5 cSt @40°C)	TWA: 5 mg/m ³ Ceiling: 10 mg/m ³		TWA: 5 mg/m ³	TWA: 5 mg/m ³ STEL: 10 mg/m ³

Czech Republic Narizeni vlady 93/2012, kterym se meni narizeni vlady c.361/2007 Sb., kterym se stanoví podmínky ochrany zdraví při práci, ve znění narizeni vlady c.68/2010 Sb.

Bulgaria НАРЕДБА #13 от 30.12.2003 г. за защита на работещите от рискове, свързани с експозиция на химични агенти при работа.

Romania Valori Limit Obligatorii Nationale de expunere profesională ale agenților chimici - Anex Nr.1 Publicat în Monitorul Oficial, Partea I nr. 845.

Chemical name	Greece	Cyprus	Turkey	Malta
Highly refined base oil (Viscosity >20.5 cSt @40°C)	TWA: 5 mg/m ³			

Greece Οριακές Τιμές Επαγγελματικής Έκθεσης - Προστασία της υγείας και της ασφάλειας των εργαζομένων που εκτίθενται σε ορισμένους καρκινογόνους και μεταλλαξιογόνους παράγοντες 127/2000.

Chemical name	Belgium	Luxembourg	Iceland	Croatia
Highly refined base oil	TWA: 5 mg/m ³			

(Viscosity >20.5 cSt @40°C)	STEL: 10 mg/m ³			
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Belgium Arrêté royal relatif à la protection de la santé et de la sécurité des travailleurs contre les risques liés à des agents chimiques sur le lieu de travail.

Chemical name	Russia	Estonia	Latvia	Lithuania
Highly refined base oil (Viscosity >20.5 cSt @40°C)			TWA: 5 mg/m ³	TWA: 1 mg/m ³ STEL: 3 mg/m ³

Latvia Ministru Kabineta noteikumi Nr. 325 - Darba aizsardzības prasības, saskaroties ar ķīmiskajām vielām darba vietās.
Lithuania Del Lietuvos higienos normas HN 23:2011 "Cheminių medžiagų profesinio poveikio ribiniai dydžiai. Matavimo ir poveikio vertinimo bendrieji reikalavimai".

Chemical name	Belarus	Ukraine	Slovakia	Slovenia
Highly refined base oil (Viscosity >20.5 cSt @40°C)			TWA: 5mg/m ³	

Slovakia Nariadenie Vlády Slovenskej republiky z 16. januára 2002 o ochrane zdravia pri práci s karcinogénymi a mutagénymi faktormi.

Derived No Effect Level (DNEL)

Workers Systemic toxicity

Chemical name	Long term - Oral exposure	Long term - Dermal exposure	Long term - Inhalation exposure	Short term - Oral Exposure	Short term - Dermal exposure	Short term - Inhalation exposure
Benzene, mono-C10-13-alkyl derivs., distn. residues, sulfonated, barium salts		25 mg/kg	17.63 mg/m ³			

Workers Local effects

Chemical name	Long term - Oral exposure	Long term - Dermal exposure	Long term - Inhalation exposure	Short term - Oral Exposure	Short term - Dermal exposure	Short term - Inhalation exposure
Benzene, mono-C10-13-alkyl derivs., distn. residues, sulfonated, barium salts		1.05 mg/cm ²				

Consumers Systemic toxicity

Chemical name	Long term - Oral exposure	Long term - Dermal exposure	Long term - Inhalation exposure	Short term - Oral Exposure	Short term - Dermal exposure	Short term - Inhalation exposure
Benzene, mono-C10-13-alkyl derivs., distn. residues, sulfonated, barium salts	2.5 mg/kg	12.5 mg/kg	4.35 mg/m ³			

Consumers Local effects

Chemical name	Long term - Oral exposure	Long term - Dermal exposure	Long term - Inhalation exposure	Short term - Oral Exposure	Short term - Dermal exposure	Short term - Inhalation exposure
Benzene, mono-C10-13-alkyl derivs., distn. residues, sulfonated, barium salts		0.526 mg/cm ²				

Predicted No Effect Concentration (PNEC)

Chemical name	Fresh water	Sea water	Fresh water sediment	Sea sediment	Soil
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Benzene, mono-C10-13-alkyl derivs., distrn. residues, sulfonated, barium salts	0.1 mg/L	0.1 mg/L	76.37 mg/kg	76.37 mg/kg	15.17 mg/kg
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8.2. Exposure controls

Engineering Measures

Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Engineering controls should be considered as the first line of protection against adverse exposure to harmful substances. Administrative controls and PPE should be used in the absence of engineering controls or as supplemental controls where engineering controls are insufficient in reducing specific exposures to an acceptable level.

Eye Protection

Safety glasses with side-shields.

Hand Protection

The following glove type may be suitable for handling this product. Protective gloves complying with EN 374.

Nitrile rubber

Glove thickness => 0.38 mm Break through time => 480 min

Butyl rubber

Glove thickness => 0.64 mm Break through time => 480 min

Glove material suitability will vary depending on specific use conditions. Consideration should be given to variables such as operational characteristics, anticipated contact time, task requirements and other factors relevant to the selection of PPE. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion. Any specific glove information provided is based on published literature and glove manufacturer data. Barrier creams may help to protect the exposed areas of skin. Barrier creams should not be applied after exposure has occurred. Gloves should be replaced regularly and if there is any sign of damage to the glove material.

Skin and body protection

Long sleeved clothing.

Respiratory protection

No special protective equipment required. In case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit.

This information is based on the state in which the specific product is delivered and on the intended use specified within this SDS. This information is provided based on literature reference, manufacturer specifications and recommendations and/or derived by analogy with similar substances. The level of protection and types of exposure controls will vary depending on potential exposure conditions.

Hygiene measures

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.

Environmental Exposure Controls

No special environmental precautions required.

Thermal hazards

None under normal use conditions

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state	Grease	Appearance	brown
Odor	Mild	Odor threshold	Not Determined
Property	Values	Remarks	
pH	Not applicable		
Melting point / freezing point	> 150 °C / > 302 °F		

Boiling point / boiling range	> 300 °C / > 572 °F	
Flash point	> 200 °C / > 392 °F	Open cup
Evaporation rate	Not Determined	negligible
Flammability (solid, gas)	Not Determined	
Flammability Limit in Air		
Upper flammability limit:	Not Determined	
Lower flammability limit:	Not Determined	
Vapor pressure	Not Determined	negligible
Vapor density	Not Determined	
Relative density	0.90	@15.5°C
Solubility(ies)	Immiscible in water	
Partition coefficient	Not Determined	
Autoignition temperature	Not Determined	
Decomposition temperature	Not Determined	
Kinematic viscosity	Not Determined	
Explosive properties	Not applicable	
Oxidizing Properties	Not applicable	

9.2. Other information

Viscosity, kinematic (100°C)	Not Determined	
Pour Point	Not Determined	
VOC Content (ASTM E-1868-10)	37 g/L	ASTM E 1868-10
VOC content	Not Determined	

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

None under normal use conditions

10.2. Chemical stability

Stable under normal conditions

10.3. Possibility of hazardous reactions

None under normal use conditions

10.4. Conditions to avoid

Keep away from open flames, hot surfaces and sources of ignition.

10.5. Incompatible materials

Strong oxidizing agents, Strong acids, Strong bases

10.6. Hazardous decomposition products

Incomplete combustion and thermolysis produces potentially toxic gases such as carbon monoxide and carbon dioxide.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects**Product Information - Principle Routes of Exposure**

Inhalation	None known
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Eye contact	None known
Skin contact	Repeated or prolonged skin contact may cause allergic reactions with susceptible persons
Ingestion	None known

Acute toxicity - Product Information

Product does not present an acute toxicity hazard based on known or supplied information.

Acute toxicity - Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Highly refined base oil (Viscosity >20.5 cSt @40°C)	>2000 mg/kg	>2000 mg/kg	
Benzene, mono-C10-13-alkyl derivs., distn. residues, sulfonated, barium salts	>10000 mg/kg (Rat)	>2000 mg/kg (Rat)	>1.9 mg/L (4h) (Rat)

Skin corrosion/irritation Based on available data, the classification criteria are not met.

Serious eye damage/eye irritation Based on available data, the classification criteria are not met.

Sensitization

Respiratory Sensitization
Skin sensitization

Based on available data, the classification criteria are not met.
May cause an allergic skin reaction.

Germ cell mutagenicity Based on available data, the classification criteria are not met.

Carcinogenicity Based on available data, the classification criteria are not met.

Reproductive toxicity Based on available data, the classification criteria are not met.

Specific target organ systemic toxicity (single exposure) Based on available data, the classification criteria are not met

Specific target organ systemic toxicity (repeated exposure) Based on available data, the classification criteria are not met

Aspiration hazard Based on available data, the classification criteria are not met.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

No special environmental measures are necessary

12.2. Persistence and degradability

The product is not readily biodegradable, but it can be degraded by micro-organisms, it is regarded as being inherently biodegradable.

12.3. Bioaccumulative potential

Chemical name	Partition coefficient
Benzene, mono-C10-13-alkyl derivs., distn. residues, sulfonated, barium salts	4.76

12.4. Mobility

The product is insoluble and floats on water

12.5. Results of PBT and vPvB assessment

This preparation contains no substance considered to be persistent, bioaccumulating nor toxic (PBT). This preparation contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

12.6. Other adverse effects

None known

SECTION 13: DISPOSAL CONSIDERATIONS**13.1. Waste treatment methods****Waste from Residues / Unused Products**

Dispose of in accordance with local regulations

Contaminated packaging

Empty containers should be taken to an approved waste handling site for recycling or disposal. Observe all label precautions until container is cleaned, reconditioned or destroyed.

Other Data

According to the European Waste Catalog, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14: TRANSPORT INFORMATION**14.1. UN number**

Not Regulated

14.2. UN proper shipping name

Not Regulated

14.3. Transport hazard class

Not Regulated

14.4. Packing group

Not Regulated

14.5. Environmental Hazards

None

14.6. Special precautions for users

None

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

IMDG Not Regulated**ADR** Not Regulated**IATA** Not Regulated**ADN** Not Regulated

SECTION 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**EU legislation**

The Classification, Labeling and Packaging of Substances and Mixtures (CLP) Regulation (EC 1272/2008)
Registration, Evaluation, Authorization, and Restriction of Chemicals (REACH) Regulation (EC 1907/2006)
Safety Data Sheet according to Regulation EC 1907/2006 (REACH) with its amendment regulation EC 2015/830
European Agreement concerning the International Carriage of Dangerous Goods by Road/ Regulations concerning the International Carriage of Dangerous Goods by Rail
International Civil Aviation Organization / International Air Transport Association Dangerous Goods Regulation

Restrictions on use

This product does not contain substances above concentrations required for disclosure which are subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII).

Substance(s) of Very High Concern

This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (Regulation (EC) No. 1907/2006 (REACH), Article 59).

Dangerous substance category per Seveso Directive (2012/18/EU) Not applicable**Named dangerous substances per Seveso Directive (2012/18/EU)** Not applicable**National regulations****Germany****WGK Classification**

Hazard to water/Class 2

United Kingdom

Statutory Instruments: Control of Substances Hazardous to Health Regulations 2002. Chemicals (Hazard Information and Packaging) Regulations 2009.
Acts of Parliament: The Health and Safety at Work etc. Act 1974. Environment Protection Act 1990.
Regulation on classification, labeling, of hazardous chemicals (2002 changing 2005). Appendix VI to Regulation on classification, labeling etc. of hazardous chemicals (2002 changing 2010), list of hazardous substances (as amended). Guidelines for submission and declaration of hazardous waste (2009). Transport of dangerous goods: ADR, RID, IMDG and IATA. Administrative norms for

pollution of the atmosphere, 2009.
Workplace exposure limits (EH40)

International Regulations

Ozone-depleting substances (ODS)

Not applicable

Persistent Organic Pollutants

Not applicable

Chemicals Subject to Prior Informed Consent (PIC)

Not applicable

International Inventories

Inventory information may be utilizing alternative CAS#s or exemptions beyond those stated within this document. For further information, please contact: . ProductStewardship@houghtonintl.com.

TSCA	Complies
DSL	All Components are NOT on the Chemical Inventory
AICS	Does not Comply
PICCS	Does not Comply
KECL	Does not Comply
IECSC	Does not Comply
ENCS	Does not Comply
TCSI	Does not Comply
NZIoC	Does not Comply

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List
AICS - Australian Inventory of Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
ENCS - Japan Existing and New Chemical Substances
TCSI - Taiwan National Existing Chemical Inventory
NZIoC - New Zealand Inventory of Chemicals

Other Information

Not applicable

The highly refined base oil (Viscosity >20.5 cSt @40°C) contains one or more substance with the following CAS/EC numbers/REACH registration numbers:

Chemical name	CAS No	EC-No	REACH Registration Number
Lubricating oils (petroleum), C24-50, solvent-extd., dewaxed, hydrogenated	101316-72-7	309-877-7	01-2119489969-06-xxxx
Lubricating oils (petroleum), used, noncatalytically refined	101316-73-8	309-878-2	02-2119822310-56-xxxx
Distillates (petroleum), solvent-refined heavy paraffinic	64741-88-4	265-090-8	
Distillates (petroleum), solvent-refined light paraffinic	64741-89-5	265-091-3	01-2119487081-40-xxxx
Residual oils (petroleum), solvent deasphalted	64741-95-3	265-096-0	01-2119487081-40-xxxx
Distillates (petroleum), solvent-refined heavy naphthenic	64741-96-4	265-097-6	01-2119483621-38-xxxx
Distillates (petroleum), solvent-refined light naphthenic	64741-97-5	265-098-1	01-2119480374-36-xxxx
Residual oils (petroleum), solvent-refined	64742-01-4	265-101-6	01-2119488707-21-xxxx
Extracts (petroleum), residual oil solvent	64742-10-5	265-110-5	01-2119488175-30-xxxx
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	265-155-0	01-2119467170-45-xxxx

Distillates (petroleum), hydrotreated light naphthenic	64742-53-6	265-156-6	
Distillates(petroleum),hydrotreatedheavyparaffinic	64742-54-7	265-157-1	01-2119484627-25-xxxx
Distillates (petroleum), hydrotreated light paraffinic	64742-55-8	265-158-7	01-2119487077-29-xxxx
Distillates (petroleum), solvent-dewaxed light paraffinic	64742-56-9	265-159-2	01-2119480132-48-xxxx
Residual oils (petroleum), hydrotreated	64742-57-0	265-160-8	01-2119489287-22-xxxx
Lubricating oils (petroleum), hydrotreated spent	64742-58-1	265-161-3	
Residual oils (petroleum), solvent-dewaxed	64742-62-7	265-166-0	01-2119480472-38-xxxx
Distillates (petroleum), solvent-dewaxed heavy, paraffinic	64742-65-0	265-169-7	01-2119471299-27-xxxx
Paraffin oils (petroleum), catalytic dewaxed heavy	64742-70-7	265-174-4	01-2119487080-42-xxxx
Paraffin oils (petroleum), catalytic dewaxed light	64742-71-8	265-176-5	01-2119485040-48-xxxx
Lubricating oils (petroleum), C>25, hydrotreated bright stock-based	72623-83-7	276-735-8	
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, high-viscosity	72623-85-9	276-736-3	01-2119555262-43-xxxx
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based	72623-86-0	276-737-9	01-2119474878-16-xxxx
Lubricating oils (petroleum), C20-C50, hydrotreated neutral oil-based	72623-87-1	276-738-4	01-2119474889-13-xxxx
Lubricating oils	74869-22-0	278-012-2	
Paraffin oils	8012-95-1	232-384-2	
White mineral oil (petroleum)	8042-47-5	232-455-8	01-2119487078-27-xxxx
C18-C50 branched, cyclic and linear hydrocarbons – Distillates	848301-69-9	482-220-0	01-0000020163-82-xxxx

15.2. Chemical Safety Assessment

A chemical safety assessment according to regulation (EC) No. 1907/2006 is not required

SECTION 16: OTHER INFORMATION

Key or legend to abbreviations and acronyms used in the safety data sheet

Repr.-Reproduction toxicity
 Asp. Tox. - Aspiration Toxicity
 Acute Tox. - Acute Toxicity
 Aquatic Acute - Acute Aquatic Toxicity
 Aquatic Chronic - Chronic Aquatic Toxicity
 Eye Dam. - Eye Damage
 Eye Irrit. - Eye Irritation
 Skin Corr. - Skin Corrosion
 Skin Irrit. - Skin Irritation
 Skin Sens. - Skin Sensitizer
 Resp. Sens. - Respiratory Sensitizer
 STOT SE - Specific target organ systemic toxicity (Single exposure)
 STOT RE - Specific target organ systemic toxicity (repeated exposure)
 VOC - Volatile organic compounds

Full text of H-Statements which may be referred to under Sections 2 and 3

• H224 - Extremely flammable liquid and vapor • H225 - Highly flammable liquid and vapor • H226 - Flammable liquid and vapor • H270 - May cause or intensify fire; oxidizer • H271 - May cause fire or explosion; strong oxidizer • H272 - May intensify fire; oxidizer • H290 - May be corrosive to metals • H300 - Fatal if swallowed • H301 - Toxic if swallowed • H302 - Harmful if swallowed • H304 - May be fatal if swallowed and enters airways • H310 - Fatal in contact with skin • H311 - Toxic in contact with skin • H312 - Harmful in contact with skin • H314 - Causes severe skin burns and eye damage • H315 - Causes skin irritation • H317 - May cause an allergic skin reaction • H318 - Causes serious eye damage • H319 - Causes serious eye irritation • H330 - Fatal if inhaled • H331 - Toxic if inhaled • H332 - Harmful if inhaled • H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled • H335 - May cause respiratory irritation • H336 - May cause drowsiness or dizziness • H340 - May cause genetic defects	• H341 - Suspected of causing genetic defects • H350 - May cause cancer • H351 - Suspected of causing cancer • H360 - May damage fertility or the unborn child • H361 - Suspected of damaging fertility or the unborn child • H362 - May cause harm to breast-fed children • H370 - Causes damage to organs • H371 - May cause damage to organs • H372 - Causes damage to organs through prolonged or repeated exposure • H373 - May cause damage to organs through prolonged or repeated exposure • H400 - Very toxic to aquatic life • H410 - Very toxic to aquatic life with long lasting effects • H411 - Toxic to aquatic life with long lasting effects • H412 - Harmful to aquatic life with long lasting effects • H413 - May cause long lasting harmful effects to aquatic life • H360Df - May damage the unborn child. Suspected of damaging fertility • H360D - May damage the unborn child • H360FD - May damage fertility. May damage the unborn child • H360F - May damage fertility • H361d - Suspected of damaging the unborn child • H361fd - Suspected of damaging fertility. Suspected of damaging the unborn child • H361f - Suspected of damaging fertility • EUH066 - Repeated exposure may cause skin dryness or cracking • EUH210 - Safety data sheet available on request • EUH208 - May produce an allergic reaction
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Classification for mixtures and used evaluation method according to regulation (EC) 1207/2008 [CLP]

Physical hazards	On basis of test data
Health Hazards	Calculation Method
Environmental Hazards	Calculation Method

Revision Date 01-17-2019

Revision Note This SDS has been revised in the following section(s): 2, 3, 4, 8, 11, 12.

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

SAFETY DATA SHEET

SA-1015

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Revision Date: 16-May-2023
Preparation Date 16-May-2023

Revision Number: 32
Internal ID Code HM007221

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product Identifier

Product Name SA-1015
Internal ID Code HM007221

Other means of identification

Pure substance/mixture Substance

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Suspending Agent

Sector of uses SU2 - Mining, (including offshore industries)
Uses advised against Consumer use

1.3. Details of the supplier of the safety data sheet

Halliburton BV
Columbusstraat 19
7825VP
Emmen
Netherlands

www.halliburton.com

Supplier:

Halliburton Manufacturing and Services Limited (Halliburton BV)
Columbusstraat 19
7825VP
Emmen
Netherlands
Tel: +31 591 636 111

For further information, please contact:

E-mail Address: fdunexchem@halliburton.com

1.4. Emergency telephone number

+44 8 08 189 0979 / 1-760-476-3961
Global Incident Response Access Code: 334305
Contract Number: 14012

Emergency telephone - Article 45 - (EC)1272/2008	
Austria	Poison Information Centre (AT): +43-(0)1-406 43 43
Belgium	Poison center (BE): +32 70 245 245
Bulgaria	Bulgarian poison centre: +359 2 915-44-09 or +359 2 915-43-46
Croatia	Centar za kontrolu otrovanja (CKO): (+385 1) 23-48-342 (Poison Control Center (PCC) - Institute for Medical Research and Occupational Health)
Cyprus	1401
Czech Republic	+420 224 919 293; +420 224 915 402
Denmark	Poison Control Hotline (DK): +45 82 12 12 12
Estonia	16662 (Local Poison Information Centre); (+372) 626 93 90 (International Poison

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	Information Centre)
Europe	112
Finland	Poison Information Centre (FI): +358 9 471 977
France	ORFILA (FR): + 01 45 42 59 59
Germany	Poison Center Berlin (DE): +49 030 30686 790
Greece	+30 210 779 3777
Hungary	+36 (06) 80 201-199
Iceland	543 2222 / 543 1000
Ireland	National Poisons Information Centre (IE): +353 1 8379964
Italy	Poison Center, Milan (IT): +39 02 6610 1029
Latvia	(+371) 67042473 (International number for the National Toxicology Centre)
Lithuania	+370 (85) 2362052
Luxembourg	(+352) 8002 5500
Malta	2122 4071
Netherlands	National Poisons Information Center (NL): +31 30 274 88 88 (NB: this service is only available to health professionals)
Norway	Poisons Information (NO): + 47 22 591300
Poland	Poison Control and Information Centre, Warsaw (PL): +48 22 619 66 54; +48 22 619 08 97
Portugal	CIAV - Centro de Informação Antivenenos (Portuguese Poison Centre): + 351 213 303 271
Romania	+40 21 318 36 06
Slovakia	+421 2 4854 4511
Slovenia	112
Spain	Poison Information Service (ES): +34 91 562 04 20
Sweden	Poisons Information Center (SV): +46 8 33 12 31
Switzerland	Poison Center: Tel 145; +41 44 251 51 51
Turkey	Ulusal Zehir Danisma Merkezi (UZEM) :114 Acil Saglik Hizmetleri : 112
United Kingdom	NHS Direct (UK): +44 0845 46 47

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Not classified

Additional information: No information available

For the full text of the H-phrases mentioned in this Section, see Section 16

2.2. Label Elements

Not classified

Hazard Pictograms

Signal Word: None

Hazard Statements:
Not Classified

Precautionary Statements:
None

Contains
Substances

CAS Number

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Contains no hazardous substances in concentrations above NA
cut-off values according to the competent authority

Additional information: No information available

2.3. Other Hazards

Dust can form an explosive mixture in air

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).

This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors

Substances	CAS Number	EU - REACH (1907/2006) - Article 59(1) - Candidate List of Substances of Very High Concern (SVHC) for Authorisation	EU - REACH (1907/2006) - Endocrine Disruptor Assessment List of Substances	Endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100(3) or Commission Regulation (EU) 2018/605(4)
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	-	-	-

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance

Substances	EINECS	CAS Number	REACH Reg. No	PERCENT (w/w)	EU - CLP Substance Classification
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	NA	-	60 - 100%	

Substances	EINECS	PERCENT (w/w)	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	60 - 100%	-	-	-

Classification according to Regulation (EC) No. 1272/2008 [CLP]

For the full text of the H-phrases mentioned in this Section, see Section 16

Acute Toxicity Estimate

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No data available	No data available	No data available

Rat = Rat, Rabbit = Rabbit, dust = dust

This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (Regulation (EC) No.

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1907/2006 (REACH), Article 59)

Additional information: No information available

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	Move person to fresh air.
Eyes	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.
Skin	Wash with soap and water. Get medical attention if irritation persists.
Ingestion	Under normal conditions, first aid procedures are not required.
Protection of First-aiders	No information available.

4.2. Most important symptoms and effects, both acute and delayed

No significant hazards expected.

4.3. Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media

Water fog, carbon dioxide, foam, dry chemical.

Extinguishing media which must not be used for safety reasons

None known.

5.2. Special hazards arising from the substance or mixture

Special exposure hazards in a fire

Decomposition in fire may produce harmful gases. Organic dust in the presence of an ignition source can be explosive in high concentrations. Good housekeeping practices are required to minimize this potential.

5.3. Advice for firefighters

Special protective equipment for firefighters

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use appropriate protective equipment. Avoid creating and breathing dust. Ensure adequate ventilation. See Section 8 for additional information.

6.2. Environmental precautions

Prevent from entering sewers, waterways, or low areas.

6.3. Methods and material for containment and cleaning up

Pick up and transfer to properly labeled containers.

6.4. Reference to other sections

See Section 8 and 13 for additional information.

SECTION 7: Handling and storage

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7.1. Precautions for safe handling

Avoid creating or inhaling dust. Avoid dust accumulations. Ensure adequate ventilation. Wash hands after use. Launder contaminated clothing before reuse. Use appropriate protective equipment. Slippery when wet.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Information

Store in a dry location. Store away from oxidizers. Use good housekeeping in storage and work areas to prevent accumulation of dust. Close container when not in use. Keep container closed when not in use.

7.3. Specific end use(s)

Exposure scenario

No information available

Other Guidelines

No information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits

Substances	CAS Number	EU	UK	Netherlands	France
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Germany	Spain	Portugal	Finland
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Austria	Ireland	Switzerland	Norway
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Italy	Poland	Hungary	Czech Republic
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Denmark	Romania	Croatia	Cyprus
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable	Not applicable	Not applicable

Derived No Effect Level (DNEL)
Worker

No information available

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General Population

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Engineering Controls

Use in a well ventilated area.

Personal protective equipment

If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

Respiratory Protection

If engineering controls and work practices cannot keep exposure below occupational exposure limits or if exposure is unknown, wear a NIOSH certified, European Standard EN 149, AS/NZS 1715:2009, or equivalent respirator when using this product. Selection of and instruction on using all personal protective equipment, including respirators, should be performed by an Industrial Hygienist or other qualified professional.

Hand Protection

Use gloves which are suitable for the chemicals present in this product as well as other environmental factors in the workplace.

Skin Protection

Wear impervious protective clothing, including boots, gloves, lab coat, apron, rain jacket, pants or coverall, as appropriate, to prevent skin contact.

Eye Protection

Wear safety glasses or goggles to protect against exposure. (EN-166)

Other Precautions

Eyewash fountains and safety showers must be easily accessible.

Environmental Exposure Controls Do not allow material to contaminate ground water system.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical State: Powder

Color

White to tan

Odor: Slight

Odor

No information available

Threshold:

Values

Property

Remarks/ - Method

pH:

7 (1%)

Freezing Point / Range

No data available

Melting Point / Range

No data available

Boiling Point / Range

No data available

Flash Point

> 93 °C / > 200 °F (PMCC)

Flammability (solid, gas)

No data available

Upper flammability limit

No data available

Lower flammability limit

No data available

Evaporation rate

No data available

Vapor Pressure

No data available

Relative Vapor Density

No data available

Relative Density

1.45 - 1.55

Water Solubility

Forms gel

Solubility in other solvents

No data available

Partition coefficient: n-octanol/water

No data available

Autoignition Temperature

204 °C / 400 °F

Decomposition Temperature

No data available

Viscosity

No data available

Explosive Properties

No information available

Oxidizing Properties

No information available

9.2. Other information

Pour Point / Range

No data available

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VOC Content (%) No data available

9.2.1 Information with regard to physical hazard classes No information available

9.2.2. Other safety characteristics No information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Not expected to be reactive.

10.2. Chemical stability

Stable

10.3. Possibility of hazardous reactions

Will Not Occur

10.4. Conditions to avoid

Keep away from heat, sparks and flame.

10.5. Incompatible materials

Strong oxidizers.

10.6. Hazardous decomposition products

Carbon monoxide and carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute Toxicity

Inhalation

May cause mild respiratory irritation.

Eye Contact

May cause mechanical irritation to eye.

Skin Contact

Not irritating to skin in rabbits.

Ingestion

May cause abdominal pain, vomiting, nausea, and diarrhea.

Chronic Effects/Carcinogenicity

No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No data available	No data available	No data available

Rat = Rat, Rabbit = Rabbit, dust = dust

Substances	CAS Number	Skin corrosion/irritation
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	

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Substances	CAS Number	Serious eye damage/irritation
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	

Substances	CAS Number	Skin Sensitization
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	

Substances	CAS Number	Respiratory Sensitization
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors

11.2.2 Other Information

Other Adverse Effects No information available

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity effects

Contains no substances known to be hazardous to the environment.

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available	No information available	No information available	No information available

growth rate = growth rate, similar substance = similar substance, activated sludge = activated sludge, reproduction = reproduction

12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

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12.3. Bioaccumulative potential

Bioaccumulative Potential

Substances	CAS Number	Bioaccumulation
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

12.4. Mobility in soil

Substances	CAS Number	Mobility
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

12.5. Results of PBT and vPvB assessment

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT). This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

Substances	PBT and vPvB assessment
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	Not applicable

12.6 Endocrine disrupting properties

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors

12.7 Other adverse effects

No information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal methods

Contaminated Packaging

Dispose in accordance with local regulations.

Follow all applicable national or local regulations. Contaminated packaging may be disposed of by: rendering packaging incapable of containing any substance, or treating packaging to remove residual contents, or treating packaging to make sure the residual contents are no longer hazardous, or by disposing of packaging into commercial waste collection.

SECTION 14: Transport information

IMDG/IMO

UN Number Not restricted
UN proper shipping name: Not restricted
Transport Hazard Class(es): Not applicable
Packing Group: Not applicable
Environmental Hazards: Not applicable

ADN

UN Number Not restricted
UN proper shipping name: Not restricted
Packing Group Not applicable
Environmental Hazards: Not applicable

ADR/RID

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Internal ID Code HM007221

UN Number Not restricted
UN proper shipping name: Not restricted
Packing Group Not applicable
Environmental Hazards: Not applicable

IATA/ICAO

UN Number Not restricted
UN proper shipping name: Not restricted
Transport Hazard Class(es): Not applicable
Packing Group: Not applicable
Environmental Hazards: Not applicable

14.1. UN Number Not restricted

14.2. UN proper shipping name: Not restricted

14.3.

14.4. Packing Group Not applicable

14.5. Environmental Hazards: Not applicable

14.6. Special Precautions for User None

14.7. Maritime transport in bulk according to IMO instruments No information available

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

International Inventories

US TSCA Inventory All components listed on inventory or are exempt.
Canadian Domestic Substances List (DSL) All components listed on inventory or are exempt.

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

Denmark PR No.: 4077065

Germany, Water Endangering Classes (WGK) WGK 1: Low hazard to waters.

Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.
Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

Substances	CAS Number	Seveso III	TA LUFT
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable

Substances	CAS Number	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization
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SAFETY DATA SHEET

SA-1015

This is a translation of the country-specific safety data sheet into a language other than that required by law. This document does not replace the safety data sheet provided according to Regulation (EC) No 1907/2006.

Revision Date: 16-May-2023
Preparation Date 16-May-2023

Revision Number: 32
Internal ID Code HM007221

		Substances	
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable

15.2. Chemical safety assessment

No information available

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3

None

Key or legend to abbreviations and acronyms used in the safety data sheet

bw – body weight
CAS – Chemical Abstracts Service
CLP – REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on Classification, Labelling and Packaging of substances and mixtures
EC – European Commission
EC10 – Effective Concentration 10%
EC50 – Effective Concentration 50%
EEC – European Economic Community
ErC50 – Effective Concentration growth rate 50%
IBC Code – International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
LC50 – Lethal Concentration 50%
LD50 – Lethal Dose 50%
LL0 – Lethal Loading 0%
LL50 – Lethal Loading 50%
MARPOL – International Convention for the Prevention of Pollution from Ships
mg/kg – milligram/kilogram
mg/L – milligram/liter
NIOSH – National Institute for Occupational Safety and Health
NOEC – No Observed Effect Concentration
NTP – National Toxicology Program
OEL – Occupational Exposure Limit
PBT – Persistent Bioaccumulative and Toxic
PC – Chemical Product category
PEL – Permissible Exposure Limit
ppm – parts per million
PROC – Process category
REACH – REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals
STEL – Short Term Exposure Limit
SU – Sector of Use category

Key literature references and sources for data

www.ChemADVISOR.com/
NZ CCID

Revision Date: 16-May-2023
Reason for Revision SDS sections updated:
9

This is a translation of the country-specific safety data sheet into a language other than that required by law. This document does not replace the safety data sheet provided according to Regulation (EC) No 1907/2006.

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Revision Number: 32
Internal ID Code HM007221

Disclaimer Statement

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

End of Safety Data Sheet

HALLIBURTON

SAFETY DATA SHEET SCR-100

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Revision date: 21-Nov-2025
Supersedes date: 07-Nov-2025

Revision Number 42
Product Code(s) HM001253

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product Name SCR-100
Product Code(s) HM001253

Other means of identification

Pure substance/mixture Mixture

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended use Retarder
Sector of uses [SU] SU2 - Mining, (including offshore industries)
Uses advised against Consumer use

1.3. Details of the supplier of the safety data sheet

Halliburton BV
Columbusstraat 19
7825VP
Emmen
Netherlands
Tel: +31 591 636 111

www.halliburton.com

For further information, please contact

E-mail address fdunexchem@halliburton.com

1.4. Emergency telephone number

Emergency Telephone +44 8 08 189 0979 / 1-760-476-3961
Global Incident Response Access Code: 334305
Contract Number: 14012

Emergency Telephone - §45 - (EC)1272/2008	
Austria	+43 (0)1 406 43 43
Belgium	+32 70 245 245
Bulgaria	+359 2 915 44 09 / +359 2 915 43 46

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Revision Number 42
Product Code(s) HM001253

	Национален център по токсикология: Спешен телефон +359 2 9154 233
Croatia	(+385 1) 23 48 342
Cyprus	1401
Czech Republic	+420 224 919 293 / +420 224 915 402
Denmark	+45 82 12 12 12
Estonia	16662 / (+372) 626 93 90
Europe	112
Finland	+358 9 471 977
France	+01 45 42 59 59
Germany	+49 030 30686 790
Greece	+30 210 779 3777
Hungary	+36 (06) 80 201 199
Iceland	543 2222 / 543 1000
Ireland	+353 1 8379964
Italy	+39 02 6610 1029
Latvia	(+371) 67042473
Lithuania	+370 (85) 2362052
Luxembourg	(+352) 8002 5500
Malta	2122 4071
Netherlands	National Poisons Information Center (NL): +31 30 274 88 88 (NB: this service is only available to health professionals)
Norway	+ 47 22 591300
Poland	+48 22 619 66 54 / +48 22 619 08 97
Portugal	+351 213 303 271
Romania	+40 21 318 36 06
Slovakia	+421 2 4854 4511
Slovenia	112
Spain	+34 91 562 04 20
Sweden	+46 8 33 12 31
Switzerland	114 / 112

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

For the full text of the H-phrases mentioned in this Section, see Section 16

2.2. Label elements

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

Signal word **None**

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Hazard statements

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

Precautionary Statements - EU (§28, 1272/2008)

Additional information No information available

2.3. Other hazards

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT)
This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB)

This product does not contain any known or suspected endocrine disruptors.

SECTION 3: Composition/information on ingredients

3.1 Substances

Not applicable

3.2 Mixtures

The product contains no substances which at their given concentration, are considered to be hazardous to health

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Full text of H- and EUH-phrases: see section 16

Acute Toxicity Estimate

No information available.

Rat = Rat
Rabbit = Rabbit
Dust = Dusts
Vapor = Vapor
Aerosol = Aerosol
Human = Human
Mouse = Mouse
Guinea pig = Guinea pig

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This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (Regulation (EC) No. 1907/2006 (REACH), Article 59)

Additional information No information available

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	Remove to fresh air.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Skin contact	Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.
Ingestion	Rinse mouth.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms	No information available.
Effects of Exposure	None.

4.3. Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptomatically.
--------------------	------------------------

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media	Water fog, carbon dioxide, foam, dry chemical.
Large Fire	CAUTION: Use of water spray when fighting fire may be inefficient.
Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical	No information available.
Hazardous combustion products	Oxides of nitrogen. Oxides of sulfur. Carbon monoxide and carbon dioxide.

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5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.
Use personal protection equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation.

For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Take up mechanically, placing in appropriate containers for disposal.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling Ensure adequate ventilation.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Store away from oxidizers. Store in a cool, dry location.

Storage class (TRGS 510) Storage class 11.

7.3. Specific end use(s)

Specific use(s) See section 1 for more information.

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Exposure scenario No information available.

Risk Management Methods (RMM) The information required is contained in this Safety Data Sheet.

Other information No information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Biological occupational exposure limits This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Derived No Effect Level (DNEL) - Workers No information available

Derived No Effect Level (DNEL) - General Public No information available.

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

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Engineering controls	Use in a well ventilated area.
Personal protective equipment	Use engineering controls to keep exposures below the OEL or DNEL
Eye/face protection	Safety glasses with side-shields. If splashes are likely to occur, wear: Goggles, Face-shield.
Hand protection	Use gloves which are suitable for the chemicals present in this product as well as other environmental factors in the workplace.

Gloves			
Duration of contact	PPE - Glove material	Glove thickness	Break through time
Short term	Wear protective nitrile rubber gloves Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training Ensure that the breakthrough time of the glove material is not exceeded. Refer to glove supplier for information on breakthrough time for specific gloves	> 11 mil	>8 hours

Skin and body protection	Wear protective clothing appropriate for the work environment.
Respiratory protection	Not normally needed. But if significant exposures are possible then the following respirator is recommended: Dust/mist respirator. (N95, P2/P3).
Other protective equipment	None known.
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice.
Environmental exposure controls	No information available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Solid
Color	White
Odor	Odorless

Property	Values	Remarks • Method
Melting point / freezing point	No data available	
Initial boiling point and boiling range	No data available	
Flammability	No data available	
Flammability Limit in Air	Not applicable	

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Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Flash point	> 200 °C	(PMCC)
Autoignition temperature	No data available	
Decomposition temperature	No data available	
pH	No data available	
pH (as aqueous solution)	3 - 4	solution (28 %)
Kinematic viscosity	No data available	
Dynamic viscosity	No data available	cps
Water solubility	Soluble in water	
Solubility(ies)	No data available	
Partition coefficient	No data available	
Vapor pressure	No data available	
Relative density	1.25	
Bulk density	20-30 lbs/ft3	-
Liquid Density	No data available	-
Relative vapor density	No data available	-
Coefficient Water/Oil Distribution	No data available	-

Particle characteristics

Form	Not applicable
Particle Size	Not applicable
Particle Size Distribution	Not applicable

Explosive properties No information available

Oxidizing properties No information available

9.2. Other information

Pour Point No data available

Softening point Not applicable

Molecular weight Not applicable

VOC content <5.5% <5.5

9.2.1. Information with regard to physical hazard classes Not applicable

9.2.2. Other safety characteristics No information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions.

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10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

None under normal processing.

10.4. Conditions to avoid

None known based on information supplied.

10.5. Incompatible materials

Strong oxidizers.

10.6. Hazardous decomposition products

Oxides of nitrogen. Oxides of sulfur. Carbon monoxide and carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Information on likely routes of exposure

Principle Routes of Exposure Ingestion, Skin contact, Eye contact, Inhalation

Product Information

Inhalation No known effect based on information supplied.

Eye contact No known effect based on information supplied.

Skin contact No known effect based on information supplied.

Ingestion No known effect based on information supplied.

Symptoms related to the physical, chemical and toxicological characteristics

No information available.

Acute toxicity

The following ATE values have been calculated for the mixture

ATEmix (oral)	99,999.00	mg/kg
ATEmix (dermal)	99,999.00	mg/kg
ATEmix (inhalation-gas)	99,999.00	ppm

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ATEmix (inhalation-vapor)	99,999.00 mg/l
ATEmix (inhalation-dust/mist)	99,999.00 mg/l

Rat = Rat
Rabbit = Rabbit
Dust = Dusts
Vapor = Vapor
Aerosol = Aerosol
Human = Human
Mouse = Mouse
Guinea pig = Guinea pig

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation Based on available data, the classification criteria are not met.

Serious eye damage/eye irritation Based on available data, the classification criteria are not met.

Respiratory or skin sensitization Based on available data, the classification criteria are not met.

Germ cell mutagenicity Based on available data, the classification criteria are not met.

Carcinogenicity Based on available data, the classification criteria are not met.

Reproductive toxicity Based on available data, the classification criteria are not met.

STOT - single exposure Based on available data, the classification criteria are not met.

STOT - repeated exposure Based on available data, the classification criteria are not met.

SAFETY DATA SHEET

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Aspiration hazard Based on available data, the classification criteria are not met.

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

This product does not contain any known or suspected endocrine disruptors.

11.2.2. Other information

Other adverse effects No information available.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity The environmental impact of this product has not been fully investigated.

12.2. Persistence and degradability

Persistence and degradability Based on available data, the classification criteria are not met

12.3. Bioaccumulative potential

Bioaccumulation Based on available data, the classification criteria are not met

12.4. Mobility in soil

Mobility Based on available data, the classification criteria are not met.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment The product does not contain any substance(s) classified as PBT or vPvB above the threshold of declaration.

12.6. Endocrine disrupting properties **Endocrine disrupting properties**

This product does not contain any known or suspected endocrine disruptors.

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Supersedes date: 07-Nov-2025

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12.7. Other adverse effects Other adverse effects

Other adverse effects No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

SECTION 14: Transport information

Regulatory information	14.1. UN number	14.2. UN proper shipping name	14.3. Transport hazard class(es)	14.4. Packing group	14.5. Environmental hazards	Note:
ADR	Not regulated	-	-	-	Not applicable	-
RID	Not regulated	-	-	-	Not applicable	-
IATA	Not regulated	-	-	-	Not applicable	-
IMDG	Not regulated	-	-	-	Not applicable	-
ADN	Not regulated	-	-	-	Not applicable	-

Regulatory information	14.6. Special precautions for user					
	Special Provisions	Classification code	Tunnel restriction code	EmS-No.	ERG Code	Note:
ADR	None	None	None	-	-	-
RID	None	None	-	-	-	-
IATA	None	-	-	-	None	-
IMDG	None	-	-	None	-	-
ADN	None	None	-	-	-	-

14.7 Maritime transport in bulk No information available

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Product Code(s) HM001253

according to IMO instruments

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

International Inventories

EINECS/ELINCS Product contains one or more components not listed on the inventory

Legend:

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Take note of Directive 94/33/EC on the protection of young people at work

Take note of Directive 92/85/EC on the protection of pregnant and breastfeeding women at work

Germany
Water hazard class (WGK) slightly hazardous to water (WGK 1)

Authorizations and/or restrictions on use:

This product does not contain substances subject to authorization (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Dangerous substance category per Seveso Directive (2012/18/EU) Non-controlled

Biodical Products Regulation (BPR) 528/2012 Not applicable

SAFETY DATA SHEET

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Revision Number 42
Product Code(s) HM001253

15.2. Chemical safety assessment

Chemical Safety Report No information available

SECTION 16: Other information

Key or legend to abbreviations and acronyms used in the safety data sheet

ADR - The European Agreement concerning the International Carriage of Dangerous Goods by Road

bw – body weight

CAS – Chemical Abstracts Service

CLP – REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on Classification, Labelling and Packaging of substances and mixtures

Derived No Effect Level (DNEL)

EC – European Commission

EC10 – Effective Concentration 10%

EC50 – Effective Concentration 50%

EEC – European Economic Community

EN 149 - European standard on filtering halfmasks to protect against particles

EN 374 - European standard on Protective gloves against chemicals and micro-organisms

ErC50 – Effective Concentration growth rate 50%

IATA/ICAO - International Air Transport Association / International Civil Aviation Organization

IBC Code – International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk

LC50 – Lethal Concentration 50%

LD50 – Lethal Dose 50%

LL0 – Lethal Loading 0%

LL50 – Lethal Loading 50%

MARPOL – International Convention for the Prevention of Pollution from Ships

PBT – Persistent Bioaccumulative and Toxic

PEL – Permissible Exposure Limit

Predicted No Effect Concentration (PNEC)

PROC – Process category

REACH – REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals

STEL – Short Term Exposure Limit

SU – Sector of Use category

SVHC: Substances of Very High Concern for Authorization:

Legend Section 8: Exposure controls/personal protection

TWA TWA (time-weighted average)

STEL

STEL (Short Term Exposure Limit)

Ceiling Maximum limit value

Sk*

Skin designation

+ Sensitizers

Classification procedure

SAFETY DATA SHEET

SCR-100

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Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - vapor	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	Calculation method
Respiratory sensitization	Calculation method
Skin sensitization	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	Calculation method
Reproductive toxicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Chronic aquatic toxicity	Calculation method
Acute aquatic toxicity	Calculation method
Aspiration hazard	Calculation method
Ozone	Calculation method

Key literature references and sources for data used to compile the SDS

Acute Exposure Guideline Level(s) (AEGl(s))
European Chemicals Agency (ECHA) (ECHA_API)
European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
NIOSH (National Institute for Occupational Safety and Health)

Supersedes date 07-Nov-2025
Revision date 21-Nov-2025
Reason for revision SDS sections updated:
8

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Disclaimer

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

End of Safety Data Sheet

HALLIBURTON

SAFETY DATA SHEET TUNED SPACER E+

This is a translation of the country-specific safety data sheet into a language other than that required by law.
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Revision date: 18-Jun-2024
Supersedes date: 09-Feb-2024

Revision Number 56
Product Code(s) HM003335

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product Name TUNED SPACER E+
Product Code(s) HM003335
Denmark PR No. 1301850

Other means of identification

Pure substance/mixture Mixture
Unique Formula Identifier (UFI) S3F0-S0U4-5002-554S

Contains Crystalline silica, quartz

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended use Cement Spacer
Sector of uses [SU] SU2 - Mining, (including offshore industries)
Uses advised against Consumer use

1.3. Details of the supplier of the safety data sheet

Halliburton BV
Columbusstraat 19
7825VP
Emmen
Netherlands
Tel: +31 591 636 111

www.halliburton.com

For further information, please contact

E-mail address fdunexchem@halliburton.com

1.4. Emergency telephone number

Emergency Telephone +44 8 08 189 0979 / 1-760-476-3961
Global Incident Response Access Code: 334305
Contract Number: 14012

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Emergency Telephone - §45 - (EC)1272/2008	
Austria	+43 (0)1 406 43 43
Belgium	+32 70 245 245
Bulgaria	+359 2 915 44 09 / +359 2 915 43 46 Национален център по токсикология: Спешен телефон +359 2 9154 233
Croatia	(+385 1) 23 48 342
Cyprus	1401
Czech Republic	+420 224 919 293 / +420 224 915 402
Denmark	+45 82 12 12 12
Estonia	16662 / (+372) 626 93 90
Europe	112
Finland	+358 9 471 977
France	+01 45 42 59 59
Germany	+49 030 30686 790
Greece	+30 210 779 3777
Hungary	+36 (06) 80 201 199
Iceland	543 2222 / 543 1000
Ireland	+353 1 8379964
Italy	+39 02 6610 1029
Latvia	(+371) 67042473
Lithuania	+370 (85) 2362052
Luxembourg	(+352) 8002 5500
Malta	2122 4071
Netherlands	National Poisons Information Center (NL): +31 30 274 88 88 (NB: this service is only available to health professionals)
Norway	+ 47 22 591300
Poland	+48 22 619 66 54 / +48 22 619 08 97
Portugal	+351 213 303 271
Romania	+40 21 318 36 06
Slovakia	+421 2 4854 4511
Slovenia	112
Spain	+34 91 562 04 20
Sweden	+46 8 33 12 31
Switzerland	114 / 112

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Carcinogenicity	Category 2 - (H351)
Specific target organ toxicity (repeated exposure)	Category 2 - (H373)

For the full text of the H-phrases mentioned in this Section, see Section 16

2.2. Label elements

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Contains Crystalline silica, quartz



Signal word

Warning

Hazard statements

H351 - Suspected of causing cancer.
H373 - May cause damage to organs through prolonged or repeated exposure.

Precautionary Statements - EU (§28, 1272/2008)

P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P260 - Do not breathe dust, fume, gas, mist, vapors and spray.
P280 - Wear protective gloves, protective clothing, eye protection and face protection.
P308 + P313 - IF exposed or concerned: Get medical advice/attention.
P501 - Dispose of contents and container in accordance with local, regional, national, and international regulations as applicable.

Chemical name	CAS No.	EC No (EU Index No)
Crystalline silica, quartz	14808-60-7	238-878-4

Unknown aquatic toxicity Contains 0 % of components with unknown hazards to the aquatic environment

Additional information No information available

2.3. Other hazards

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT)
This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB)

This product does not contain any known or suspected endocrine disruptors.

SECTION 3: Composition/information on ingredients

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3.1 Substances

Not applicable

3.2 Mixtures

Chemical name	Weight-%	REACH registration number	EC No (EU Index No)	Classification according to Regulation (EC) No. 1272/2008 [CLP]	EU CLP Specific Concentration Limits	M-Factor	M-Factor (long-term)
Crystalline silica, quartz 14808-60-7	1 - 5%	N/A	238-878-4	Carc. 2 (H351) STOT RE 1 (H372)	-	-	-

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Full text of H- and EUH-phrases: see section 16

Acute Toxicity Estimate

No information available.

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Crystalline silica, quartz 14808-60-7	> 15000 mg/kg (human)	-	-

Rat = Rat
Rabbit = Rabbit
Dust = Dusts
Vapor = Vapor
Aerosol = Aerosol
Human = Human
Mouse = Mouse
Guinea pig = Guinea pig

This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (Regulation (EC) No. 1907/2006 (REACH), Article 59)

Additional information No information available

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice	IF exposed or concerned: Get medical advice/attention. Show this safety data sheet to the doctor in attendance.
Inhalation	Remove to fresh air.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Skin contact	Wash skin with soap and water. In the case of skin irritation or allergic reactions see a

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physician.

Ingestion

Rinse mouth.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Effects of Exposure None.

4.3. Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media Water fog, carbon dioxide, foam, dry chemical.

Large Fire

CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media Do not scatter spilled material with high pressure water streams.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical No information available.

Hazardous combustion products Oxides of sulfur. Carbon monoxide and carbon dioxide. Amorphous silica may transform at elevated temperatures to tridymite (870 C) or cristobalite (1470 C).

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas.

Other information Refer to protective measures listed in Sections 7 and 8.

For emergency responders Use personal protection recommended in Section 8.

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6.2. Environmental precautions

Environmental precautions See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Take up mechanically, placing in appropriate containers for disposal.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation.

General hygiene considerations Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Use good housekeeping in storage and work areas to prevent accumulation of dust. Close container when not in use. Do not reuse empty container.

7.3. Specific end use(s)

Specific use(s) See section 1 for more information.

Exposure scenario No information available.

Risk Management Methods (RMM) The information required is contained in this Safety Data Sheet.

Other information No information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits

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Chemical name	European Union	Austria	Belgium	Bulgaria
Crystalline silica, quartz 14808-60-7	TWA: 0.1 mg/m ³	TWA: 0.05 mg/m ³	TWA: 0.1 mg/m ³ TWA: 0.05 mg/m ³	TWA: 0.1 mg/m ³

Chemical name	Croatia	Cyprus	Czech Republic	Denmark	Estonia	Finland
Crystalline silica, quartz 14808-60-7	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.3 mg/m ³ TWA: 0.1 mg/m ³ STEL: 0.6 mg/m ³ STEL: 0.2 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.05 mg/m ³

Chemical name	France	Germany TRGS	Germany DFG	Greece	Hungary
Crystalline silica, quartz 14808-60-7	TWA: 0.1 mg/m ³	-	-	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³

Chemical name	Ireland	Italy MDLPS	Italy AIDII	Latvia	Lithuania
Crystalline silica, quartz 14808-60-7	TWA: 0.1 mg/m ³ STEL: 0.3 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.025 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.1 ppm

Chemical name	Luxembourg	Malta	Netherlands	Norway	Poland
Crystalline silica, quartz 14808-60-7	-	-	TWA: 0.075 mg/m ³	TWA: 0.05 mg/m ³ TWA: 0.1 mg/m ³ TWA: 0.3 mg/m ³ STEL: 0.9 mg/m ³ STEL: 0.15 mg/m ³ STEL: 0.3 mg/m ³	TWA: 0.1 mg/m ³

Chemical name	Portugal	Romania	Slovakia	Slovenia	Spain
Crystalline silica, quartz 14808-60-7	TWA: 0.025 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³ STEL: 0.5 mg/m ³	TWA: 0.05 mg/m ³	TWA: 0.05 mg/m ³

Chemical name	Sweden	Switzerland	United Kingdom
Crystalline silica, quartz 14808-60-7	NGV: 0.1 mg/m ³	TWA: 0.15 mg/m ³	TWA: 0.1 mg/m ³ STEL: 0.3 mg/m ³

Biological occupational exposure limits

Derived No Effect Level (DNEL) - Workers

No information available

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Derived No Effect Level (DNEL) - General Public

No information available.

Predicted No Effect Concentration (PNEC)

No information available.

8.2. Exposure controls

Engineering controls	Use approved industrial ventilation and local exhaust as required to maintain exposures below applicable exposure limits.
Personal protective equipment	Use engineering controls to keep exposures below the OEL or DNEL
Eye/face protection	Wear safety glasses or goggles to protect against exposure. (EN-166).
Hand protection	Normal work gloves. Wear suitable gloves.

Gloves			
Duration of contact	PPE - Glove material	Glove thickness	Break through time
Short term	Wear protective nitrile rubber gloves Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training Ensure that the breakthrough time of the glove material is not exceeded. Refer to glove supplier for information on breakthrough time for specific gloves	> 11 mil	>8 hours

Skin and body protection	Wear clothing appropriate for the work environment. Dusty clothing should be laundered before reuse. Use precautionary measures to avoid creating dust when removing or laundering clothing. Wear suitable protective clothing.
Respiratory protection	Wear a NIOSH certified, European Standard EN 149 (FFP2/FFP3), AS/NZS 1715, or equivalent respirator when using this product.
Other protective equipment	Eyewash fountains and safety showers must be easily accessible.
General hygiene considerations	Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product.
Environmental exposure controls	No information available.

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Solid
Color	White to light straw
Odor	Odorless

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Melting point / freezing point	No data available	
Initial boiling point and boiling range		
Flammability	No data available	
Flammability Limit in Air	Not applicable	
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Flash point	No data available	
Autoignition temperature	No data available	
Decomposition temperature	No data available	
pH		
pH (as aqueous solution)	No data available	
Kinematic viscosity	No data available	
Dynamic viscosity	No data available	
Water solubility	Soluble in water	
Solubility(ies)	No data available	
Partition coefficient	No data available	
Vapor pressure	No data available	
Relative density	1.88 - 2.05	
Bulk density	No data available	-
Liquid Density	No data available	-
Relative vapor density	No data available	-
Coefficient Water/Oil Distribution	No data available	-

Particle characteristics

Form	Not applicable
Particle Size	Not applicable
Particle Size Distribution	Not applicable

Explosive properties No information available

Oxidizing properties No information available

9.2. Other information

Pour Point	No data available
Softening point	Not applicable
Molecular weight	Not applicable

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VOC content No data available

9.2.1. Information with regard to physical hazard classes Not applicable

9.2.2. Other safety characteristics No information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

None under normal processing.

10.4. Conditions to avoid

None known based on information supplied.

10.5. Incompatible materials

Strong oxidizers.

10.6. Hazardous decomposition products

Oxides of sulfur. Carbon monoxide and carbon dioxide. Amorphous silica may transform at elevated temperatures to tridymite (870 C) or cristobalite (1470 C).

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Information on likely routes of exposure

Principle Routes of Exposure Ingestion, Skin contact, Eye contact, Inhalation

Product Information

Inhalation No known effect based on information supplied.

Eye contact No known effect based on information supplied.

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Skin contact No known effect based on information supplied.

Ingestion No known effect based on information supplied.

Symptoms related to the physical, chemical and toxicological characteristics

No information available.

Acute toxicity

The following ATE values have been calculated for the mixture

ATEmix (oral)	99,999.00	mg/kg
ATEmix (dermal)	99,999.00	mg/kg
ATEmix (inhalation-gas)	99,999.00	ppm
ATEmix (inhalation-vapor)	99,999.00	mg/l
ATEmix (inhalation-dust/mist)	99,999.00	mg/l

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Crystalline silica, quartz 14808-60-7	> 15000 mg/kg (human)	-	-

Rat = Rat
Rabbit = Rabbit
Dust = Dusts
Vapor = Vapor
Aerosol = Aerosol
Human = Human
Mouse = Mouse
Guinea pig = Guinea pig

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation

Chemical name	Skin corrosion/irritation
Crystalline silica, quartz 14808-60-7	Non-irritating to the skin

Serious eye damage/eye irritation

Chemical name	Serious eye damage/eye irritation
Crystalline silica, quartz 14808-60-7	Non-irritating to the eye

Respiratory or skin sensitization

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Chemical name	Respiratory sensitization
Crystalline silica, quartz 14808-60-7	Not classified

Chemical name	Skin sensitization
Crystalline silica, quartz 14808-60-7	Not classified

Germ cell mutagenicity

Chemical name	Germ cell mutagenicity
Crystalline silica, quartz 14808-60-7	Not regarded as mutagenic.

Carcinogenicity

Contains a known or suspected carcinogen. Classification based on data available for ingredients. Suspected of causing cancer.

Chemical name	Carcinogenicity
Crystalline silica, quartz 14808-60-7	Contains crystalline silica which may cause silicosis, a delayed and progressive lung disease. The IARC and NTP have determined there is sufficient evidence in humans of the carcinogenicity of crystalline silica with repeated respiratory exposure.

Reproductive toxicity

Chemical name	Reproductive toxicity
Crystalline silica, quartz 14808-60-7	This product does not contain any known or suspected reproductive hazards

STOT - single exposure

Chemical name	STOT - single exposure
Crystalline silica, quartz 14808-60-7	No significant toxicity observed in animal studies at concentration requiring classification.

STOT - repeated exposure

May cause damage to organs through prolonged or repeated exposure.

Chemical name	STOT - repeated exposure
Crystalline silica, quartz 14808-60-7	Causes damage to organs through prolonged or repeated exposure if inhaled: (Lungs)

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Aspiration hazard

Chemical name	Aspiration hazard
Crystalline silica, quartz 14808-60-7	Based on available data, the classification criteria are not met

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

This product does not contain any known or suspected endocrine disruptors.

11.2.2. Other information

Other adverse effects Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity

Unknown aquatic toxicity Contains 0 % of components with unknown hazards to the aquatic environment.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Crystalline silica, quartz 14808-60-7	EC50(72 h)=440 mg/L (Pseudokirchneriella subcapitata)	LL0(96 h)=10000 mg/L (Danio rerio)	-	LL50(24 h)>10000 mg/L (Daphnia magna)

12.2. Persistence and degradability

Persistence and degradability

Chemical name	Persistence and degradability
Crystalline silica, quartz 14808-60-7	The methods for determining biodegradability are not applicable to inorganic substances.

12.3. Bioaccumulative potential

Bioaccumulation Not likely to bioaccumulate

12.4. Mobility in soil

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Mobility Based on available data, the classification criteria are not met.

Chemical name	Mobility
Crystalline silica, quartz 14808-60-7	No information available

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment The product does not contain any substance(s) classified as PBT or vPvB above the threshold of declaration.

Chemical name	PBT and vPvB assessment
Crystalline silica, quartz 14808-60-7	Not PBT/vPvB

12.6. Endocrine disrupting properties

This product does not contain any known or suspected endocrine disruptors.

12.7. Other adverse effects

Other adverse effects No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

SECTION 14: Transport information

Regulatory information	14.1. UN number	14.2. UN proper shipping name	14.3. Transport hazard class(es)	14.4. Packing group	14.5. Environmental hazards	Note:
ADR	Not regulated	-	-	-	Not applicable	-
RID	Not regulated	-	-	-	Not applicable	-

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IATA	Not regulated	-	-	-	Not applicable	-
IMDG	Not regulated	-	-	-	Not applicable	-
ADN	Not regulated	-	-	-	Not applicable	-

Regulatory information	14.6. Special precautions for user					
	Special Provisions	Classification code	Tunnel restriction code	EmS-No.	ERG Code	Note:
ADR	None	None	None	-	-	-
RID	None	None	-	-	-	-
IATA	None	-	-	-	None	-
IMDG	None	-	-	None	-	-
ADN	None	None	-	-	-	-

14.7 Maritime transport in bulk according to IMO instruments No information available

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

International Inventories

EINECS/ELINCS Product contains one or more components not listed on the inventory

Legend:

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Take note of Directive 94/33/EC on the protection of young people at work

Take note of Directive 92/85/EC on the protection of pregnant and breastfeeding women at work

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Germany

Water hazard class (WGK) slightly hazardous to water (WGK 1)

Chemical name	Seveso III	TA LUFT
Crystalline silica, quartz 14808-60-7		5.2.7.1.1

France

Occupational Illnesses (R-463-3, France)

Chemical name	French RG number
Crystalline silica, quartz 14808-60-7	RG 25

Netherlands

Water contaminating class (Netherlands)

Chemical name	Netherlands - List of Carcinogens	Netherlands - List of Mutagens	Netherlands - List of Reproductive Toxins
Crystalline silica, quartz 14808-60-7	Present	-	-

Authorizations and/or restrictions on use:

This product does not contain substances subject to authorization (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Dangerous substance category per Seveso Directive (2012/18/EU)

Non-controlled

EU - Plant Protection Products (1107/2009/EC)

Chemical name	EU - Plant Protection Products (1107/2009/EC)
Crystalline silica, quartz 14808-60-7	Plant protection agent

Biodical Products Regulation (BPR) 528/2012

Not applicable

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15.2. Chemical safety assessment

Chemical Safety Report No information available

SECTION 16: Other information

Full text of any hazard and/or precautionary statements referred to under Sections 2-15

H351 - Suspected of causing cancer
H372 - Causes damage to organs through prolonged or repeated exposure

Key or legend to abbreviations and acronyms used in the safety data sheet

ADR - The European Agreement concerning the International Carriage of Dangerous Goods by Road
bw – body weight
CAS – Chemical Abstracts Service
CLP – REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on Classification, Labelling and Packaging of substances and mixtures
Derived No Effect Level (DNEL)
EC – European Commission
EC10 – Effective Concentration 10%
EC50 – Effective Concentration 50%
EEC – European Economic Community
EN 149 - European standard on filtering halfmasks to protect against particles
EN 374 - European standard on Protective gloves against chemicals and micro-organisms
ErC50 – Effective Concentration growth rate 50%
IATA/ICAO - International Air Transport Association / International Civil Aviation Organization
IBC Code – International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
LC50 – Lethal Concentration 50%
LD50 – Lethal Dose 50%
LL0 – Lethal Loading 0%
LL50 – Lethal Loading 50%
MARPOL – International Convention for the Prevention of Pollution from Ships
PBT – Persistent Bioaccumulative and Toxic
PEL – Permissible Exposure Limit
Predicted No Effect Concentration (PNEC)
PROC – Process category
REACH – REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals
STEL – Short Term Exposure Limit
SU – Sector of Use category
SVHC: Substances of Very High Concern for Authorization:

Legend Section 8: Exposure controls/personal protection

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	Sk*	Skin designation
+	Sensitizers		

SAFETY DATA SHEET

TUNED SPACER E+

This is a translation of the country-specific safety data sheet into a language other than that required by law.
This document does not replace the safety data sheet provided according to Regulation (EC) No 1907/2006.

Revision date: 18-Jun-2024
Supersedes date: 09-Feb-2024

Revision Number 56
Product Code(s) HM003335

Classification procedure	
Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - vapor	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	Calculation method
Respiratory sensitization	Calculation method
Skin sensitization	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	Calculation method
Reproductive toxicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration hazard	Calculation method
Ozone	Calculation method

Key literature references and sources for data used to compile the SDS

Acute Exposure Guideline Level(s) (AEGl(s))
European Chemicals Agency (ECHA) (ECHA_API)
European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
NIOSH (National Institute for Occupational Safety and Health)

Supersedes date 09-Feb-2024
Revision date 18-Jun-2024
Reason for revision SDS sections updated:
8

This is a translation of the country-specific safety data sheet into a language other than that required by law.
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Disclaimer

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

End of Safety Data Sheet



SAFETY DATA SHEET

SPECIALTY ELECTRONIC MATERIALS SWITZERLAND GMBH

Safety Data Sheet according to Reg. (EU) No 2015/830

Product name: AQUCAR™ GA 24 Water Treatment
Microbiocide

Revision Date: 25.02.2019

Version: 1.0

Date of last issue: -

Print Date: 20.04.2021

SPECIALTY ELECTRONIC MATERIALS SWITZERLAND GMBH encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Product name: AQUCAR™ GA 24 Water Treatment Microbiocide

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses: For biocidal applications. For industrial use only. Product-type 6: preservatives for products during storage. Product-type 11: Preservatives for liquid-cooling and processing systems. Product-type 12: Slimicides.

1.3 Details of the supplier of the safety data sheet

COMPANY IDENTIFICATION

SPECIALTY ELECTRONIC MATERIALS
SWITZERLAND GMBH
GROSSMATTE 4
6014 LUZERN
SWITZERLAND

Customer Information Number:

800-3876-6838

SDSQuestion-EU@dupont.com

1.4 EMERGENCY TELEPHONE NUMBER

24-Hour Emergency Contact: +(41)- 435082011

Local Emergency Contact: +(34)-931768545

National Institute of Toxicology: + 34 91 562 04 20

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008:

Acute toxicity - Category 4 - Oral - H302

Acute toxicity - Category 3 - Inhalation - H331

Skin corrosion - Category 1B - H314

Serious eye damage - Category 1 - H318

Respiratory sensitisation - Category 1 - H334

Skin sensitisation - Category 1 - H317

Long-term (chronic) aquatic hazard - Category 3 - H412

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008:

Hazard pictograms



Signal word: **DANGER**

Hazard statements

H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H331	Toxic if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements

P261	Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P284	In case of inadequate ventilation wear respiratory protection.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P310	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
P305 + P351 + P338 + P310	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
P342 + P311	If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P501	Dispose of contents/container to an approved facility in accordance with local, regional, national and international regulations.

Supplemental information

EUH071	Corrosive to the respiratory tract.
-----	Restricted to professional users.

Contains Glutaral; glutaraldehyde; 1,5-pentanedial

2.3 Other hazards

No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

This product is a mixture.

CASRN / EC-No. / Index-No.	REACH Registration Number	Concentration	Component	Classification: REGULATION (EC) No 1272/2008
CASRN 111-30-8 EC-No. 203-856-5 Index-No. 605-022-00-X	—	24,0%	Glutaral; glutaraldehyde; 1,5- pentanedial	Acute Tox. - 3 - H301 Acute Tox. - 2 - H330 Skin Corr. - 1B - H314 Resp. Sens. - 1 - H334 Skin Sens. - 1A - H317 STOT SE - 3 - H335 Aquatic Acute - 1 - H400 Aquatic Chronic - 2 - H411

For the full text of the H-Statements mentioned in this Section, see Section 16.

Note

Glutaral; glutaraldehyde; 1,5-pentanedial:

Formulations containing $0.5\% \leq C < 5\%$ Glutaraldehyde shall be classified STOT SE 3, H335. For formulations containing $C \geq 5\%$ Glutaraldehyde, EUH071 shall be applied.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures**General advice:**

First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: Move person to fresh air. If person is not breathing, call an emergency responder or ambulance, then give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask etc). Call a poison control center or doctor for treatment advice. If breathing is difficult, oxygen should be administered by qualified personnel.

Skin contact: Take off contaminated clothing. Wash skin with soap and plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice. Wash clothing before reuse. Shoes and other leather items which cannot be decontaminated should be disposed of properly. Suitable emergency safety shower facility should be immediately available.

Eye contact: Wash immediately and continuously with flowing water for at least 30 minutes. Remove contact lenses after the first 5 minutes and continue washing. Obtain prompt medical consultation, preferably from an ophthalmologist. Suitable emergency eye wash facility should be immediately available.

Ingestion: If the person is fully alert and cooperative, have the person rinse mouth with plenty of water. In cases of ingestion have the person drink 4 to 10 ounces (120-300 mL) of water. Do not induce vomiting. Do not attempt mouth rinse if the person has respiratory distress, altered mental status, or nausea and vomiting. Call a physician and/or transport to emergency facility immediately.

4.2 Most important symptoms and effects, both acute and delayed:

Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician: Maintain adequate ventilation and oxygenation of the patient. May cause respiratory sensitization or asthma-like symptoms. Bronchodilators, expectorants and antitussives may be of help. Glutaraldehyde may transiently worsen reversible airways obstruction including asthma or reactive airways disease. Treat bronchospasm with inhaled beta2 agonist and oral or parenteral corticosteroids. Respiratory symptoms, including pulmonary edema, may be delayed. Persons receiving significant exposure should be observed 24-48 hours for signs of respiratory distress. Chemical eye burns may require extended irrigation. Obtain prompt consultation, preferably from an ophthalmologist. If burn is present, treat as any thermal burn, after decontamination. Due to irritant properties, swallowing may result in burns/ulceration of mouth, stomach and lower gastrointestinal tract with subsequent stricture. Aspiration of vomitus may cause lung injury. Suggest endotracheal/esophageal control if lavage is done. Probable mucosal damage may contraindicate the use of gastric lavage. Exposure to vapors may result in skin sensitization. In sensitized individuals, re-exposure to very small amounts of vapor, mist, or liquid may cause a severe allergic skin reaction. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Have the Safety Data Sheet, and if available, the product container or label with you when calling a poison control center or doctor, or going for treatment. Excessive exposure may aggravate preexisting asthma and other respiratory disorders (e.g. emphysema, bronchitis, reactive airways dysfunction syndrome).

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media: To extinguish combustible residues of this product use water fog, carbon dioxide, dry chemical or foam.

Unsuitable extinguishing media: None known.

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products: Under fire conditions some components of this product may decompose. The smoke may contain unidentified toxic and/or irritating compounds. Combustion products may include and are not limited to: Carbon monoxide. Carbon dioxide.

Unusual Fire and Explosion Hazards: This material will not burn until the water has evaporated. Residue can burn.

5.3 Advice for firefighters

Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. To extinguish combustible residues of this product use water fog, carbon dioxide, dry chemical or foam. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Review the "Accidental Release Measures" and the "Ecological Information" sections of this (M)SDS.

Special protective equipment for firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures: Evacuate area. Keep upwind of spill. Ventilate area of leak or spill. Only trained and properly protected personnel must be involved in clean-up operations. Refer to section 7, Handling, for additional precautionary measures. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

6.2 Environmental precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information. Spills or discharge to natural waterways is likely to kill aquatic organisms.

6.3 Methods and materials for containment and cleaning up: Avoid making contact with spilled material, glutaraldehyde will be absorbed by most shoes. Always wear the correct protective equipment, consisting of splashproof monogoggles, or both safety glasses with side shields and a wraparound full-face shield, appropriate gloves and protective clothing. A self-contained breathing apparatus or respirator and absorbents may be necessary, depending on the size of the spill and the adequacy of ventilation. Small spills: Wear the correct protective equipment and cover the liquid with absorbent material. Collect and seal the material and the dirt that has absorbed the spilled material in polyethylene bags and place in a drum for transit to an approved disposal site. Rinse away the remaining spilled material with water to reduce odor, and discharge the rinsate into a municipal or industrial sewer. Large spills: In case of nasal and respiratory irritation, vacate the room immediately. Personnel cleaning up should be trained and equipped with a self-contained breathing apparatus, or an officially approved or certified full-face respirator equipped with an organic vapor cartridge, gloves, and clothing impervious to glutaraldehyde, including rubber boots or shoe protection. Deactivate with sodium bisulfite (2-3 parts (by weight) per part of active substance glutaraldehyde), collect the neutralized liquid and place in a drum for transit to an approved disposal site.

6.4 Reference to other sections: References to other sections, if applicable, have been provided in the previous sub-sections.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling: Do not spray or aerosolize the undiluted form of the product. Full personal protective equipment (including skin covering and full-face SCBA respirator) is required for dilutions or mixtures of the product used in a spray application.

Keep out of reach of children. Do not get in eyes, on skin, on clothing. Do not swallow. Avoid prolonged or repeated contact with skin. Avoid breathing vapor. Keep container closed. Use with adequate ventilation. Wear goggles, protective clothing and butyl or nitrile gloves. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

7.2 Conditions for safe storage, including any incompatibilities: Do not store in: Aluminum. Carbon steel. Copper. Mild steel. Iron.

7.3 Specific end use(s): See the technical data sheet on this product for further information.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

If exposure limits exist, they are listed below. If no exposure limits are displayed, then no values are applicable.

Component	Regulation	Type of listing	Value/Notation
Glutaral; glutaraldehyde; 1,5-pentanedial	ACGIH	C	0,05 ppm
	ACGIH	C	DSEN, RSEN
	ES VLA	VLA-EC	SEN
	ES VLA	VLA-EC	0,2 mg/m3 0,05 ppm

Derived No Effect Level

Glutaral; glutaraldehyde; 1,5-pentanedial

Workers

Acute systemic effects		Acute local effects		Long-term systemic effects		Long-term local effects	
Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation
n.a.	n.a.	n.a.	0,5 mg/m3	n.a.	n.a.	n.a.	0,25 mg/m3

Consumers

Acute systemic effects			Acute local effects		Long-term systemic effects			Long-term local effects	
Dermal	Inhalation	Oral	Dermal	Inhalation	Dermal	Inhalation	Oral	Dermal	Inhalation
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Predicted No Effect Concentration

Glutaral; glutaraldehyde; 1,5-pentanedial

Compartment	PNEC
Fresh water	0,0025 mg/l
Marine water	0,00025 mg/l
Intermittent use/release	0,006 mg/l
Sewage treatment plant	0,8 mg/l

Soil	0,209 mg/kg dry weight (d.w.)
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8.2 Exposure controls

Engineering controls: Use engineering controls to maintain airborne level below exposure limit requirements or guidelines. Local exhaust ventilation may be necessary for some operations.

Individual protection measures

Eye/face protection: Use chemical goggles. Chemical goggles should be consistent with EN 166 or equivalent. If exposure causes eye discomfort, use a full-face respirator (meeting standard EN 136) with organic vapor cartridge (meeting standard EN 14387).

Skin protection

Hand protection: Use chemical resistant gloves classified under Standard EN374: Protective gloves against chemicals and micro-organisms. Examples of preferred glove barrier materials include: Butyl rubber. Examples of acceptable glove barrier materials include: Nitrile/butadiene rubber ("nitrile" or "NBR"). When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374) is recommended. Glove thickness alone is not a good indicator of the level of protection a glove provides against a chemical substance as this level of protection is also highly dependent on the specific composition of the material that the glove is fabricated from. The thickness of the glove must, depending on model and type of material, generally be more than 0.35 mm to offer sufficient protection for prolonged and frequent contact with the substance. As an exception to this general rule it is known that multilayer laminate gloves may offer prolonged protection at thicknesses less than 0.35 mm. Other glove materials with a thickness of less than 0.35 mm may offer sufficient protection when only brief contact is expected. NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Other protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task. Use chemical protective clothing resistant to this material, when there is any possibility of skin contact.

Respiratory protection: Atmospheric levels should be maintained below the exposure guideline. When respiratory protection is required, use an approved air-purifying or positive-pressure supplied-air respirator depending on the potential airborne concentration. For operations such as spraying/misting and other conditions such as emergencies where the exposure guideline may be greatly exceeded, use an approved positive-pressure self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply.

Use the following CE approved air-purifying respirator: Full-face respirator (meeting standard EN 136). Organic vapor cartridge with a highly toxic particulate pre-filter, type AP3 (meeting standard EN 14387).

Environmental exposure controls

See SECTION 7: Handling and storage and SECTION 13: Disposal considerations for measures to prevent excessive environmental exposure during use and waste disposal.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance

Physical state	Liquid.
Color	Translucent
Odor	Fruity
Odor Threshold	No test data available
pH	3,1 - 4,5 <i>ASTM E70</i>
Melting point/range	Not applicable to liquids
Freezing point	-6 °C <i>Literature</i>
Boiling point (760 mmHg)	100,7 °C <i>OECD Test Guideline 103</i>
Flash point	closed cup Not applicable
Evaporation Rate (Butyl Acetate = 1)	No test data available
Flammability (solid, gas)	Not applicable to liquids
Lower explosion limit	No test data available
Upper explosion limit	No test data available
Vapor Pressure	0,27 hPa at 20 °C <i>OECD Test Guideline 104</i>
Relative Vapor Density (air = 1)	0,80 <i>Literature</i>
Relative Density (water = 1)	1,060 at 20 °C <i>OECD 109</i>
Water solubility	1 000 g/L at 20 °C <i>EC Method A6</i>
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	No test data available
Decomposition temperature	No test data available
Dynamic Viscosity	2,5 cP at 25 °C <i>Literature</i> (Brookfield Viscosity)
Kinematic Viscosity	3,125 cSt at 25 °C <i>Calculated.</i>
Explosive properties	Not explosive
Oxidizing properties	No

9.2 Other information

Molecular weight	Not applicable
------------------	----------------

NOTE: The physical data presented above are typical values and should not be construed as a specification.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity: No dangerous reaction known under conditions of normal use.

10.2 Chemical stability: Thermally stable at typical use temperatures.

10.3 Possibility of hazardous reactions: Polymerization will not occur.

10.4 Conditions to avoid: Active ingredient decomposes at elevated temperatures.

10.5 Incompatible materials: Avoid contact with: Amines. Ammonia. Strong acids. Strong bases. Strong oxidizers. Avoid contact with metals such as: Aluminum. Carbon steel. Copper. Iron. Mild steel.

10.6 Hazardous decomposition products: Decomposition products depend upon temperature, air supply and the presence of other materials.

SECTION 11: TOXICOLOGICAL INFORMATION

Toxicological information appears in this section when such data is available.

11.1 Information on toxicological effects

Acute toxicity

Acute oral toxicity

Low toxicity if swallowed. Swallowing may result in irritation or burns of the mouth, throat, and gastrointestinal tract. Swallowing may result in gastrointestinal irritation or ulceration. Excessive exposure may cause: Headache. Dizziness. Anesthetic effects. Drowsiness. Unconsciousness. Other central nervous system effects.

For the 50% aqueous solution:

LD50, Rat, male and female, 200 mg/kg

Acute dermal toxicity

Prolonged skin contact is unlikely to result in absorption of harmful amounts.

For the 50% aqueous solution:

LD50, Rabbit, male and female, > 2 000 mg/kg

Acute inhalation toxicity

Vapor from heated material or mist may cause serious adverse effects, even death. Vapor may cause severe irritation of the upper respiratory tract (nose and throat). Case reports and medical surveys link asthma and respiratory irritation to glutaraldehyde exposure, primarily in medical personnel. Asthma-like symptoms may include coughing, difficult breathing and a feeling of tightness in the chest. Occasionally, breathing difficulties may be life threatening. Asthma-like symptoms may occur in people prone to respiratory disorders or other allergies.

For the 50% aqueous solution:

LC50, Rat, female, 4 Hour, dust/mist, 0,28 mg/l

LC50, Rat, male, 4 Hour, dust/mist, 0,35 mg/l

Skin corrosion/irritation

Brief contact may cause skin burns. Symptoms may include pain, severe local redness and tissue damage.

Serious eye damage/eye irritation

May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur.

Vapor may cause eye irritation experienced as mild discomfort and redness.

Sensitization

Skin contact may cause an allergic skin reaction in a small proportion of individuals.

Contains component(s) which have caused allergic skin sensitization in guinea pigs.

Contains component(s) which have demonstrated the potential for contact allergy in mice.

May cause allergic respiratory response in a small proportion of individuals.

Specific Target Organ Systemic Toxicity (Single Exposure)

Material is corrosive. Upper respiratory tract irritation or corrosivity may be expected.

Specific Target Organ Systemic Toxicity (Repeated Exposure)

Repeated skin contact may result in absorption of amounts which could cause death.

May cause nausea and vomiting.

Carcinogenicity

In a NTP chronic 2-year inhalation study on glutaraldehyde, no carcinogenicity was seen in rats or in mice. An increase in large granular lymphocytes in Fischer rats dosed with glutaraldehyde for two years was random or a secondary carcinogenic effect due to a modifying influence on the occurrence of this common neoplasm in this rat strain.

Teratogenicity

For glutaraldehyde: Has been toxic to the fetus in laboratory animals at doses toxic to the mother.

Did not cause birth defects in laboratory animals.

Reproductive toxicity

For glutaraldehyde: In animal studies, did not interfere with reproduction.

Mutagenicity

For glutaraldehyde: In vitro genetic toxicity studies were negative in some cases and positive in other cases. Animal genetic toxicity studies were predominantly negative.

Aspiration Hazard

Aspiration into the lungs may occur during ingestion or vomiting, causing tissue damage or lung injury.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicological information appears in this section when such data is available.

12.1 Toxicity**Glutaral; glutaraldehyde; 1,5-pentanedial****Acute toxicity to fish**

Material is very toxic to aquatic organisms (LC50/EC50/IC50 below 1 mg/L in the most sensitive species).

LC50, Cyprinodon variegatus (sheepshead minnow), 96 Hour, 32 mg/l

Acute toxicity to aquatic invertebrates

LC50, copepod Acartia tonsa, semi-static test, 48 Hour, 3 mg/l

Acute toxicity to algae/aquatic plants

ErC50, Desmodesmus subspicatus (green algae), 72 Hour, 0,6 mg/l

NOEC, Desmodesmus subspicatus (green algae), 72 Hour, Growth rate inhibition, 0,025 mg/l

ErC50, Skeletonema costatum (marine diatom), Static, 72 Hour, 0,61 mg/l

NOEC, Skeletonema costatum (marine diatom), Static, 72 Hour, 0,071 mg/l

Chronic toxicity to fish

NOEC, Rainbow trout (Oncorhynchus mykiss), semi-static test, 62 d, 1 mg/l

Chronic toxicity to aquatic invertebrates

NOEC, water flea Daphnia magna, flow-through test, 21 d, number of offspring, 0,12 mg/l

12.2 Persistence and degradability**Glutaral; glutaraldehyde; 1,5-pentanedial**

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

10-day Window: Pass

Biodegradation: 73 %

Exposure time: 9 d

Method: OECD Test Guideline 301A or Equivalent

10-day Window: Not applicable

Biodegradation: 73 %

Exposure time: 28 d

Method: OECD Test Guideline 306 or Equivalent

12.3 Bioaccumulative potential**Glutaral; glutaraldehyde; 1,5-pentanedial**

Bioaccumulation: Bioconcentration potential is low ($BCF < 100$ or $\log Pow < 3$).

Partition coefficient: n-octanol/water(log Pow): -0,333 Measured

12.4 Mobility in soil**Glutaral; glutaraldehyde; 1,5-pentanedial**

Potential for mobility in soil is high (Koc between 50 and 150).

Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.

Partition coefficient (Koc): 120 - 500 Estimated.

12.5 Results of PBT and vPvB assessment**Glutaral; glutaraldehyde; 1,5-pentanedial**

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

12.6 Other adverse effects**Glutaral; glutaraldehyde; 1,5-pentanedial**

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

This product, when being disposed of in its unused and uncontaminated state should be treated as a hazardous waste according to EC Directive 2008/98/EC. Any disposal practices must be in compliance with all national and provincial laws and any municipal or local by-laws governing hazardous waste. For used, contaminated and residual materials additional evaluations may be required. Do not dump into any sewers, on the ground, or into any body of water. Avoid release to the environment. See Material Safety Data Sheet for instructions.

The definitive assignment of this material to the appropriate EWC group and thus its proper EWC code will depend on the use that is made of this material. Contact the authorized waste disposal services.

SECTION 14: TRANSPORT INFORMATION

Classification for ROAD and Rail transport (ADR/RID):

- | | |
|-----------------------------------|---|
| 14.1 UN number | UN 3265 |
| 14.2 UN proper shipping name | CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(Glutaraldehyde) |
| 14.3 Transport hazard class(es) | 8 |
| 14.4 Packing group | III |
| 14.5 Environmental hazards | Not considered environmentally hazardous based on available data. |
| 14.6 Special precautions for user | Hazard Identification Number: 80 |

Classification for SEA transport (IMO-IMDG):

- | | |
|---|---|
| 14.1 UN number | UN 3265 |
| 14.2 UN proper shipping name | CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(Glutaraldehyde) |
| 14.3 Transport hazard class(es) | 8 |
| 14.4 Packing group | III |
| 14.5 Environmental hazards | Not considered as marine pollutant based on available data. |
| 14.6 Special precautions for user | EmS: F-A, S-B |
| 14.7 Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code | Consult IMO regulations before transporting ocean bulk |

Classification for AIR transport (IATA/ICAO):

- | | |
|---------------------------------|---|
| 14.1 UN number | UN 3265 |
| 14.2 UN proper shipping name | Corrosive liquid, acidic, organic, n.o.s.(Glutaraldehyde) |
| 14.3 Transport hazard class(es) | 8 |
| 14.4 Packing group | III |

14.5 Environmental hazards Not applicable

14.6 Special precautions for user No data available.

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

REACH Regulation (EC) No 1907/2006

The product is regarded as registered according to Article 15 of REACH (Regulation (EC) No. 1907/2006 as amended)., The aforementioned indications of the REACH registration status are provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. It is the buyer's/user's responsibility to ensure that his/her understanding of the regulatory status of this product is correct.

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

Listed in Regulation: ACUTE TOXIC

Number in Regulation: H2

50 t

200 t

Further information

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

15.2 Chemical safety assessment

Not applicable

SECTION 16: OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3.

H301	Toxic if swallowed.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.

H318	Causes serious eye damage.
H330	Fatal if inhaled.
H331	Toxic if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H400	Very toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) No 1272/2008

Acute Tox. - 4 - H302 - Calculation method
 Acute Tox. - 3 - H331 - Calculation method
 Skin Corr. - 1B - H314 - On basis of test data.
 Eye Dam. - 1 - H318 - On basis of test data.
 Resp. Sens. - 1 - H334 - Calculation method
 Skin Sens. - 1 - H317 - Calculation method
 Aquatic Chronic - 3 - H412 - Calculation method

Revision

Identification Number: 11007521 / A715 / Issue Date: 25.02.2019 / Version: 1.0

Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

ACGIH	USA. ACGIH Threshold Limit Values (TLV)
C	Ceiling limit
DSEN, RSEN	Skin and respiratory sensitizer
ES VLA	Spain. Environmental Limits for exposure to Chemical agents - Table 1: Occupational Exposure Values
SEN	Sensitizer
VLA-EC	Environmental Short Term Value
Acute Tox.	Acute toxicity
Aquatic Acute	Short-term (acute) aquatic hazard
Aquatic Chronic	Long-term (chronic) aquatic hazard
Resp. Sens.	Respiratory sensitisation
Skin Corr.	Skin corrosion
Skin Sens.	Skin sensitisation
STOT SE	Specific target organ toxicity - single exposure

Full text of other abbreviations

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good

Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Information Source and References

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

SPECIALTY ELECTRONIC MATERIALS SWITZERLAND GMBH urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.

ES

Safety data sheet

Page: 1/16

BASF Safety data sheet according to UN GHS 4th rev.

Date / Revised: 08.06.2018

Version: 2.1

Product: **Basolon® GL 40**

(ID no. 30469984/SDS_GEN_00/EN)

Date of print 20.11.2018

1. Identification

Product identifier

Basolon® GL 40

Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses: Performance Chemicals for Oilfield Applications

Details of the supplier of the safety data sheet

Company:

BASF SE

67056 Ludwigshafen

GERMANY

Global Oilfield Solutions

Telephone: +49 621 60-52555

E-mail address: product-safety-oilfield-applications@basf.com

Emergency telephone number

International emergency number:

Telephone: +49 180 2273-112

2. Hazards Identification

Classification of the substance or mixture

According to UN GHS criteria

Acute Tox. 5 (oral)

Acute Tox. 4 (Inhalation - mist)

Skin Corr./Irrit. 2

Eye Dam./Irrit. 2B

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Skin Sens. 1
Muta. 2
STOT SE 3 (irritating to respiratory system)
Aquatic Acute 3

For the classifications not written out in full in this section the full text can be found in section 16.

Label elements

Globally Harmonized System (GHS)

Pictogram:



Signal Word:

Warning

Hazard Statement:

H320	Causes eye irritation.
H315	Causes skin irritation.
H332	Harmful if inhaled.
H303	May be harmful if swallowed.
H317	May cause an allergic skin reaction.
H335	May cause respiratory irritation.
H341	Suspected of causing genetic defects.
H402	Harmful to aquatic life.

Precautionary Statements (Prevention):

P280	Wear protective gloves/protective clothing/eye protection/face protection.
P271	Use only outdoors or in a well-ventilated area.
P260	Do not breathe mist or vapour.
P201	Obtain special instructions before use.
P273	Avoid release to the environment.
P202	Do not handle until all safety precautions have been read and understood.
P272	Contaminated work clothing should not be allowed out of the workplace.
P264	Wash with plenty of water and soap thoroughly after handling.

Precautionary Statements (Response):

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P308 + P311	IF exposed or concerned: Call a POISON CENTER or doctor/physician.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P303 + P352	IF ON SKIN (or hair): Wash with plenty of soap and water.
P332 + P313	If skin irritation occurs: Get medical advice/attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P337 + P311	If eye irritation persists: Call a POISON CENTER or doctor/physician.

Precautionary Statements (Storage):

P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

Precautionary Statements (Disposal):

P501	Dispose of contents/container to hazardous or special waste collection point.
------	---

According to UN GHS criteria

Hazard determining component(s) for labelling: glyoxal...%; ethandial...%

Other hazardsAccording to UN GHS criteria

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.

3. Composition/Information on Ingredients**Substances**

Not applicable

MixturesChemical nature

mixture, glyoxal...%; ethandial...% (Content (W/W): 40 %), Water (Content (W/W): 60 %)

Hazardous ingredients (GHS)

According to UN GHS criteria

glyoxal...%; ethandial...%

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Content (W/W): $\geq 39,5\%$ - $\leq 40,5\%$

CAS Number: 107-22-2

EC-Number: 203-474-9

Acute Tox. 5 (oral)

Acute Tox. 4 (Inhalation - mist)

Skin Corr./Irrit. 2

Eye Dam./Irrit. 2B

Skin Sens. 1

Muta. 2

STOT SE 3 (irr. to respiratory syst.)

Aquatic Acute 3

H320, H315, H332, H303, H317, H335, H341, H402

ethanediol; ethylene glycol

Content (W/W): $\geq 0\%$ - $\leq 2,5\%$

CAS Number: 107-21-1

EC-Number: 203-473-3

INDEX-Number: 603-027-00-1

Acute Tox. 4 (oral)

STOT RE (Kidney) 2

H302, H373

For the classifications not written out in full in this section the full text can be found in section 16.

4. First-Aid Measures

Description of first aid measures

Remove contaminated clothing.

If inhaled:

Keep patient calm, remove to fresh air, seek medical attention.

On skin contact:

Wash thoroughly with soap and water.

On contact with eyes:

Wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

On ingestion:

Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms: The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11.

Indication of any immediate medical attention and special treatment needed

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:

water spray, foam, dry powder, carbon dioxide

Special hazards arising from the substance or mixture

nitrogen oxides, carbon oxides

The substances/groups of substances mentioned can be released in case of fire.

Advice for fire-fighters

Special protective equipment:

Wear self-contained breathing apparatus and chemical-protective clothing.

Further information:

Collect contaminated extinguishing water separately, do not allow to reach sewage or effluent systems.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Avoid contact with the skin, eyes and clothing.

Environmental precautions

Do not discharge into drains/surface waters/groundwater.

Methods and material for containment and cleaning up

For large amounts: Pump off product.

For residues: Pick up with suitable absorbent material (e.g. sand, sawdust, general-purpose binder, kieselguhr). Dispose of absorbed material in accordance with regulations.

7. Handling and Storage

Precautions for safe handling

Ensure thorough ventilation of stores and work areas.

Conditions for safe storage, including any incompatibilities

Suitable materials for containers: Stainless steel 1.4401, Stainless steel 1.4301 (V2), High density polyethylene (HDPE), glass, Low density polyethylene (LDPE)

Unsuitable materials for containers: Paper/Fibreboard

Further information on storage conditions: Protect from air.

Storage stability:

Storage temperature: < 50 °C

Storage duration: 6 Months

May yellow after lengthy storage.

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During the storage a product characteristic clouding or crystallin precipitation of the trimeric glyoxal hydrate may occur.

The process is reversible if warmed up mild (max. 40 °C).

From the data on storage duration in this safety data sheet no agreed statement regarding the warrantee of application properties can be deduced.

Protect from temperatures above: 50 °C

The packed product must be protected against exceeding the indicated temperature.

8. Exposure Controls/Personal Protection

Control parameters

Components with occupational exposure limits

107-21-1: ethanediol; ethylene glycol

107-22-2: glyoxal...%; ethandial...%

Exposure controls

Personal protective equipment

Respiratory protection:

Wear respiratory protection if ventilation is inadequate. Gas filter for gases/vapours of organic compounds (boiling point <65 °C, f.e. EN 14387 Type AX)

Hand protection:

Suitable chemical resistant safety gloves (EN 374) also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374): E.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), butyl rubber (0.7 mm) etc.

Manufacturer's directions for use should be observed because of great diversity of types.

Supplementary note: The specifications are based on tests, literature data and information of glove manufacturers or are derived from similar substances by analogy. Due to many conditions (e.g. temperature) it must be considered, that the practical usage of a chemical-protective glove in practice may be much shorter than the permeation time determined through testing.

Eye protection:

Safety glasses with side-shields (frame goggles) (e.g. EN 166)

Body protection:

Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

General safety and hygiene measures

Avoid contact with the skin, eyes and clothing. When using, do not eat, drink or smoke. Avoid contact with skin and eyes. Remove soiled or soaked clothing immediately. Wash off any contamination that gets onto the skin with plenty of water and soap, skin care.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Form:	liquid	
Colour:	colourless to yellow	
Odour:	product specific	
Odour threshold:	Not determined due to potential health hazard by inhalation.	
pH value:	2 - 3,5 (400 g/l, 20 °C)	
melting range:	-50 - -15 °C	(OECD Guideline 102)
Boiling point:	103,6 °C (1.013 hPa)	(Directive 92/69/EEC, A.2)
Flash point:	Non-flammable.	
Evaporation rate:	Value can be approximated from Henry's Law Constant or vapor pressure.	
Flammability:	not flammable	
Lower explosion limit:	For liquids not relevant for classification and labelling., The lower explosion point may be 5 - 15 °C below the flash point.	
Upper explosion limit:	For liquids not relevant for classification and labelling.	
Ignition temperature:	approx. 285 °C	(DIN 51794)
Vapour pressure:	20,2 hPa (20 °C)	(Directive 92/69/EEC, A.4)
	Information applies to the solvent. 106,7 hPa (50 °C)	(Directive 92/69/EEC, A.4)
Density:	Information applies to the solvent. approx. 1,27 g/cm3 (20 °C) 1,2514 g/cm3 (50 °C)	(Directive 92/69/EEC, A.3)
Relative density:	1,27 (20 °C)	(Directive 92/69/EEC, A.3)
Solubility in water:	miscible (approx. 20 °C)	(Directive 92/69/EEC, A.6)
Partitioning coefficient n-octanol/water (log Kow):	-1,15 (approx. 23 °C; pH value: 7)	(OECD Guideline 107)

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Self ignition:	Based on its structural properties the product is not classified as self-igniting.	Test type: Spontaneous self-ignition at room-temperature.
Thermal decomposition:	No decomposition if correctly stored and handled.	
Viscosity, dynamic:	8,37 mPa.s (20 °C)	(OECD 114)
	4,25 mPa.s (40 °C)	(OECD 114)
Viscosity, kinematic:	6,6 mm ² /s (20 °C)	(OECD 114)
	3,38 mm ² /s (40 °C)	(OECD 114)

Other information

Self heating ability:	It is not a substance capable of spontaneous heating.	
pKA:	The substance does not dissociate.	
Adsorption/water - soil:	KOC: 2,1; log KOC: 0,32	(OECD Guideline 121)
Surface tension:	Based on chemical structure, surface activity is not to be expected.	
Grain size distribution:	The substance / product is marketed or used in a non solid or granular form.	
Molar mass:	58,04 g/mol	

10. Stability and Reactivity**Reactivity**

No hazardous reactions if stored and handled as prescribed/indicated.

Corrosion to metals:	No corrosive effect on metal.	
Formation of flammable gases:	Remarks:	Forms no flammable gases in the presence of water.

Chemical stability

The product is stable if stored and handled as prescribed/indicated.

Possibility of hazardous reactions

Reacts with strong alkalies. Exothermic reaction.

Conditions to avoid

Temperature: > 50 °C

See MSDS section 7 - Handling and storage.

Incompatible materials

Substances to avoid:
strong alkalis

Hazardous decomposition products

Hazardous decomposition products:
No hazardous decomposition products if stored and handled as prescribed/indicated.

11. Toxicological Information

Information on toxicological effects

Acute toxicity

Assessment of acute toxicity:
Of low toxicity after single ingestion. Virtually nontoxic after a single skin contact. Of moderate toxicity after short-term inhalation.

Experimental/calculated data:

LD50 rat (oral): 3.300 mg/kg (OECD Guideline 401)

LC50 rat (by inhalation): 2,44 mg/l 4 h (OECD Guideline 403)
An aerosol was tested.

LD50 rat (dermal): > 2.000 mg/kg (OECD Guideline 402)
Limit concentration test only (LIMIT test).

Irritation

Assessment of irritating effects:
Eye contact causes irritation. Skin contact causes irritation.

Experimental/calculated data:

Skin corrosion/irritation rabbit: Irritant. (OECD Guideline 404)

Serious eye damage/irritation rabbit: Irritant. (OECD Guideline 405)

Respiratory/Skin sensitization

Assessment of sensitization:
Caused skin sensitization in animal studies. Caused sensitization in humans.

Experimental/calculated data:

Guinea pig maximization test guinea pig: skin sensitizing (OECD Guideline 406)

Human Maximization Test human: skin sensitizing (Patch test)

Literature data.

Germ cell mutagenicity

Assessment of mutagenicity:

The substance was mutagenic in various test systems with microorganisms and cell cultures; however, these results could not be confirmed in tests with mammals. Mutagenic properties can not be excluded on the basis of experimental data.

Carcinogenicity

Assessment of carcinogenicity:

The whole of the information assessable provides no indication of a carcinogenic effect.

Reproductive toxicity

Assessment of reproduction toxicity:

The results of animal studies gave no indication of a fertility impairing effect.

Developmental toxicity

Assessment of teratogenicity:

No indications of a developmental toxic / teratogenic effect were seen in animal studies.

Specific target organ toxicity (single exposure)

Assessment of STOT single:

Causes temporary irritation of the respiratory tract.

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity:

After repeated exposure the prominent effect is local irritation.

Aspiration hazard

No aspiration hazard expected.

12. Ecological Information

Toxicity

Assessment of aquatic toxicity:

Acutely harmful for aquatic organisms. Based on long-term (chronic) toxicity study data, the product is very likely not harmful to aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

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Toxicity to fish:

LC50 (96 h) > 186 - < 272 mg/l, *Leuciscus idus* (DIN 38412 Part 15, static)

The details of the toxic effect relate to the nominal concentration. The ecological data given are those of the active ingredient.

Aquatic invertebrates:

EC50 (48 h) 161 mg/l, *Daphnia magna* (Directive 79/831/EEC, static)

Nominal concentration. The ecological data given are those of the active ingredient.

LC50 (96 h) 76,0 mg/l, *Americamysis bahia* (other, semistatic)

The details of the toxic effect relate to the nominal concentration. The ecological data given are those of the active ingredient.

Aquatic plants:

EC50 (72 h) > 40 mg/l (growth rate), *Scenedesmus subspicatus* (OECD Guideline 201, static)

The details of the toxic effect relate to the nominal concentration. The ecological data given are those of the active ingredient.

EC10 (72 h) > 10 mg/l (growth rate), *Scenedesmus subspicatus* (OECD Guideline 201, static)

The details of the toxic effect relate to the nominal concentration. The ecological data given are those of the active ingredient.

EC50 (72 h) 347,1 mg/l (growth rate), *Skeletonema costatum* (OECD Guideline 201)

The details of the toxic effect relate to the nominal concentration. The ecological data given are those of the active ingredient.

No observed effect concentration (72 h) 118,4 mg/l (growth rate), *Skeletonema costatum* (OECD Guideline 201)

The details of the toxic effect relate to the nominal concentration. The ecological data given are those of the active ingredient.

Microorganisms/Effect on activated sludge:

EC10 (16 h) 22,8 mg/l, *Pseudomonas putida* (DIN 38412 Part 8, static)

The details of the toxic effect relate to the nominal concentration. The ecological data given are those of the active ingredient.

EC50 (0,5 h) > 400 mg/l, activated sludge (OECD Guideline 209, static)

The details of the toxic effect relate to the nominal concentration. The ecological data given are those of the active ingredient.

Chronic toxicity to fish:

No observed effect concentration (34 d) 112 mg/l, *Pimephales promelas* (OPP 72-4 (EPA-Guideline), Flow through.)

The ecological data given are those of the active ingredient. The statement of the toxic effect relates to the analytically determined concentration.

Chronic toxicity to aquatic invertebrates:

No observed effect concentration (21 d) 3,19 mg/l, *Daphnia magna* (OECD Guideline 211, semistatic)

The statement of the toxic effect relates to the analytically determined concentration. The ecological data given are those of the active ingredient.

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Assessment of terrestrial toxicity:

Toxic effects have been observed in studies with soil living organisms. Toxic effects have been observed in studies with terrestrial plants.

Soil living organisms:

LC50 (14 d) > 135 mg/kg, *Eisenia foetida* (OECD Guideline 207, artificial soil)

The ecological data given are those of the active ingredient. The details of the toxic effect relate to the nominal concentration.

EC50 (28 d) > 1.054 mg/kg, soil dwelling microorganisms (OECD 217, natural soil)

The details of the toxic effect relate to the nominal concentration. The data have been calculated from values for a preparation with a lower substance concentration. The ecological data given are those of the active ingredient.

EC50 (28 d) > 1.054 mg/kg, soil dwelling microorganisms (OECD 216, natural soil)

The details of the toxic effect relate to the nominal concentration. The data have been calculated from values for a preparation with a lower substance concentration. The ecological data given are those of the active ingredient.

Terrestrial plants:

No observed effect concentration (21 d) 314 mg/kg, *Brassica napus* (OECD Guideline 208)

The ecological data given are those of the active ingredient. The data have been deduced from values for a preparation or mixture with a lower substance concentration.

Other terrestrial non-mammals:

No data available.

Persistence and degradability**Assessment biodegradation and elimination (H₂O):**

Readily biodegradable (according to OECD criteria).

Elimination information:

90 - 100 % DOC reduction (19 d) (OECD 301 A (new version)) (aerobic, activated sludge, domestic, non-adapted) Readily biodegradable (according to OECD criteria).

Assessment of stability in water:

According to structural properties, hydrolysis is not expected/probable.

Information on Stability in Water (Hydrolysis):

The product has not been tested. The statement has been derived from the structure of the product.

Bioaccumulative potential**Assessment bioaccumulation potential:**

Significant accumulation in organisms is not to be expected.

Bioaccumulation potential:

Bioconcentration factor: 3,2, Fish (calculated)

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Mobility in soil

Assessment transport between environmental compartments:

Volatility: The substance will not evaporate into the atmosphere from the water surface.

Adsorption in soil: Adsorption to solid soil phase is not expected.

Results of PBT and vPvB assessment

According to Annex XIII of Regulation (EC) No.1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): The product does not fulfill the criteria for PBT (Persistent/bioaccumulative/toxic) and vPvB (very persistent/very bioaccumulative). Self classification

Other adverse effects

The substance is not listed in Regulation (EC) 1005/2009 on substances that deplete the ozone layer.

Additional information

Sum parameter

Chemical oxygen demand (COD): 350 mg/g

Biochemical oxygen demand (BOD) Incubation period 5 d: 175 mg/g

13. Disposal Considerations

Waste treatment methods

Incinerate in suitable incineration plant, observing local authority regulations.

A waste code in accordance with the European waste catalog (EWC) cannot be specified, due to dependence on the usage.

The waste code in accordance with the European waste catalog (EWC) must be specified in cooperation with disposal agency/manufacturer/authorities.

Contaminated packaging:

Uncontaminated packaging can be recycled.

14. Transport Information

Land transport

ADR

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	Not classified as a dangerous good under transport regulations
UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

RID

	Not classified as a dangerous good under transport regulations
UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Inland waterway transport**ADN**

	Not classified as a dangerous good under transport regulations
UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user:	None known

Transport in inland waterway vessel

UN number	ID9006
UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains GLYOXAL)
Transport hazard class(es):	9, N3
Packing group:	Not applicable
Environmental hazards:	yes
Type of inland waterway vessel:	N
Cargo tank design:	4
Cargo tank type:	2

Sea transport**IMDG**

BASF Safety data sheet according to UN GHS 4th rev.

Date / Revised: 08.06.2018

Version: 2.1

Product: **Basolon® GL 40**

(ID no. 30469984/SDS_GEN_00/EN)

Date of print 20.11.2018

	Not classified as a dangerous good under transport regulations
UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Air transport

IATA/ICAO

	Not classified as a dangerous good under transport regulations
UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Transport in bulk according to Annex II of MARPOL and the IBC Code

Regulation:	IBC
Shipment approved:	1
Pollution name:	Glyoxal solution (40% or less)
Pollution category:	Y
Ship Type:	3

15. Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture

Annex XVII of Regulation (EC) No 1907/2006

Number on List: 29

16. Other Information

Full text of classifications, hazard symbols and hazard statements, if mentioned in section 2 or 3:

Acute Tox.	Acute toxicity
Skin Corr./Irrit.	Skin corrosion/irritation
Eye Dam./Irrit.	Serious eye damage/eye irritation

BASF Safety data sheet according to UN GHS 4th rev.

Date / Revised: 08.06.2018

Version: 2.1

Product: **Basolon® GL 40**

(ID no. 30469984/SDS_GEN_00/EN)

Date of print 20.11.2018

Skin Sens.	Skin sensitization
Muta.	Germ cell mutagenicity
STOT SE	Specific target organ toxicity — single exposure
Aquatic Acute	Hazardous to the aquatic environment - acute
STOT RE	Specific target organ toxicity — repeated exposure
H320	Causes eye irritation.
H315	Causes skin irritation.
H332	Harmful if inhaled.
H303	May be harmful if swallowed.
H317	May cause an allergic skin reaction.
H335	May cause respiratory irritation.
H341	Suspected of causing genetic defects.
H402	Harmful to aquatic life.
H302	Harmful if swallowed.
H373	May cause damage to organs (Kidney) through prolonged or repeated exposure.

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. This safety data sheet is neither a Certificate of Analysis (CoA) nor technical data sheet and shall not be mistaken for a specification agreement. Identified uses in this safety data sheet do neither represent an agreement on the corresponding contractual quality of the substance/mixture nor a contractually designated use. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.

Vertical lines in the left hand margin indicate an amendment from the previous version.

Дата редакции: 30-авг-2018

Supersedes: New MSDS

SDS Number: 10805

Раздел 1: ИДЕНТИФИКАЦИЯ ВЕЩЕСТВА/СМЕСИ И КОМПАНИИ/ПРЕДПРИЯТИЯ

1.1. Идентификатор продукта

Наименование продукта: BENTONE® 128

Чистое вещество/смесь: Вещество

1.2. Соответствующие установленные способы применения вещества или смеси и не рекомендуемые способы применения

Описание применения продукта: Реологическая добавка

1.3. Информация о поставщике паспорта безопасности

Поставщик:
Elementis UK Ltd.
c/o Elementis GmbH
Stolberger Str. 370
50933 Cologne, Germany
Tel: +49 (0) 221 2923 2000

Elementis
469 Old Trenton Road
East Windsor, NJ 08512
USA
Tel: +1-609-443-2000

Для получения дополнительной информации обратитесь к

Электронный адрес: Product_stewardship@elementis.com

1.4. Аварийный номер телефона: For Chemical Emergency ONLY (spill, leak, fire, exposure or accident), call CHEMTREC at: +44-870-8200418 or +1-703-527-3887
For ALL other inquiries about this product, call Elementis at: +1-609-443-2000 (USA) or +49 (0) 221 2923 2000 (EU)

Раздел 2: ИДЕНТИФИКАЦИЯ ОПАСНОСТЕЙ

2.1. Классификация вещества или смеси

ПОСТАНОВЛЕНИЕМ (ЕУ) No.
1272/2008
Не классифицировано

2.2. Элементы маркировки

Сигнальное слово Нет

2.3. Прочие опасности

Общие опасные факторы Может образовывать горючие концентрации пыли в воздухе

Раздел 3: СОСТАВ/ИНФОРМАЦИЯ ОБ ИНГРЕДИЕНТАХ

3.1 Вещества

Опасные компоненты или компоненты с пределами воздействия (см. раздел 8)

Компоненты	ЕС-Номер.	CAS-Номер	REACH №.	Весовой процент	Система классификации EU - GHS Евросоюза
Кварцевое стекло	238-878-4	14808-60-7	Не подлежит контролю	< 3%	-

Полные тексты H- и EUN-фраз: см. раздел 16

Раздел 4: МЕРЫ ПЕРВОЙ ПОМОЩИ

4.1. Описание мер первой помощи

Общие рекомендации	При возникновении симптомов немедленно обратиться за медицинской помощью. При посещении врача покажите ему этот паспорт безопасности.
Вдыхание:	ПРИ ВДЫХАНИИ: Переместить пострадавшего на свежий воздух и обеспечить ему полный покой в удобном для дыхания положении. При затруднении дыхания дать кислород.
Попадание на кожу:	Немедленно смыть большим количеством воды с мылом. Если человек плохо себя чувствует или появляются симптомы раздражения кожи, получить консультацию у врача.
Попадание в глаза:	Немедленно, соблюдая осторожность, тщательно промыть устройством для промывки глаз или водой. В случае продолжения раздражения получить консультацию у специалиста.
Проглатывание	If swallowed, seek medical advice immediately and show this SDS or label. Не вызывать рвоту без инструкций врача. Запрещается давать что-либо пероральным путем человеку без сознания.
Меры предосторожности при оказании первой помощи:	Избегать попадания на кожу и в глаза.

4.2. Наиболее важные симптомы и проявления, как острые, так и отсроченные

Наиболее важные симптомы и проявления Затрудненное дыхание.

4.3. Указание на необходимость немедленной медицинской помощи и специальное лечения

Примечания для врача

Лечить симптоматически.

Раздел 5: ПРОТИВОПОЖАРНЫЕ МЕРЫ

5.1. Средства пожаротушения

Подходящие средства пожаротушения

Двуокись углерода (CO₂)

Сухой порошок

Сухой песок

Спиртостойкая пена

Использовать тонкораспыленную воду или туман; не тушить пожар прямо направленными струями

Средства пожаротушения, которые запрещено применять в целях безопасности

Нет

5.2. Особые опасные факторы, связанные с использованием данного вещества или смеси

Особые опасные факторы воздействия, связанные с использованием данного вещества или препарата, продуктов горения, выделяющихся газов

Ничего конкретно

Необычная опасность возгорания и взрыва:

Мелкая пыль рассеивается в воздухе в достаточной концентрации и при наличии источника воспламенения представляет потенциальную опасность взрыва пыли.

Опасные продукты сгорания

Оксид углерода

Двуокись углерода (CO₂)

Оксиды азота (NO_x)

Газообразный хлористый водород

5.3. Рекомендации для пожарных

Специальные средства защиты для пожарных

В случае необходимости при тушении пожара надеть автономный дыхательный аппарат

Раздел 6: МЕРЫ ПО ЛИКВИДАЦИИ АВАРИЙНОГО ВЫБРОСА

6.1. Меры по обеспечению личной безопасности, средства индивидуальной защиты и порядок действий в чрезвычайных ситуациях

Меры по обеспечению личной безопасности

Использовать персональное защитное оборудование.

Прочая информация:

Дополнительная информация приведена в разделе 12.

6.2. Меры по охране окружающей среды

Меры по охране окружающей среды:

Предотвратить дальнейшую утечку или разлив, если такие действия являются безопасными. Не смывать в поверхностные воды или в канализационную систему.

6.3. Методы и материалы для локализации и очистки

Методы уборки:

Принять меры предосторожности во избежание электростатических разрядов. Не создавать пылевое облако использованием щетки или сжатого воздуха. Собрать механическим способом, поместив в соответствующие контейнеры для утилизации. Не допускать попадания продукта в канализацию. Тщательно очистить загрязненную поверхность. При невозможности ограничения распространения значительных количеств разлитого вещества следует обратиться в местные органы власти.

6.4. Ссылки на другие разделы

- Дополнительная информация приведена в разделе 8
- Дополнительные сведения приведены в Разделе 12.
- Дополнительная информация приведена в разделе 13

Раздел 7: ОБРАЩЕНИЕ И ХРАНЕНИЕ**7.1. Меры предосторожности по безопасному обращению****Безопасное обращение**

Принять меры предосторожности во избежание электростатических разрядов. Устранить все источники воспламенения. Избегать попадания на кожу, в глаза и на одежду. Избегать вдыхания пыли/дыма/газа/тумана/паров/аэрозолей. После работы тщательно вымыть руки.

7.2. Условия безопасного хранения, в том числе все факторы несовместимости**Условия хранения**

Содержать контейнеры сухими и плотно закрытыми для избежания поглощения влаги и заражения. Держать продукт и пустую упаковку подальше от источников тепла и воспламенения.

Дополнительные рекомендации по хранению: не требуется при нормальном использовании

7.3. Особые конечные области применения:

Путь воздействия: Информация отсутствует.

Другие руководящие указания: Информация отсутствует.

Раздел 8: МЕРЫ КОНТРОЛЯ ВОЗДЕЙСТВИЯ/СРЕДСТВА ИНДИВИДУАЛЬНОЙ ЗАЩИТЫ**8.1. Контрольные параметры****Пределы воздействия**

Occupational Exposure Limit for Hazardous Agents in the Workplace

Компоненты	ЕС	Великобритания	Франция	Испания	Германия
Кварцевое стекло 14808-60-7			TWA: 0.1 mg/m ³	TWA: 0.05 mg/m ³	
Компоненты	Италия	Португалия	Нидерланды	Финляндия	Дания
Кварцевое стекло 14808-60-7			TWA: 0.075 mg/m ³	TWA: 0.05 mg/m ³	TWA: 0.3 mg/m ³ TWA: 0.1 mg/m ³
Компоненты	Австрия	Швейцария	Польша	Норвегия	Ирландия
Кварцевое стекло 14808-60-7	TWA: 0.15 mg/m ³	TWA (МАК) - 0.15 mg/m ³	TWA: 2 mg/m ³ TWA: 0.3 mg/m ³ TWA: 4.0 mg/m ³ TWA: 1.0 mg/m ³	TWA: 0.3 mg/m ³ TWA: 0.1 mg/m ³ STEL: 0.9 mg/m ³ STEL: 0.3 mg/m ³	
Компоненты	Австралия	Бельгия	Болгария	Чешская Республика	Эстония
Кварцевое стекло		TWA: 0.1 mg/m ³	TWA 0.07 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³

14808-60-7					
Компоненты	Gibraltar	Греция	Венгрия	Исландия	Латвия
Кварцевое стекло 14808-60-7			0.15 mg/m ³ TWA [AK] (respirable)	TWA: 0.3 mg/m ³ TWA: 0.1 mg/m ³ Ceiling: 0.6 mg/m ³ Ceiling: 0.2 mg/m ³	
Компоненты	Литва	Люксембург	Мальта	Румыния	Швеция
Кварцевое стекло 14808-60-7	TWA (IPRD): 0.1 mg/m ³			TWA: 0.1 mg/m ³	0.1 mg/m ³ respirable dust

8.2. Меры контроля воздействия

Технические меры:	Maintain adequate engineering controls and/or ventilation to keep hazardous ingredients below their statutory limits. Use an approved respirator whenever exposure limits are exceeded
Меры гигиены	Обращаться в соответствии с установившейся практикой техники безопасности и промышленной гигиены
<u>Средства индивидуальной защиты</u>	
Защита глаз	-
Защита рук	Защитные перчатки, Неопреновые перчатки, Непроницаемые бутиловые резиновые перчатки, Нитрилкаучук, Установленное время прорыва в соответствии со стандартом EN 374 Часть III не предусматривается в практических условиях. Поэтому рекомендуемое максимальное время ношения составляет 50 % от времени прорыва.
Защита тела и кожи	Выбор защитной спецодежды следует делать в зависимости от ее типа, концентрации и количества используемых опасных веществ, а также от конкретных производственных условий
Защита органов дыхания:	Эффективная пылевая маска.
Меры контроля воздействия на окружающую среду	Информация отсутствует.

Раздел 9: ФИЗИЧЕСКИЕ И ХИМИЧЕСКИЕ СВОЙСТВА

9.1. Информация об основных физических и химических свойствах

Физическое состояние:	Твердое вещество
Внешний вид:	Порошок(-ки)
Цвет:	Грязно-белый
Запах:	без запаха
Порог восприятия запаха	Данные отсутствуют

<u>Свойство</u>	<u>Значения</u>	<u>Заметки/ • Метод</u>
pH	Данные отсутствуют	
Точка плавления/пределы:	Данные отсутствуют	
Температура замерзания:	Данные отсутствуют	
Точка кипения/диапазон	Данные отсутствуют	
Температура вспышки	Неприменимо	
Скорость испарения	Данные отсутствуют	
Пределы взрывчатости:	LEL: 53 g/cm ³	

Давление пара	Данные отсутствуют
Плотность пара	Данные отсутствуют
Плотность:	1.6 g/cm ³
Растворимость в воде	нерастворимый
Растворимость в других растворителях	Данные отсутствуют
Коэффициент распределения: n-октанол/вода	Данные отсутствуют
Температура самовоспламенения	Не самовоспламеняющийся
Температура разложения	Данные отсутствуют
Вязкость:	Данные отсутствуют

Взрывоопасные свойства:	Пыль может образовывать взрывоопасную смесь в воздухе.
Окисляющие свойства	Данные отсутствуют

9.2. Прочая информация

Насыпная плотность	Данные отсутствуют
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Раздел 10: СТАБИЛЬНОСТЬ И РЕАКЦИОННАЯ СПОСОБНОСТЬ

10.1. Реакционная способность:	При нормальном использовании, ни о каких опасных реакциях не известно
10.2. Стабильность:	Стабильно при рекомендуемых условиях хранения
10.3. Возможность опасных реакций:	Неизвестно.
10.4. Условия, которых следует избегать:	Тепло, огонь и искры
10.5. Несовместимые материалы	Окислитель
10.6. Опасные продукты разложения:	Не поддается разумному предсказанию

Раздел 11: ТОКСИКОЛОГИЧЕСКАЯ ИНФОРМАЦИЯ

11.1. Информация о токсикологических проявлениях

Острая токсичность

<u>Информация о продукте</u>	О самом продукте не имеется никаких данных
------------------------------	--

Локальные эффекты

Вдыхание:	Repeated and/or prolonged exposures may cause lung damage (Silicosis).
Попадание в глаза:	Данные отсутствуют.
Попадание на кожу:	Данные отсутствуют.
Проглатывание	Данные отсутствуют.
Воздействие на орган-мишень:	Легкие.

Сведения о компонентах

Компоненты	LD50/орал	LD50//кожн	LC50//ингаляц
Кварцевое стекло	500 mg/kg		

Хроническая токсичность

Коррозионная активность	Данные отсутствуют.
Сенсибилизация	Данные отсутствуют.
Мутагенное действие	Данные отсутствуют.
Репродуктивная токсичность:	Данные отсутствуют.
Карцерогенность:	Содержит пыль кристаллического диоксида кремния, классифицируемого организациями IARC и NTAR как известный канцероген для человека при вдыхании.
Другие неблагоприятные воздействия:	Данные отсутствуют.

Раздел 12: ЭКОЛОГИЧЕСКАЯ ИНФОРМАЦИЯ**12.1. Токсичность**

Информация о Продукте:	Нет данных для данного продукта.
Экотоксичность	Воздействие данного продукта на окружающую среду полностью не изучено.

12.2. Стойкость и способность к разложению Данные отсутствуют

12.3. Потенциал бионакопления Данные отсутствуют

12.4. Подвижность в почве Данные отсутствуют.

12.5. Результаты оценки PBT и vPvB Данные отсутствуют.

12.6. Другие побочные эффекты:

Подвижность	Данные отсутствуют
Общее примечание:	Не допускать попадания продукта в грунтовые воды, водоемы или в канализацию.

Раздел 13: УКАЗАНИЯ ПО УТИЛИЗАЦИИ**13.1. Методы обращения с отходами**

Остаточные отходы/ неиспользованные продукты:	Не заражать пруды, водные пути или канавы химическим соединением или использованным контейнером. Утилизировать в соответствии с федеральными, государственными и местными нормами.
EWC-Номер:	Согласно Европейскому Каталогу промышленных отходов, нормы и правила по утилизации отходов определяются не для продукта, а для типа использования.
Дополнительная информация:	Коды отходов должны определяться пользователем, исходя из сферы применения продукта
Загрязненная упаковка	Пустые контейнеры должны быть доставлены к местным переработчикам для удаления

Раздел 14: ИНФОРМАЦИЯ ПО ТРАНСПОРТИРОВКЕ

ADR:	Не регламентируется
Международная ассоциация воздушного транспорта (IATA)	Не регламентируется
Кодекс опасных грузов международной морской организации (IMDG)	Не регламентируется

Раздел 15: НОРМАТИВНАЯ ИНФОРМАЦИЯ

15.1. Нормативы/законы по охране труда, технике безопасности и охране окружающей среды, характерные для данного вещества или смеси

Международные реестры

Закон о контроле над токсичными веществами (TSCA) (США)

EINECS-HOMER	Соответствует
EU REACH:	Соответствует
CANADA (DSL)	Соответствует
CANADA (NDSL):	Неприменимо
JAPAN (ENCS):	Соответствует
PHILIPPINES (PICCS):	Соответствует
KOREA (KECL):	Соответствует
Китай (IECSC)	Соответствует
AUSTRALIA (AICS):	Соответствует
NEW ZEALAND (NZIoC):	Соответствует
TAIWAN (NECI):	Соответствует

Условные обозначения:

TSCA - Реестр из раздела 8(b) закона о контроле над токсичными веществами США

EINECS/ELINCS - Европейский реестр существующих химических веществ/Европейский перечень зарегистрированных химических веществ

DSL/NDSL - Канадский реестр химических веществ, производимых и реализуемых внутри страны/за пределами страны

ENCS - Японский реестр существующих и новых химических веществ

PICCS - Филиппинский реестр химикатов и химических веществ

KECL - Корейский реестр существующих и оцененных химических веществ

IECSC - Китайский реестр существующих химических веществ

AICS - Австралийский перечень химических веществ

NZIoC - Новозеландский реестр химических веществ

NECI - Тайваньский национальный реестр существующих химических веществ

Регламент ЕС

При покупке в представительствах компании Elementis в ЕС: все компоненты зарегистрированы или освобождены от ограничений, налагаемых законом REACH. При покупке в представительствах компании Elementis за пределами ЕС с целью экспорта в ЕС: проконсультируйтесь с местным представителем компании Elementis.

Национальные нормативы

Германия

Класс вредности для воды (WGK): Класс 1 Слабовредный для воды
Классификация в соответствии с VwVwS от мая 1999 года (законодательство Германии)

Restriction on marketing use: Неизвестно

15.2. Оценка химической безопасности

Информация отсутствует

Раздел 16: ПРОЧАЯ ИНФОРМАЦИЯ

GHS / CLP

Basis of Classification This substance is classified based on Directive 1272/2008/EC and its amendments (CLP regulation, GHS); See Section 2

Составитель Надзор над продуктом
Дата редакции 30-авг-2018
Supersedes: Неприменимо

Данная спецификация безопасности соответствует требованиям Постановлением (EU) No.1907/2006

The information provided in this Safety Data Sheet is correct to the best of ELEMENTIS' knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release, and is not to be considered a warranty or quality specification. The information relates only to the specific product designated and may not be valid for such product when used in combination with any other material or in any process, unless specified in this SDS. ELEMENTIS specifically disclaims any liability for any loss, injury or damage which may result from use or misuse of this product. All chemicals should be handled only by competent personnel, within a controlled environment. It is the buyer's/user's responsibility to ensure that his activities comply with all applicable federal, state, provincial and local laws, and to determine the conditions necessary for the safe use of this product. ELEMENTIS urges each customer or recipient of this SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product.

Конец паспорта безопасности

Safety data sheet **according to Regulation (EC) No 1907/2006, Annex II**

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product Identifier

WD-40® Specialist® High Performance Silicone Lubricant WD-40® Specialist® Silicone

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses of the substance or mixture:

Lubricant

Uses advised against:

No information available at present.

1.3 Details of the supplier of the safety data sheet



WD-40 Company Limited
252 Upper Third Street
Milton Keynes, MK9 1DZ, United Kingdom

WD-40 Company Limited
PO Box 440
GB-Kiln Farm, Milton Keynes, MK11 3LF, United Kingdom

Tel.: +44 (0) 1908 555400
Fax: +44 (0) 1908 266900
E-Mail: Compliance@wd40.co.uk
Homepage: www.wd40.co.uk

WD-40 Company Limited
Noorderpoort 93E
NL- 5916PJ Venlo

Tel.: +31 85 487 46 91



Danka Import Export
548 St Joseph High Road
SVR 1018 St Venera

Tel.: +356 21233649
Fax: +356 21233501
E-Mail: Danka@maltanet.net

Qualified person's e-mail address: Info@chemical-check.de, k.schnurbusch@chemical-check.de Please DO NOT use for requesting Safety Data Sheets.

1.4 Emergency telephone number

Emergency information services / official advisory body:



Medicines & Poisons Info Office - Mater Dei Hospital, Msida MSD 2090, Malta - Tel.: +356 2545 6508
Emergency Ambulance - Tel.: 112



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National Poisons Information Centre, Beaumont Hospital, Dublin 9, Ireland, Tel.:
+353 (0)1 809 2166 (Public Poisons Info Line, 8am-10pm, 7 days a week)
+353 (0)1 809 2566 (info for Healthcare Professionals ONLY, 24 h, 7 days a week)
Telephone number of the company in case of emergencies:
+44 20 3807 3798

SECTION 2: Hazards Identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) 1272/2008 (CLP)

Hazard class	Hazard category	Hazard statement
Asp. Tox.	1	H304-May be fatal if swallowed and enters airways.
STOT SE	3	H336-May cause drowsiness or dizziness.
Aerosol	1	H222-Extremely flammable aerosol.
Aerosol	1	H229-Pressurised container: May burst if heated.

2.2 Label elements

Labeling according to Regulation (EC) 1272/2008 (CLP)



Danger

H336-May cause drowsiness or dizziness. H222-Extremely flammable aerosol. H229-Pressurised container: May burst if heated.

P101-If medical advice is needed, have product container or label at hand. P102-Keep out of reach of children.
P210-Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P211-Do not spray on an open flame or other ignition source. P251-Do not pierce or burn, even after use. P261-Avoid breathing vapours or spray. P271-Use only outdoors or in a well-ventilated area.
P312-Call a POISON CENTRE / doctor if you feel unwell.
P405-Store locked up. P410+P412-Protect from sunlight. Do not expose to temperatures exceeding 50 °C.
P501-Dispose of contents / container to an approved waste disposal facility.

EUH066-Repeated exposure may cause skin dryness or cracking.

Without adequate ventilation, formation of explosive mixtures may be possible.
White mineral oil (Natural oil)
Distillates (petroleum), hydrotreated light paraffinic
Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics

2.3 Other hazards

The mixture does not contain any vPvB substance (vPvB = very persistent, very bioaccumulative) or is not included under XIII of the regulation (EC) 1907/2006 (< 0,1 %).
The mixture does not contain any PBT substance (PBT = persistent, bioaccumulative, toxic) or is not included under XIII of the regulation (EC) 1907/2006 (< 0,1 %).
The mixture does not contain any substance with endocrine disrupting properties (< 0,1 %).

SECTION 3: Composition/Information on Ingredients

Aerosol

3.1 Substances

n.a.

3.2 Mixtures

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Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics	
Registration number (REACH)	01-2119463258-33-XXXX
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	919-857-5
CAS	---
content %	40-60
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	EUH066 Flam. Liq. 3, H226 STOT SE 3, H336 Asp. Tox. 1, H304

White mineral oil (Natural oil)	
Registration number (REACH)	01-2119487078-27-XXXX
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	232-455-8
CAS	8042-47-5
content %	<10
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Asp. Tox. 1, H304

Distillates (petroleum), hydrotreated light paraffinic	
Registration number (REACH)	01-2119487077-29-XXXX
Index	649-468-00-3
EINECS, ELINCS, NLP, REACH-IT List-No.	265-158-7
CAS	64742-55-8
content %	<10
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Asp. Tox. 1, H304

For the text of the H-phrases and classification codes (GHS/CLP), see Section 16.
The substances named in this section are given with their actual, appropriate classification!
For substances that are listed in appendix VI, table 3.1 of the regulation (EC) no. 1272/2008 (CLP regulation) this means that all notes that may be given here for the named classification have been taken into account.
If, for example, the note P is applied for a hydrocarbon then this has already been taken into account for the classification named here.
Quote: "Note P - The classification as a carcinogen or mutagen need not apply if it can be shown that the substance contains less than 0,1 % w/w benzene (EINECS No 200-753-7)."
Article 4 of the regulation (EC) no. 1272/2008 (CLP regulation) was also observed and taken into account for the classification named here.
The addition of the highest concentrations listed here can result in a classification. Only when this classification is listed in Section 2 does it apply. In all other cases the total concentration is below the classification.

SECTION 4: First aid measures

4.1 Description of first aid measures

First-aiders should ensure they are protected!
Never pour anything into the mouth of an unconscious person!

Inhalation

Remove person from danger area.
Supply person with fresh air and consult doctor according to symptoms.
If the person is unconscious, place in a stable side position and consult a doctor.

Skin contact

Remove polluted, soaked clothing immediately, wash thoroughly with plenty of water and soap, in case of irritation of the skin (flare), consult a doctor.

Eye contact

Remove contact lenses.
Wash thoroughly for several minutes using copious water. Seek medical help if necessary.

Ingestion

Typically no exposure pathway.
Rinse the mouth thoroughly with water.
Do not induce vomiting - give copious water to drink. Consult doctor immediately.
Danger of aspiration.
In case of vomiting, keep head low so that the stomach content does not reach the lungs.

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4.2 Most important symptoms and effects, both acute and delayed

Irritation of the eyes

Irritation of the respiratory tract

Coughing

Headaches

Dizziness

Effects/damages the central nervous system

Unconsciousness

With long-term contact:

Drying of the skin.

Dermatitis (skin inflammation)

Ingestion:

Nausea

Vomiting

Danger of aspiration.

Oedema of the lungs

chemical pneumonitis (condition similar to pneumonia)

Other dangerous properties cannot be ruled out.

In certain cases, the symptoms of poisoning may only appear after an extended period / after several hours.

4.3 Indication of any immediate medical attention and special treatment needed

Gastric lavage (stomach washing) only under endotracheal intubation.

Subsequent observation for pneumonia and pulmonary oedema.

Pulmonary oedema prophylaxis

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

CO2

Extinction powder

Water jet spray

Alcohol resistant foam

Unsuitable extinguishing media

High volume water jet

5.2 Special hazards arising from the substance or mixture

In case of fire the following can develop:

Oxides of carbon

Oxides of sulphur

Formaldehyde

Toxic gases

Danger of bursting (explosion) when heated

Explosive vapour/air or gas/air mixtures.

5.3 Advice for firefighters

For personal protective equipment see Section 8.

In case of fire and/or explosion do not breathe fumes.

Protective respirator with independent air supply.

According to size of fire

Full protection, if necessary.

Cool container at risk with water.

Dispose of contaminated extinction water according to official regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

6.1.1 For non-emergency personnel

In case of spillage or accidental release, wear personal protective equipment as specified in section 8 to prevent contamination.

Ensure sufficient ventilation, remove sources of ignition.

Avoid dust formation with solid or powder products.

Leave the danger zone if possible, use existing emergency plans if necessary.

Remove possible causes of ignition - do not smoke.

Ensure sufficient supply of air.

Avoid Inhalation, and contact with eyes or skin.

If applicable, caution - risk of slipping.

6.1.2 For emergency responders

See section 8 for suitable protective equipment and material specifications.

6.2 Environmental precautions

Prevent penetration into drains, cellars, working pits or other places in which accumulation could be hazardous.

Prevent surface and ground-water infiltration, as well as ground penetration.

If accidental entry into drainage system occurs, inform responsible authorities.

6.3 Methods and material for containment and cleaning up

If spray or gas escapes, ensure ample fresh air is available.

Without adequate ventilation, formation of explosive mixtures may be possible.

Active substance:

Soak up with absorbent material (e.g. universal binding agent, sand, diatomaceous earth) and dispose of according to Section 13.

6.4 Reference to other sections

For personal protective equipment see Section 8 and for disposal instructions see Section 13.

SECTION 7: Handling and storage

In addition to information given in this section, relevant information can also be found in section 8 and 6.1.

7.1 Precautions for safe handling

7.1.1 General recommendations

Ensure good ventilation.

Avoid inhalation of the vapours.

Avoid contact with eyes or skin.

Keep away from sources of ignition - Do not smoke.

Take measures against electrostatic charging, if appropriate.

Do not use on hot surfaces.

Eating, drinking, smoking, as well as food-storage, is prohibited in work-room.

Observe directions on label and instructions for use.

Use working methods according to operating instructions.

7.1.2 Notes on general hygiene measures at the workplace

General hygiene measures for the handling of chemicals are applicable.

Wash hands before breaks and at end of work.

Keep away from food, drink and animal feedingstuffs.

Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

7.2 Conditions for safe storage, including any incompatibilities

Keep out of access to unauthorised individuals.

Not to be stored in gangways or stair wells.

Store product closed and only in original packing.

Do not store with flammable or self-igniting materials.

Observe special regulations for aerosols!

Observe special storage conditions.

Observe special storage conditions.

Keep protected from direct sunlight and temperatures over 50°C.

Store in a well ventilated place.

Store cool.

7.3 Specific end use(s)

No information available at present.

Observe the instructions for good working practice and the recommendations for risk assessment.

Consult hazardous substance information systems, e.g. from the professional associations, the chemical industry or different industries,

depending on the application (building materials, wood, chemistry, laboratory, leather, metal).

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Workplace exposure limit (WEL) of the total hydrocarbon solvent content of the mixture (RCP method according to EH40):

800 mg/m³

Chemical Name	Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics		
WEL-TWA: 800 mg/m ³	WEL-STEL:	—	—
Monitoring procedures:	-	Draeger - Hydrocarbons 0,1%/c (81 03 571)	
	-	Draeger - Hydrocarbons 2/a (81 03 581)	
	-	Compur - KITA-187 S (551 174)	

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BMGV: —		Other information: (OEL acc. to RCP-method, paragraphs 84-87, EH40)	
Chemical Name Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics			
OELV-8h: 100 ppm (573 mg/m3) ("Stoddard solvent", [White spirit])	OELV-15min: —	—	
Monitoring procedures:	- Draeger - Hydrocarbons 0,1%/c (81 03 571) - Draeger - Hydrocarbons 2/a (81 03 581) - Compur - KITA-187 S (551 174)		
BLV: —		Other information: —	
Chemical Name Petroleum gases, liquefied			
WEL-TWA: 1000 ppm (1750 mg/m3) (Liquefied petroleum gas (LPG))	WEL-STEL: 1250 ppm (2180 mg/m3) (Liquefied petroleum gas (LPG))	—	
Monitoring procedures:	—		
BMGV: —		Other information: —	
Chemical Name Petroleum gases, liquefied			
OELV-8h: —	OELV-15min: 1000 ppm (Butane)	—	
Monitoring procedures:	—		
BLV: —		Other information: —	
Chemical Name Oil mist, mineral			
WEL-TWA: 5 mg/m3 (Mineral oil, excluding metal working fluids, ACGIH)	WEL-STEL: —	—	
Monitoring procedures:	- Draeger - Oil Mist 1/a (67 33 031)		
BMGV: —		Other information: —	
Chemical Name Oil mist, mineral			
OELV-8h: 5 mg/m3 (Mineral oil, pure, highly and severely refined (Inhalable))	OELV-15min: —	—	
Monitoring procedures:	- Draeger - Oil Mist 1/a (67 33 031)		
BLV: —		Other information: —	

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics

Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
Consumer	Human - dermal	Long term, systemic effects	DNEL	46	mg/kg bw/day	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	185	mg/m3	
Consumer	Human - oral	Long term, systemic effects	DNEL	46	mg/kg bw/day	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	77	mg/kg bw/day	
Workers / employees	Human - Inhalation	Long term, systemic effects	DNEL	871	mg/m3	

White mineral oil (Natural oil)

Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
Consumer	Human - dermal	Long term, systemic effects	DNEL	92	mg/kg bw/day	
Consumer	Human - Inhalation	Long term, systemic effects	DNEL	35	mg/m3	
Consumer	Human - oral	Long term, systemic effects	DNEL	25	mg/kg bw/day	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	217,5	mg/kg bw/day	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	164,56	mg/m3	

Distillates (petroleum), hydrotreated light paraffinic

Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - oral (animal feed)		PNEC	9,33	mg/kg feed	
Consumer	Human - inhalation	Long term, local effects	DNEL	1,19	mg/m3	
Consumer	Human - oral	Long term, systemic effects	DNEL	0,74	mg/kg bw/day	
Workers / employees	Human - inhalation	Long term, local effects	DNEL	5,58	mg/m3	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	0,97	mg/kg bw/day	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	2,73	mg/m3	

Ⓔ - United Kingdom | WEL-TWA = Workplace Exposure Limit - Long-term exposure limit - 8-hour TWA (= time weighted average) reference period (EH40/2005 Workplace exposure limits (Fourth Edition 2020)).
(EU) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU or 2019/1831/EU:
(8) = Inhalable fraction (2004/37/EC, 2017/164/EU). (9) = Respirable fraction (2004/37/EC, 2017/164/EU). (11) = Inhalable fraction (2004/37/EC). (12) = Inhalable fraction. Respirable fraction in those Member States that implement, on the date of the entry into force of this Directive, a biomonitoring system with a biological limit value not exceeding 0,002 mg Cd/g creatinine in urine (2004/37/EC). |
| WEL-STEL = Workplace Exposure Limit - Short-term exposure limit - 15-minute reference period (EH40/2005 Workplace exposure limits (Fourth Edition 2020)).
(EU) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU or 2019/1831/EU:
(8) = Inhalable fraction (2004/37/EC, 2017/164/EU). (9) = Respirable fraction (2004/37/EC, 2017/164/EU). (10) = Short-term exposure limit value in relation to a reference period of 1 minute (2017/164/EU). |
| BMGV = Biological monitoring guidance value (EH40/2005 Workplace exposure limits (Fourth Edition 2020)).
(EU) = Directive 98/24/EC or 2004/37/EC or SCOEL (Biological Limit Value - BLV, Recommendation from the Scientific Committee on Occupational Exposure Limits (SCOEL)) |
| Other information (EH40/2005 Workplace exposure limits (Fourth Edition 2020)): Sen = Capable of causing occupational asthma. Sk = Can be absorbed through skin. Carc = Capable of causing cancer and/or heritable genetic damage.
(EU) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU or 2019/1831/EU:
(13) = The substance can cause sensitisation of the skin and of the respiratory tract (2004/37/EC), (14) = The substance can cause sensitisation of the skin (2004/37/EC). |

Ⓔ - Ireland/Éire | OELV-8h = Occupational Exposure Limit Value - 8-hour reference period (Chemical Agents and Carcinogens CoP (Code of Practice) 2021, HSA (Health and Safety Authority)): (IFV) = Inhalable Fraction and Vapour. (I) = Inhalable Fraction. (R) = Respirable Fraction.
(EU) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU or 2019/1831/EU:
(8) = Inhalable fraction (2004/37/EC, 2017/164/EU). (9) = Respirable fraction (2004/37/EC, 2017/164/EU). (11) = Inhalable fraction (2004/37/EC). (12) = Inhalable fraction. Respirable fraction in those Member States that implement, on the date of the entry into force of this Directive, a biomonitoring system with a biological limit value not exceeding 0,002 mg Cd/g creatinine in urine (2004/37/EC). |
| OELV-15min = Occupational Exposure Limit Value - 15-minute reference period (Chemical Agents and Carcinogens CoP (Code of Practice) 2021, HSA (Health and Safety Authority)): (IFV) = Inhalable Fraction and Vapour. (I) = Inhalable Fraction. (R) = Respirable Fraction.
(EU) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU or 2019/1831/EU:
(8) = Inhalable fraction (2004/37/EC, 2017/164/EU). (9) = Respirable fraction (2004/37/EC, 2017/164/EU). (10) = Short-term exposure limit value in relation to a reference period of 1 minute (2017/164/EU). |
| BMGV = Biological Monitoring Guidance Value (Biological Monitoring Guidelines 2011, HSA (Health and Safety Authority)): ACGIH-BEI = BMGV have been sourced from Biological Exposure Indices (BEI) as issued by the American Conference of Governmental Industrial Hygienists (ACGIH). SCOEL = BMGV have been sourced from the Scientific Committee on Occupational Exposure Limit Values (SCOEL) which was set up by a Commission Decision (95/320/EC) with the mandate to advise the European Commission on occupational exposure limits for chemicals in the workplace. HSE = BMGV have been sourced from the Health and Safety Executive (HSE), UK.
(EU) = Directive 98/24/EC or 2004/37/EC or SCOEL (Biological Limit Value - BLV, Recommendation from the Scientific Committee on Occupational Exposure Limits (SCOEL)) |
| Other information (Chemical Agents and Carcinogens CoP (Code of Practice) 2021, HSA (Health and Safety Authority)): Carc1A, Carc1B = carcinogenic substance, Cat. 1A or 1B. Muta1A, Muta1B = mutagenic substance, Cat. 1A or 1B. Repr1A, Repr1B = Substances known to be toxic for reproduction, Cat. 1A or 1B. Sk = can be absorbed through skin. Asphx = asphyxiant. Sen = Respiratory sensitizer. BOELV = Binding Occupational Exposure Limit Values. IOELV = Indicative Occupational Exposure Limit Values.
(EU) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU or 2019/1831/EU:
(13) = The substance can cause sensitisation of the skin and of the respiratory tract (2004/37/EC), (14) = The substance can cause sensitisation of the skin (2004/37/EC). |

Ⓔ - Malta | OELV-8h = Occupational Exposure Limit Value - 8 h (8-hour reference period as a time-weighted average) [S.L.424.24,

last amended by L.N. 356 of 2021]: [9] = Inhalable fraction, [10] = Respirable fraction.

(EU) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU or 2019/1831/EU:
(8) = Inhalable fraction (2004/37/EC, 2017/164/EU). (9) = Respirable fraction (2004/37/EC, 2017/164/EU). (11) = Inhalable fraction (2004/37/EC). (12) = Inhalable fraction. Respirable fraction in those Member States that implement, on the date of the entry into force of this Directive, a biomonitoring system with a biological limit value not exceeding 0,002 mg Cd/g creatinine in urine (2004/37/EC). |
| OELV-ST = Occupational Exposure Limit Value - Short-term (15-minute reference period) [S.L.424.24, last amended by L.N. 356 of 2021]: [8] = Short-term exposure limit value in relation to a reference period of 1 minute, [9] = Inhalable fraction, [10] = Respirable fraction.

(EU) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU or 2019/1831/EU:
(8) = Inhalable fraction (2004/37/EC, 2017/164/EU). (9) = Respirable fraction (2004/37/EC, 2017/164/EU). (10) = Short-term exposure limit value in relation to a reference period of 1 minute (2017/164/EU). |

| BMGV = Biological monitoring guidance value (EH40/2005 Workplace exposure limits (Fourth Edition 2020), United Kingdom).
(EU) = Directive 98/24/EC or 2004/37/EC or SCOEL (Biological Limit Value - BLV, Recommendation from the Scientific Committee on Occupational Exposure Limits (SCOEL)) |

| Other Information [S.L.424.24, last amended by L.N. 356 of 2021]: Skin = Possibility of a significant uptake through the skin. [11] = When selecting an appropriate exposure monitoring method, account should be taken of potential limitations and interferences that may arise in the presence of other sulphur compounds. [12] = The mist is defined as the thoracic fraction. [13] = Established in accordance with the Annex to Directive 91/322/EEC. [14] = During exposure monitoring for mercury and its divalent inorganic compounds, account should be taken of relevant biological monitoring techniques that complement the OELV.

(EU) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU or 2019/1831/EU:
(EU13) = The substance can cause sensitisation of the skin and of the respiratory tract (2004/37/EC), (EU14) = The substance can cause sensitisation of the skin (2004/37/EC). |

8.2 Exposure controls

8.2.1 Appropriate engineering controls

Ensure good ventilation. This can be achieved by local suction or general air extraction.

If this is insufficient to maintain the concentration under the WEL or AGW values, suitable breathing protection should be worn. Applies only if maximum permissible exposure values are listed here.

Suitable assessment methods for reviewing the effectiveness of protection measures adopted include metrological and non-metrological investigative techniques.

These are specified by e.g. EN 14042.

EN 14042 "Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents".

8.2.2 Individual protection measures, such as personal protective equipment

General hygiene measures for the handling of chemicals are applicable.

Wash hands before breaks and at end of work.

Keep away from food, drink and animal feedingstuffs.

Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

Eye/face protection:

With danger of contact with eyes.

Tight fitting protective goggles with side protection (EN 166).

Skin protection - Hand protection:

Normally not necessary.

with long-term contact:

If applicable

Protective nitrile gloves (EN ISO 374).

Minimum layer thickness in mm:

0,4

Permeation time (penetration time) in minutes:

>= 480

Protective Viton® / fluoroelastomer gloves (EN ISO 374).

Minimum layer thickness in mm:

0,4

Permeation time (penetration time) in minutes:

>= 480

Protective hand cream recommended.

Skin protection - Other:

Protective working garments (e.g. safety shoes EN ISO 20345, long-sleeved protective working garments).

Respiratory protection:

Normally not necessary.

If OES or MEL is exceeded.

Filter A2 P2 (EN 14387), code colour brown, white

At high concentrations:

Respiratory protection appliance (insulation device) (e.g. EN 137 or EN 138)

Observe wearing time limitations for respiratory protection equipment.

Thermal hazards:

Not applicable

Additional information on hand protection - No tests have been performed.

In the case of mixtures, the selection has been made according to the knowledge available and the information about the contents.

Selection of materials derived from glove manufacturer's indications.

Final selection of glove material must be made taking the breakthrough times, permeation rates and degradation into account.

Selection of a suitable glove depends not only on the material but also on other quality characteristics and varies from manufacturer to manufacturer.

In the case of mixtures, the resistance of glove materials cannot be predicted and must therefore be tested before use.

The exact breakthrough time of the glove material can be requested from the protective glove manufacturer and must be observed.

8.2.3 Environmental exposure controls

No information available at present.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state:

Aerosol. Active substance: liquid.

Colour:

Light brown

Odour:

Characteristic

Melting point/freezing point:

There is no information available on this parameter.
n.a.

Boiling point or initial boiling point and boiling range:

Does not apply to aerosols.

Flammability:

0,8 Vol-%

Lower explosion limit:

9 Vol-%

Upper explosion limit:

Does not apply to aerosols.

Flash point:

Does not apply to aerosols.

Auto-ignition temperature:

There is no information available on this parameter.

Decomposition temperature:

Mixture is non-soluble (in water).

pH:

Does not apply to aerosols.

Kinematic viscosity:

Insoluble

Solubility:

Does not apply to mixtures.

Partition coefficient n-octanol/water (log value):

There is no information available on this parameter.

Vapour pressure:

0,662 g/ml

Density and/or relative density:

Does not apply to aerosols.

Relative vapour density:

Does not apply to aerosols.

Particle characteristics:

9.2 Other information

Explosives:

Product is not explosive. Possible build up of explosive/highly flammable vapour/air mixture.

Oxidising liquids:

No

Bulk density:

n.a.

SECTION 10: Stability and reactivity

10.1 Reactivity

The product has not been tested.

10.2 Chemical stability

Stable with proper storage and handling.

10.3 Possibility of hazardous reactions

No dangerous reactions are known.

10.4 Conditions to avoid

Heating, open flame, ignition sources

Pressure increase will result in danger of bursting.

10.5 Incompatible materials

Avoid contact with strong oxidizing agents.

10.6 Hazardous decomposition products

No decomposition when used as directed.

Safety data sheet according to Regulation (EC) No 1907/2006, Annex II

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WD-40® Specialist® High Performance Silicone Lubricant WD-40® Specialist® Silicone

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Possibly more information on health effects, see Section 2.1 (classification).

WD-40® Specialist® High Performance Silicone Lubricant WD-40® Specialist® Silicone

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:						n.d.a.
Acute toxicity, by dermal route:						n.d.a.
Acute toxicity, by inhalation:						n.d.a.
Skin corrosion/irritation:						n.d.a.
Serious eye damage/irritation:						n.d.a.
Respiratory or skin sensitisation:						n.d.a.
Germ cell mutagenicity:						n.d.a.
Carcinogenicity:						n.d.a.
Reproductive toxicity:						n.d.a.
Specific target organ toxicity - single exposure (STOT-SE):						n.d.a.
Specific target organ toxicity - repeated exposure (STOT-RE):						n.d.a.
Aspiration hazard:						n.d.a.
Symptoms:						n.d.a.

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>5000	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	
Acute toxicity, by dermal route:	LD50	>5000	mg/kg	Rabbit	OECD 402 (Acute Dermal Toxicity)	
Acute toxicity, by inhalation:	LD50	>18,5	mg/l/4h	Rat	OECD 403 (Acute Inhalation Toxicity)	
Skin corrosion/irritation:				Rabbit	OECD 404 (Acute Dermal Irritation/Corrosion)	Not irritant, Repeated exposure may cause skin dryness or cracking.
Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Not irritant
Respiratory or skin sensitisation:				Guinea pig	OECD 406 (Skin Sensitisation)	No (skin contact)
Germ cell mutagenicity:				Salmonella typhimurium	OECD 471 (Bacterial Reverse Mutation Test)	Negative, Analogous conclusion
Germ cell mutagenicity:				Human being	OECD 473 (In Vitro Mammalian Chromosome Aberration Test)	Negative, Analogous conclusion
Germ cell mutagenicity:				Mouse	OECD 476 (In Vitro Mammalian Cell Gene Mutation Test)	Negative, Analogous conclusion
Germ cell mutagenicity:				Rat	OECD 478 (Genetic Toxicology - Rodent dominant Lethal Test)	Negative, Analogous conclusion
Germ cell mutagenicity:					OECD 479 (Genetic Toxicology - In Vitro Sister Chromatid Exchange assay in Mammalian Cells)	Negative, Analogous conclusion Chinese hamster

Reproductive toxicity:					OECD 414 (Prenatal Developmental Toxicity Study)	Negative, Analogous conclusion
Carcinogenicity:	NOAEC	1100	mg/m3	Mouse	OECD 453 (Combined Chronic Toxicity/Carcinogenicity Studies)	Female
Carcinogenicity:	NOAEC	>= 2200	mg/m3	Mouse	OECD 453 (Combined Chronic Toxicity/Carcinogenicity Studies)	Male
Reproductive toxicity (Effects on fertility):	NOAEL	>= 3000	mg/kg bw/d	Rat	OECD 415 (One-Generation Reproduction Toxicity Study)	Male
Reproductive toxicity (Effects on fertility):	NOAEL	>= 1500	mg/kg bw/d	Rat	OECD 415 (One-Generation Reproduction Toxicity Study)	Female
Specific target organ toxicity - single exposure (STOT-SE):						May cause drowsiness or dizziness., STOT SE 3, H336
Aspiration hazard:						Yes
Symptoms:						unconsciousness, headaches, dizziness, discoloration of the skin, vomiting, diarrhoea
Specific target organ toxicity - repeated exposure (STOT-RE), oral:	NOAEL	3000	mg/kg/d	Rat	OECD 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)	Analogous conclusion
Specific target organ toxicity - repeated exposure (STOT-RE), inhalat.:	NOAEC	1444	ppm	Rat	OECD 413 (Subchronic Inhalation Toxicity - 90-Day Study)	Analogous conclusion

White mineral oil (Natural oil)

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>5000	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	
Acute toxicity, by dermal route:	LD50	>2000	mg/kg	Rabbit	OECD 402 (Acute Dermal Toxicity)	
Acute toxicity, by inhalation:	LC50	>5	mg/l/4h	Rat	OECD 403 (Acute Inhalation Toxicity)	Aerosol
Skin corrosion/irritation:				Rabbit	OECD 404 (Acute Dermal Irritation/Corrosion)	Not irritant
Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Not Irritant
Respiratory or skin sensitisation:				Guinea pig	OECD 406 (Skin Sensitisation)	No (skin contact)
Germ cell mutagenicity:				Mouse	OECD 476 (In Vitro Mammalian Cell Gene Mutation Test)	Negative
Germ cell mutagenicity:				Salmonella typhimurium	OECD 471 (Bacterial Reverse Mutation Test)	Negative
Carcinogenicity:						
Reproductive toxicity (Developmental toxicity):	NOAEL	>5000	mg/kg bw/d	Rat	OECD 414 (Prenatal Developmental Toxicity Study)	Negative

Aspiration hazard:						Yes
Symptoms:						nausea, vomiting

Distillates (petroleum), hydrotreated light paraffinic						
Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>5000	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	Analogous conclusion
Acute toxicity, by dermal route:	LD50	>5000	mg/kg	Rabbit	OECD 402 (Acute Dermal Toxicity)	Analogous conclusion
Acute toxicity, by inhalation:	LC50	>5,53	mg/l/4h	Rat	OECD 403 (Acute Inhalation Toxicity)	Aerosol, Analogous conclusion
Skin corrosion/irritation:				Rabbit	OECD 404 (Acute Dermal Irritation/Corrosion)	Not irritant, Analogous conclusion
Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Not irritant, Analogous conclusion
Respiratory or skin sensitisation:				Guinea pig	OECD 406 (Skin Sensitisation)	No (skin contact), Analogous conclusion
Germ cell mutagenicity:				Salmonella typhimurium	OECD 471 (Bacterial Reverse Mutation Test)	Negative, Analogous conclusion
Germ cell mutagenicity:				Mammalian	OECD 473 (In Vitro Mammalian Chromosome Aberration Test)	Negative, Analogous conclusion Chinese hamster
Reproductive toxicity (Developmental toxicity):				Rat	OECD 414 (Prenatal Developmental Toxicity Study)	Negative, Analogous conclusion
Carcinogenicity:				Mouse	OECD 451 (Carcinogenicity Studies)	Negative, Analogous conclusion dermal
Reproductive toxicity:	NOAEL	1000	mg/kg bw/d	Rat	OECD 421 (Reproduction/Developmental Toxicity Screening Test)	Analogous conclusion dermal
Aspiration hazard:						Yes
Specific target organ toxicity - repeated exposure (STOT-RE), oral:	NOAEL	125	mg/kg bw/d	Rat	OECD 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)	Analogous conclusion
Specific target organ toxicity - repeated exposure (STOT-RE), dermal:	NOAEL	<30	mg/kg bw/d	Rat	OECD 411 (Subchronic Dermal Toxicity - 90-day Study)	Analogous conclusion
Specific target organ toxicity - repeated exposure (STOT-RE), dermal:	NOAEL	1000	mg/kg	Rabbit	OECD 410 (Repeated Dose Dermal Toxicity - 90-Day)	Analogous conclusion
Specific target organ toxicity - repeated exposure (STOT-RE), inhalat.:	NOAEL	0,05	mg/l	Rat	OECD 412 (Subacute Inhalation Toxicity - 28-Day Study)	Aerosol, Analogous conclusion
Specific target organ toxicity - repeated exposure (STOT-RE), inhalat.:	NOAEL	0,15	mg/l	Rat		Aerosol, Analogous conclusion 13 weeks

Petroleum gases, liquefied

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by Inhalation:	LC50	>5	mg/l			
Skin corrosion/irritation:						Not irritant
Serious eye damage/irritation:						Not irritant

Respiratory or skin sensitisation:						No (skin contact)
Aspiration hazard:						No

11.2. Information on other hazards

WD-40® Specialist® High Performance Silicone Lubricant WD-40® Specialist® Silicone						
Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Endocrine disrupting properties:						Does not apply to mixtures.
Other information:						No other relevant information available on adverse effects on health.

SECTION 12: Ecological Information

Possibly more information on environmental effects, see Section 2.1 (classification).

WD-40® Specialist® High Performance Silicone Lubricant WD-40® Specialist® Silicone

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:							n.d.a.
12.1. Toxicity to daphnia:							n.d.a.
12.1. Toxicity to algae:							n.d.a.
12.2. Persistence and degradability:							Isolate as much as possible with an oil separator.
12.3. Bioaccumulative potential:							n.d.a.
12.4. Mobility in soil:							n.d.a.
12.5. Results of PBT and vPvB assessment							n.d.a.
12.6. Endocrine disrupting properties:							n.d.a.
12.7. Other adverse effects:							Does not apply to mixtures.
Other information:							No information available on other adverse effects on the environment. According to the recipe, contains no AOX.

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	NOELR	28d	0,13	mg/l	Oncorhynchus mykiss	QSAR	
12.1. Toxicity to fish:	LC50	96h	>1000	mg/l	Oncorhynchus mykiss	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to daphnia:	EC50	48h	>1000	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to algae:	ErC50	72h	>1000	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.1. Toxicity to algae:	EbC50	72h	>1000	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	

12.1. Toxicity to algae:	NOELR	72h	100	mg/l	Raphidocelis subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.1. Toxicity to algae:	NOELR	72h	3	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:		28d	80	%		OECD 301 F (Ready Biodegradability - Manometric Respirometry Test)	Readily biodegradable
12.3. Bioaccumulative potential:			5-6,7				High
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance
Toxicity to bacteria:	EL50	48h	0.95	mg/l			QSAR

White mineral oil (Natural oil)

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	>10000	mg/l	Lepomis macrochirus		
12.1. Toxicity to fish:	NOEC/NOEL	96h	>=100	mg/l	Oncorhynchus mykiss	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to daphnia:	NOEC/NOEL	48h	>=100	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to algae:	NOEC/NOEL	72h	>=100	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:		28d	24	%		OECD 301 B (Ready Biodegradability - CO2 Evolution Test)	Not readily biodegradable
12.4. Mobility in soil:							Product floats on the water surface.
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance

Distillates (petroleum), hydrotreated light paraffinic

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	NOEC/NOEL	28d	>1000	mg/l	Oncorhynchus mykiss	QSAR	
12.1. Toxicity to fish:	LL50	96h	>100	mg/l	Pimephales promelas	OECD 203 (Fish, Acute Toxicity Test)	Analogous conclusion
12.1. Toxicity to fish:	NOEC/NOEL	14d	1000	mg/l	Oncorhynchus mykiss	QSAR	
12.1. Toxicity to daphnia:	NOEC/NOEL	21d	10	mg/l	Daphnia magna	OECD 211 (Daphnia magna Reproduction Test)	Analogous conclusion
12.1. Toxicity to daphnia:	EL50	48h	> 10000	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	Analogous conclusion
12.1. Toxicity to algae:	NOEC/NOEL	72h	>=100	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	Analogous conclusion

12.1. Toxicity to algae:	EC50	72h	>100	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	Analogous conclusion
12.2. Persistence and degradability:		28d	31	%	activated sludge	OECD 301 F (Ready Biodegradability - Manometric Respirometry Test)	Not readily biodegradable, Analogous conclusion
12.3. Bioaccumulative potential:	Log Pow		>6				@20°C
12.3. Bioaccumulative potential:							Not to be expected
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance

Petroleum gases, liquefied

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	147,54	mg/l		QSAR	
12.3. Bioaccumulative potential:							Not to be expected
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance

SECTION 13: Disposal considerations

13.1 Waste treatment methods

For the substance / mixture / residual amounts

EC disposal code no.:

The waste codes are recommendations based on the scheduled use of this product.

Owing to the user's specific conditions for use and disposal, other waste codes may be allocated under certain circumstances. (2014/955/EU)

07 06 04 other organic solvents, washing liquids and mother liquors

16 05 04 gases in pressure containers (including halons) containing hazardous substances

Recommendation:

Sewage disposal shall be discouraged.

Pay attention to local and national official regulations.

Take full aerosol cans to problem waste collection.

Take emptied aerosol cans to valuable material collection.

For contaminated packing material

Pay attention to local and national official regulations.

Recommendation:

Do not perforate, cut up or weld uncleaned container.

Recycling

15 01 04 metallic packaging

SECTION 14: Transport information

General statements

Transport by road/by rail (ADR/RID)

14.1. UN number or ID number: 1950

14.2. UN proper shipping name:

UN 1950 AEROSOLS

14.3. Transport hazard class(es): 2.1

14.4. Packing group: -

14.5. Environmental hazards: Not applicable

Tunnel restriction code: D

Classification code: 5F

LQ: 1 L

Transport category: 2

Transport by sea (IMDG-code)

14.1. UN number or ID number: 1950



14.2. UN proper shipping name:

UN 1950 AEROSOLS

14.3. Transport hazard class(es):

2.1

14.4. Packing group:

-

14.5. Environmental hazards:

Not applicable

Marine Pollutant:

Not applicable

EmS:

F-D, S-U



Transport by air (IATA)

14.1. UN number or ID number:

1950

14.2. UN proper shipping name:

UN 1950 Aerosols, flammable

14.3. Transport hazard class(es):

2.1

14.4. Packing group:

-

14.5. Environmental hazards:

Not applicable



14.6. Special precautions for user

Persons employed in transporting dangerous goods must be trained.

All persons involved in transporting must observe safety regulations.

Precautions must be taken to prevent damage.

14.7. Maritime transport in bulk according to IMO Instruments

Freighted as packaged goods rather than in bulk, therefore not applicable.

Minimum amount regulations have not been taken into account.

Danger code and packing code on request.

Comply with special provisions.

SECTION 15: Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Observe restrictions:

Comply with national regulations/laws governing the protection of young people at work (national implementation of the Directive 94/33/EC)

Comply with trade association/occupational health regulations.

Directive 2012/18/EU ("Seveso III"), Annex I, Part 1 - The following categories apply to this product (others may also need to be considered according to storage, handling etc.):

Hazard categories	Notes to Annex I	Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of - Lower-tier requirements	Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of - Upper-tier requirements
P3a	11.1	150 (netto)	500 (netto)

The Notes to Annex 1 of Directive 2012/18/EU, in particular those named in the tables here and notes 1-6, must be taken into account when assigning categories and qualifying quantities.

Directive 2010/75/EU (VOC):

~ 92 %

Observe incident regulations.

National requirements/regulations on safety and health protection must be applied when using work equipment.

15.2 Chemical safety assessment

A chemical safety assessment is not provided for mixtures.

SECTION 16: Other information

EU F0052

Revised sections:

2

Employee training in handling dangerous goods is required.

These details refer to the product as it is delivered.

Employee instruction/training in handling hazardous materials is required.

Classification and processes used to derive the classification of the mixture in accordance with the ordinance (EG) 1272/2008 (CLP):

Safety data sheet according to Regulation (EC) No 1907/2006, Annex II

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Classification in accordance with regulation (EC) No. 1272/2008 (CLP)	Evaluation method used
Asp. Tox. 1, H304	Classification according to calculation procedure.
STOT SE 3, H336	Classification according to calculation procedure.
Aerosol 1, H222	Classification according to calculation procedure.
Aerosol 1, H229	Classification based on the form or physical state.

The following phrases represent the posted Hazard Class and Risk Category Code (GHS/CLP) of the product and the constituents.

H226 Flammable liquid and vapour.

H304 May be fatal if swallowed and enters airways.

H336 May cause drowsiness or dizziness.

EUH066 Repeated exposure may cause skin dryness or cracking.

Asp. Tox. — Aspiration hazard

STOT SE — Specific target organ toxicity - single exposure - narcotic effects

Aerosol — Aerosols

Flam. Liq. — Flammable liquid

Key literature references and sources for data:

Regulation (EC) No 1907/2006 (REACH) and Regulation (EC) No 1272/2008 (CLP) as amended.

Guidelines for the preparation of safety data sheets as amended (ECHA).

Guidelines on labelling and packaging according to the Regulation (EC) No 1272/2008 (CLP) as amended (ECHA).

Safety data sheets for the constituent substances.

ECHA Homepage - Information about chemicals.

GESTIS Substance Database (Germany).

German Environment Agency "Rigoletto" information site on substances that are hazardous to water (Germany).

EU Occupation Exposure Limits Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, (EU) 2017/164, (EU) 2019/1831, each as amended.

National Lists of Occupational Exposure Limits for each country as amended.

Regulations on the transport of hazardous goods by road, rail, sea and air (ADR, RID, IMDG, IATA) as amended.

Any abbreviations and acronyms used in this document:

acc., acc. to according, according to

ADR Accord européen relatif au transport international des marchandises Dangereuses par Route (= European Agreement concerning the International Carriage of Dangerous Goods by Road)

AOX Adsorbable organic halogen compounds

approx. approximately

Art., Art. no. Article number

ASTM ASTM International (American Society for Testing and Materials)

ATE Acute Toxicity Estimate

BAM Bundesanstalt für Materialforschung und -prüfung (= Federal Institute for Materials Research and Testing, Germany)

BAuA Bundesanstalt für Arbeitsschutz und Arbeitsmedizin (= Federal Institute for Occupational Health and Safety, Germany)

BCF Bioconcentration factor

BSEF The International Bromine Council

CAS Chemical Abstracts Service

CLP Classification, Labelling and Packaging (REGULATION (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures)

CMR carcinogenic, mutagenic, reproductive toxic

DMEL Derived Minimum Effect Level

DNEL Derived No Effect Level

DOC Dissolved organic carbon

e.g. for example (abbreviation of Latin 'exempli gratia'), for instance

EbCx, EyCx, EBLx (x = 10, 50) Effect Concentration/Level of x % on reduction of the biomass (algae, plants)

EC European Community

ECHA European Chemicals Agency

ECx, ELx (x = 0, 3, 5, 10, 20, 50, 80, 100) Effect Concentration/Level for x % effect

EEC European Economic Community

EINECS European Inventory of Existing Commercial Chemical Substances

ELINCS European List of Notified Chemical Substances

EN European Norms

EPA United States Environmental Protection Agency (United States of America)

ErCx, EpCx, Erlx (x = 10, 50) Effect Concentration/Level of x % on inhibition of the growth rate (algae, plants)

etc.	et cetera
EU	European Union
EVAL	Ethylene-vinyl alcohol copolymer
Fax.	Fax number
gen.	general
GHS	Globally Harmonized System of Classification and Labelling of Chemicals
GWP	Global warming potential
Koc	Adsorption coefficient of organic carbon in the soil
Kow	octanol-water partition coefficient
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IBC (Code)	International Bulk Chemical (Code)
IMDG-code	International Maritime Code for Dangerous Goods
Incl.	Including, Inclusive
IUCLID	International Uniform Chemical Information Database
IUPAC	International Union for Pure Applied Chemistry
LC50	Lethal Concentration to 50 % of a test population
LD50	Lethal Dose to 50% of a test population (Median Lethal Dose)
Log Koc	Logarithm of adsorption coefficient of organic carbon in the soil
Log Kow, Log Pow	Logarithm of octanol-water partition coefficient
LQ	Limited Quantities
MARPOL	International Convention for the Prevention of Marine Pollution from Ships
mg/kg bw	mg/kg body weight
mg/kg bw/d, mg/kg bw/day	mg/kg body weight/day
mg/kg dw	mg/kg dry weight
mg/kg wwt	mg/kg wet weight
n.a.	not applicable
n.av.	not available
n.c.	not checked
n.d.a.	no data available
NIOSH	National Institute for Occupational Safety and Health (USA)
NLP	No-longer-Polymer
NOEC, NOEL	No Observed Effect Concentration/Level
OECD	Organisation for Economic Co-operation and Development
org.	organic
OSHA	Occupational Safety and Health Administration (USA)
PBT	persistent, bioaccumulative and toxic
PE	Polyethylene
PNEC	Predicted No Effect Concentration
ppm	parts per million
PVC	Polyvinylchloride
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals (REGULATION (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals)
REACH-IT List-No.	6/7/8/9xx-xxx-x No. is automatically assigned, e.g. to pre-registrations without a CAS No. or other numerical identifier. List Numbers do not have any legal significance, rather they are purely technical identifiers for processing a submission via REACH-IT.
RID	Règlement concernant le transport international ferroviaire de marchandises Dangereuses (= Regulation concerning the International Carriage of Dangerous Goods by Rail)
SVHC	Substances of Very High Concern
Tel.	Telephone
TOC	Total organic carbon
UN RTDG	United Nations Recommendations on the Transport of Dangerous Goods
VOC	Volatile organic compounds
vPvB	very persistent and very bioaccumulative

The statements made here should describe the product with regard to the necessary safety precautions - they are not meant to guarantee definite characteristics - but they are based on our present up-to-date knowledge. No responsibility.

These statements were made by:

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