



Drispac® (Regular and Superlo®) Polymer

Version 2.2

Revision Date 2020-07-30

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

Product information

Product Name : Drispac® (Regular and Superlo®) Polymer
 Material : 1016806, 1016803, 1116045

Use : Drilling Mud Additive

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

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
 Website : www.CPChem.com

SECTION 2: Hazards identification

Classification of the substance or mixture

This product has been classified in accordance with the hazard communication standard 29 CFR 1910.1200; the SDS and labels contain all the information as required by the standard.

Classification

: Combustible dust

Labeling

Signal Word : Warning

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Hazard Statements : May form combustible dust concentrations in air.

Carcinogenicity:**IARC**

No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

SECTION 3: Composition/information on ingredients

Synonyms : Viscosifier, Water loss control agent

Component	CAS-No.	Weight %
Sodium Carboxymethylcellulose	9004-32-4	98 - 100

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

If swallowed : Keep respiratory tract clear. Do not give milk or alcoholic beverages. 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 : Not applicable

Unsuitable extinguishing media : High volume water jet.

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

Special protective equipment for fire-fighters : Wear self-contained breathing apparatus for firefighting if necessary.

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- 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.

SECTION 6: Accidental release measures

- Personal precautions : Avoid dust formation.
- Environmental precautions : Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods for cleaning up : Pick up and arrange disposal without creating dust. Sweep up and shovel. 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. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).

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.
- Advice on common storage : No materials to be especially mentioned.
- Use : Drilling Mud Additive

SECTION 8: Exposure controls/personal protection**Engineering measures**

Adequate ventilation to control airborne concentrations below the exposure guidelines/limits.

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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 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 : White to off-white
- Odor : Slight
- Odor Threshold : No data available

Safety data

- Flash point : Not applicable
- Lower explosion limit : Not applicable
- Upper explosion limit : Not applicable

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Flammability (solid, gas)	: May form combustible dust concentrations in air.
Oxidizing properties	: no
Autoignition temperature	: Not applicable
Thermal decomposition	: No data available
Molecular weight	: No data available
pH	: Not applicable
Pour point	: No data available
Melting point/range	No data available
Boiling point/boiling range	: No data available
Vapor pressure	: Not applicable
Relative density	: Not applicable
Density	: 1.5 g/cm ³
Water solubility	: Completely Soluble
Partition coefficient: n-octanol/water	: No data available
Solubility in other solvents	: No data available
Viscosity, kinematic	: No data available
Relative vapor density	: Not applicable
Evaporation rate	: No data available

SECTION 10: Stability and reactivity

Reactivity	: Stable at normal ambient temperature and pressure.
Chemical stability	: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Possibility of hazardous reactions	
Hazardous reactions	: Further information: Stable under recommended storage conditions., No hazards to be specially mentioned.

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

SECTION 11: Toxicological information**Acute oral toxicity**

Sodium Carboxymethylcellulose : LD50: 27,000 mg/kg
Species: Rat

Acute inhalation toxicity

Sodium Carboxymethylcellulose : LC50: > 5800 mg/m³ Exposure time: 4 h
Species: Rat
Test atmosphere: dust/mist

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Further information : No data available.

SECTION 12: Ecological information**Ecotoxicity effects**

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

Toxicity to daphnia and other aquatic invertebrates : This material is not expected to be harmful to aquatic organisms.

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

Biodegradability

Sodium Carboxymethylcellulose : This material is expected to be readily biodegradable.

Bioaccumulation

Sodium Carboxymethylcellulose : This material is not expected to bioaccumulate.

Mobility

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Sodium : No data available

Carboxymethylcellulose

Additional ecological information : No data available

Ecotoxicology Assessment

Short-term (acute) aquatic hazard

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

Long-term (chronic) aquatic hazard

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

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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.

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**

SARA 311/312 Hazards : Combustible dust

CERCLA Reportable Quantity : This material does not contain any components with a CERCLA RQ.

SARA 302 Reportable Quantity : This material does not contain any components with a SARA 302 RQ.

SARA 302 Threshold Planning Quantity : This material does not contain any components with a section 302 EHS TPQ.

SARA 304 Reportable Quantity : This material does not contain any components with a section 304 EHS RQ.

SARA 313 Components : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

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Ozone-Depletion Potential : This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489):

: Sodium Carboxymethylcellulose - 9004-32-4

US State Regulations

Pennsylvania Right To Know

: Sodium Carboxymethylcellulose - 9004-32-4

California Prop. 65 Components

: This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

Notification status

Europe REACH : This product is in full compliance according to REACH regulation 1907/2006/EC.

Switzerland CH INV : Not in compliance with the inventory

United States of America (USA) TSCA : On or in compliance with the active portion of the TSCA inventory

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 : A substance(s) in this product was not registered, notified to be registered, or exempted from registration by CPChem according to K-REACH regulations. Importation or manufacture of this product is still permitted provided the Korean Importer of Record has themselves notified the substance.

Philippines PICCS : On the inventory, or in compliance with the inventory

China IECSC : On the inventory, or in compliance with the inventory

Taiwan TCSI : On the inventory, or in compliance with the inventory

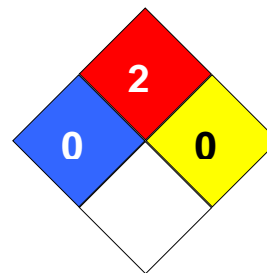
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SECTION 16: Other information

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

**Further information**

Legacy SDS Number : 25950

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	TSCA	Toxic Substance Control Act

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	New Chemical Substances		
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%		



Safety Data Sheet DUO-VIS*

1. Identification of the Substance/Preparation and of the Company/Undertaking

1.1 Product identifier

Product name DUO-VIS*
Product code PID510

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

Recommended Use Viscosifier.

Uses advised against Consumer use

1.3 Details of the supplier of the safety data sheet

Supplier

M-I Drilling Fluids UK Limited
Westhill Business Park
Westhill AB32 6JL Aberdeenshire
Scotland United Kingdom

+47 51577424

SDS@slb.com

1.4 Emergency Telephone Number

Emergency telephone (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 561 1600

National Poison Center Numbers

Germany	+49 69 222 25285
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2. Hazards Identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP] Commission Regulation (EU) No 2015/830 of 28 May 2015

Health hazards Not classified
Environmental hazards Not classified
Physical Hazards Not classified

2.2 Label elements

Signal word

None

Hazard Statements

This product is not classified as hazardous therefore no (H) hazard statements assigned.

EU Specific Hazard Statements

EUH208 - Contains (Glyoxal). May produce an allergic reaction

Precautionary Statements

This product is not classified as hazardous therefore has no (P) precautionary statements assigned.

-

Contains

Glyoxal

2.3 Other hazards

Not classified as PBT/vPvB by current EU criteria
 Product dust may be irritating to eyes, skin and respiratory system
 Suspended dust may present a dust explosion hazard

3. Composition/information on Ingredients

3.1 Substances

Not applicable

3.2 Mixtures

Chemical Name	EC No	CAS No	Weight-%	Component information	REACH registration number
Glyoxal	203-474-9	107-22-2	<1	Acute Tox. 4 (H332) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Skin Sens. 1B (H317) Muta. 2 (H341) STOT SE 3 (H335)	Exempt

Comments

The product contains other ingredients which do not contribute to the overall classification.

4. First Aid Measures

4.1 First aid measures

Inhalation	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
Ingestion	Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.
Skin contact	Wash skin thoroughly with soap and water. Get medical attention if symptoms occur.
Eye Contact	Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if any discomfort continues.

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

General advice The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

Symptoms

Inhalation	Please see Section 11. Toxicological Information for further information.
Ingestion	Please see Section 11. Toxicological Information for further information.
Skin contact	Please see Section 11. Toxicological Information for further information.
Eye contact	Please see Section 11. Toxicological Information for further information.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician Treat symptomatically.

5. Firefighting Measures

5.1 Extinguishing media

Suitable extinguishing media

Water Fog, Alcohol Foam, CO₂, Dry Chemical.

Extinguishing media which must not be used for safety reasons

None known.

5.2. Special hazards arising from the substance or mixture

Unusual fire and explosion hazards

Dust may form explosive mixture in air.

Hazardous combustion products

Fire or high temperatures create: Carbon oxides (CO_x).

5.3 Advice for firefighters

Special protective equipment for fire-fighters

As in any fire, wear self-contained breathing apparatus and full protective gear.

Special Fire-Fighting Procedures

Containers close to fire should be removed immediately or cooled with water.

6. Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. See also section 8. Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Material becomes slippery when wet. Use caution if wet.

6.2 Environmental precautions

Disposal should be in accordance with applicable regional, national and local laws and regulations. Refer to applicable federal, state and local regulations.

Environmental exposure controls

Local authorities should be advised if significant spillages cannot be contained.

6.3 Methods and material for containment and cleaning up

Methods for containment

Cover powder spill with plastic sheet or tarp to minimise spreading. Prevent further leakage or spillage if safe to do so.

Methods for cleaning up

Take precautionary measures against static discharges. Sweep up and shovel into suitable containers for disposal. Avoid dust formation. After cleaning, flush away traces with water.

6.4 Reference to other sections

See section 13 for more information.

7. Handling and Storage

7.1 Precautions for safe handling

Handling

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Avoid dust formation. Persons susceptible to allergic reactions should not handle this product.

Hygiene Measures

Use good work and personal hygiene practices to avoid exposure Do not eat, drink or smoke when using this product Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing

7.2 Conditions for safe storage, including any incompatibilities

Technical measures/precautions Ensure adequate ventilation. Take precautionary measures against static discharges. Keep

airborne concentrations below exposure limits.

Storage precautions Keep containers tightly closed in a dry, cool and well-ventilated place Suspended dust may present a dust explosion hazard Avoid heat, flames and other sources of ignition. Protect from moisture Avoid contact with: Strong oxidising agents

Storage class Chemical storage.

Storage class, TRGS 510, Germany LGK11 - Combustible solids

Packaging materials Use specially constructed containers only

7.3 Specific end uses

See Section 1.2.

8. Exposure Controls/Personal Protection

8.1 Control parameters

Exposure Limits No biological limit allocated

Component Information

Chemical Name	EU OEL - Third List	Austria	Denmark
Glyoxal	Not determined	Not determined	0.2 ppm Ceiling 0.5 mg/m ³ Ceiling
Chemical Name	France	Germany	Hungary
Glyoxal	Not determined	Not determined	Not determined
Chemical Name	Italy	Netherlands	Norway
Glyoxal	Not determined	Not determined	Not determined
Chemical Name	Poland	Portugal	Romania
Glyoxal	Not determined	0.1 mg/m ³ TWA inhalable fraction, aerosol and vapor	Not determined
Chemical Name	Spain	Switzerland	UK
Glyoxal	0.1 mg/m ³ TWA VLA-ED	Not determined	Not determined

8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

Engineering Controls

Ensure adequate ventilation. Local exhaust ventilation.

Personal protective equipment

- Eye protection** Use eye protection according to EN 166, designed to protect against powders and dusts. Safety glasses with side-shields. Tightly fitting safety goggles.
- Hand protection** Wear gloves according to EN 374 to protect against skin effects from powders Use protective gloves made of: Butyl Neoprene Nitrile Frequent change is advisable
- Respiratory protection** No personal respiratory protective equipment normally required. In case of insufficient ventilation wear suitable respiratory equipment, Half mask with a particle filter P2 (BS EN

Skin and body protection

143), At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.
 Wear suitable protective clothing, Eye wash and emergency shower must be available at the work place.

Hygiene Measures

Wash hands before eating, drinking or smoking, Remove and wash contaminated clothing before re-use.



8.2.3 Environmental exposure controls

Environmental exposure

Use appropriate containment to avoid environmental contamination See section 6 for more information

9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Physical state	Solid
Appearance	Powder Dust
Odour	Mild
Colour	Cream - Tan
Odour threshold	Not applicable

<u>Property</u>	<u>Values</u>	<u>Remarks</u>
pH	Not applicable	
pH @ dilution	7	@ 1% sol.
Melting / freezing point	No information available	
Boiling point/range	No information available	
Flash point	No information available	
Evaporation rate	No information available	
Flammability (solid, gas)	Not applicable	
Flammability Limit in Air		
Upper flammability limit	Not applicable	
Lower flammability limit	Not applicable	
Vapour pressure	No information available	
Vapour density	No information available	
Specific gravity	1.5	20 °C
Bulk density	50 lb/ft ³ (800 kg/m ³)	
Relative density	No information available	
Water solubility	Soluble in water	
Solubility in other solvents	No information available	
Autoignition temperature	> 200 °C / > 392 °F	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	
log Pow	No information available	

Explosive properties

Suspended dust may present a dust explosion hazard

Oxidising properties	None known
9.2 Other information	
Pour point	No information available
Molecular weight	No information available
VOC content(%)	None
Density	No information available

Comments

The data listed above are typical physical and chemical properties and should not be construed as product specification.

10. Stability and Reactivity

10.1 Reactivity

Dust may form explosive mixture in air.

10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

10.3 Possibility of Hazardous Reactions

Hazardous polymerisation

Hazardous polymerisation does not occur.

10.4 Conditions to avoid

Take precautionary measures against static charges. Avoid dust formation. Heat, flames and sparks. Protect from moisture.

10.5 Incompatible materials

Strong oxidising agents.

10.6 Hazardous decomposition products

See Section 5.2.

11. Toxicological Information

11.1 Information on toxicological effects

Acute toxicity

Inhalation	Inhalation of dust in high concentration may cause irritation of respiratory system.
Eye contact	Dust may cause mechanical irritation.
Skin contact	Prolonged contact may cause redness and irritation.
Ingestion	Ingestion may cause stomach discomfort.
Unknown acute toxicity	Not applicable.

Toxicology data for the components

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Glyoxal	= 200 mg/kg (Rat)	= 12700 mg/kg (Rabbit)	= 2410 mg/m ³ , 3-4 hrs

Sensitisation	EUH208 - Contains (Glyoxal). May produce an allergic reaction.
Mutagenic effects	Contains an known or suspected mutagen.
Carcinogenicity	This product does not contain any known or suspected carcinogens.
Reproductive toxicity	This product does not contain any known or suspected reproductive hazards.
Routes of exposure	Skin contact.
Routes of entry	Inhalation.
Specific target organ toxicity - Single exposure	Not classified
Specific target organ toxicity - Repeated exposure	Not classified.
Aspiration hazard	Not applicable.
Other information	Key literature references and sources for data. See Section 16 for more information.

12. Ecological Information

12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Toxicity to algae

See component information below.

Toxicity to fish

See component information below.

Toxicity to daphnia and other aquatic invertebrates

See component information below.

Toxicology data for the components

Chemical Name	Toxicity to fish	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates
Glyoxal	= 215 mg/L LC50 Pimephales promelas 96 h 460 - 680 mg/L LC50 Leuciscus idus 96 h	<= 348.59 mg/L EC50 Pseudokirchneriella subcapitata 96 h > 500 mg/L EC50 Desmodesmus subspicatus 96 h > 500 mg/L EC50	= 404 mg/L EC50 Daphnia magna 48 h

		Desmodesmus subspicatus 72 h	
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12.2 Persistence and degradability

The product contains substances which are not expected to be biodegradable. See component information below.

Chemical Name	Persistence and degradability
Glyoxal	Readily biodegradable

12.3 Bioaccumulative potential

Does not bioaccumulate. See component information below.

Chemical Name	Bioaccumulation
Glyoxal	Not likely to bioaccumulate - Bioconcentration factor (BCF) 2.155

12.4 Mobility

Mobility

Soluble in water. See component information below.

Chemical Name	Mobility
Glyoxal	Soluble in water

Mobility in soil

See component information below.

Chemical Name	Mobility in soil
Glyoxal	Not expected to adsorb on soil

12.5 Results of PBT and vPvB assessment

Not classified as PBT/vPvB by current EU criteria.

12.6 Other adverse effects.

None known.

12.7 Other information

Key literature references and sources for data. See Section 16 for more information.

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.
EWC Waste Disposal No	According to the European Waste Catalogue, 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 The following Waste Codes are only suggestions: EWC waste disposal No: 07 01 99.

14. Transport information

14.1. UN number

Not regulated

14.2. UN proper shipping name

The product is not covered by international regulation on the transport of dangerous goods

14.3. Hazard class(es)

ADR/RID/ADN/ADG Hazard class	Not regulated
IMDG Hazard class	Not regulated
ICAO Hazard class/division	Not regulated

14.4 Packing group

ADR/RID/ADN/ADG Packing Group	Not regulated
IMDG Packing group	Not regulated
ICAO Packing group	Not regulated

14.5 Environmental hazard

No

14.6 Special precautions

Not applicable

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

Please contact SDS@slb.com for info regarding transport in Bulk.

15. Regulatory Information

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

Germany, Water Endangering Classes (VwVwS) Water endangering class = 1

Technical Rules for Hazardous Substances (TRGS) TRGS 220 National aspects when compiling safety data sheets
 TRGS 510 Storage of hazardous substances in non stationary containers
 TRGS 900 Occupational exposure limits

Germany

Regulations governing systems for handling substances hazardous to waters
 Chemicals act

Commission Regulation (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC, 2000/21/EC and 453/2010 including amendments.

This safety data sheet complies with the requirements of Regulation (EC) No. 1272/2008.

Dutch Mining Regulations: In accordance with Mining Regulations 9.2 and Chapter 4 of the Working Conditions Decree.

International inventories

USA, Toxic Substances Control Act inventory (TSCA)	Complies
Canada (DSL)	Complies
Philippines (PICCS)	Complies
Inventory - Japan - Existing and New Chemicals list	Complies
China (IECSC)	Complies
Australia (AICS)	Complies
Korea (KECL)	Complies
Inventory - New Zealand - Inventory of Chemicals (NZIoC)	Complies

Europe - REACH

All products supplied from the European Economic Area (EEA) are compliant with the REACH Regulation EC 1907/2006. For products supplied from the EEA, Schlumberger and/or its suppliers have pre-registered and is registering all of the substances that it and/or its suppliers manufactures in or imports into the EEA that are subject to Title II of the REACH Regulation. All products supplied from outside the EEA are subject to REACH only if imported into the EEA. The importer of the products must comply with REACH for each imported substance. Contact REACH@slb.com for REACH information.

15.2 Chemical Safety Report

No information available

16. Other Information

Prepared by Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Anne Karin (Anka) Fosse
Supercedes Date: 09/Jul/2018
Revision date 16/Nov/2018
Version 12
This SDS has been revised in the following section(s) 2, 6, No changes with regard to classification have been made.

Key literature references and sources for data

www.ChemADVISOR.com
Supplier
National Chemical Inventories
National regulatory information
National occupational exposure limits

Training Advice

Do not handle until all safety precautions have been read and understood
Follow general hygiene considerations recognised as common good workplace practices

HMIS classification

Health	0
Flammability	1
Physical hazard	0
PPE	E

Full text of H-Statements referred to under sections 2 and 3

This product is not classified as hazardous therefore no (H) hazard statements assigned.

H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
H332 - Harmful if inhaled
H335 - May cause respiratory irritation
H341 - Suspected of causing genetic defects if inhaled
EUH208 - Contains (Glyoxal). May produce an allergic reaction

*A mark of M-I L.L.C., a Schlumberger Company

Disclaimer

The information contained herein is considered in good faith as reliable of the date issued and is based upon on measurements, tests or data derived from supplier's own study or furnished by others. In providing this SDS information, Supplier makes no express or implied warranties as to the information or product; merchantability or fitness of purpose; any express or implied warranty; or non-infringement of intellectual property rights; and supplier assumes no responsibility for any direct, special or consequential damages, results obtained, or the activities of others. To the maximum extent permitted by law, supplier's warranty obligations and buyer's sole remedies are as stated in separate

agreement between the parties.

This Document is Confidential and Proprietary. Unless Otherwise Marked, It is an Uncontrolled Copy.

Section 1. Identification

GHS product identifier : EDC 95-11 US

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

Identified uses

Manufacture of substance - Industrial
Distribution of substance - Industrial
Formulation and (re)packing of substances and mixtures - Industrial
Use in oil and gas field drilling and production operations - Industrial
Use in oil and gas field drilling and production operations - Professional
Use in water treatment agents - Industrial
Use in water treatment agents - Professional
Use in laboratories - Industrial
Use in laboratories - Professional

Supplier's details : TotalEnergies Marketing USA, Inc.
1201 Louisiana St. Suite 1800
Houston, TX 77002
Phone: 713-483-5000
ProductSafety@total.com

TotalEnergies Fluids
24, cours Michelet.
92800 PUTEAUX.
FRANCE
Tel: +33 (0)1 41 35 40 00
Fax: +33 (0)1 41 35 82 88
mfs.fds@totalenergies.com

Emergency telephone number (with hours of operation) :

1-866-928-0789 (For Emergencies, call CARECHEM 24/7 Domestic)
1-215-207-0061 (For Emergencies, call CARECHEM 24/7 International)
1-800-424-9300 (CHEMTREC 24/7 Domestic)
1-703-527-3887 (CHEMTREC 24/7 International)

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : ASPIRATION HAZARD - Category 1

GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : May be fatal if swallowed and enters airways.

Precautionary statements

- Prevention** : Not applicable.
- Response** : SWALLOWED: Immediately call a POISON CENTER or doctor. Do NOT induce vomiting.
- Storage** : Not applicable.
- Disposal** : Not applicable.
- Hazards not otherwise classified** : Vapor may be irritating to eyes and respiratory system.
Hazard of slipping on spilled product.

Section 3. Composition/information on ingredients

Substance/mixture : Substance

CAS number/other identifiers

CAS number : 64742-46-7

Ingredient name	% (w/w)	CAS number
<input checked="" type="checkbox"/> Distillates (petroleum), hydrotreated middle	100	64742-46-7

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

Additional information : Content of aromatic compounds <0.03%

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 and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary 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. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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 adverse health effects persist or are severe. 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** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. 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.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

- Inhalation** : No known significant effects or critical hazards.
Skin contact : No known significant effects or critical hazards.
Ingestion : May be fatal if swallowed and enters airways.

Over-exposure signs/symptoms

- Eye contact** : No specific data.
Inhalation : No specific data.
Skin contact : No specific data.
Ingestion : Adverse symptoms may include the following:
nausea or vomiting

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : If swallowed accidentally, the product may enter the lungs due to its low viscosity and lead to the rapid development of very serious pulmonary lesions (medical survey during 48 hours)
Specific treatments : No specific treatment.
Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
 Use adequate personal protective equipment as needed

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO₂, water spray (fog) or foam. Sand.
Unsuitable extinguishing media : Do not use water jet.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst.

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
Carbon dioxide (CO₂).
carbon monoxide
various hydrocarbons
Aldehyde.
Soot

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.

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.

Remark : Not considered explosive based on chemical structure and oxygen balance considerations

Section 6. Accidental release measures

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. Do not touch or walk through spilled material. 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".

- 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).

Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. 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. 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 (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not swallow. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- 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.

- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in original container protected 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. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
<input checked="" type="checkbox"/> Distillates (petroleum), hydrotreated middle	None.

Advisory OEL : Mineral oil mist: USA: OSHA (PEL) TWA 5 mg/m³, NIOSH (REL) TWA 5 mg/m³, STEL 10 mg/m³, ACGIH (TLV) TWA 5 mg/m³ (highly refined)

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

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.

Individual protection measures

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. 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: safety glasses with side-shields.

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.

Repeated or prolonged exposure

Glove material: Nitrile rubber; Glove thickness > 0.55 mm; Break through time > 480 min.

Glove material: Fluorinated rubber; any thickness; Break through time > 480 min.

Glove material: polyvinyl alcohol (PVA); any thickness; Break through time > 480 min. In case of contact through splashing

Glove material: Nitrile rubber; Glove thickness > 0.38 mm; Break through time > 60 min.

Glove material: Neoprene; Glove thickness > 0.75 mm; Break through time > 60 min.

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.

Wear gloves according to EN374 resistant to the solvent(s) in use.

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.

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** : Ensure adequate ventilation and check that a safe, breathable atmosphere is present before entry into confined spaces. In case of inadequate ventilation wear respiratory protection: Type A/P1. Warning ! filters have a limited use duration. The use of breathing apparatus must comply strictly with the manufacturer's instructions and the regulations governing their choices and uses.

Section 9. Physical and chemical properties

The conditions of measurement of all properties are at standard temperature (20°C / 68°F) and pressure (1013 hPa) unless otherwise indicated.

Appearance

- Physical state** : Liquid.
- Color** : Colorless.
- Odor** : Hydrocarbon-like.
- Odor threshold** : Not available.
- pH** : Not applicable.
- Melting point/freezing point** : Not available.
- Boiling point** : 250 to 335°C (482 to 635°F) [ISO 3405]
- Flash point** : Closed cup: >115°C (>239°F) [ISO 2719]
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Not available.
- Lower and upper explosive (flammable) limits** : Lower: 1%
Upper: 6%
- Vapor pressure** : 0.0003 kPa (<0.0022502 mm Hg)
- Vapor density** : Not available.
- Relative density** : 0.815 [ISO 12185]
- Density** : 0.815 g/cm³ [15°C] [ISO 12185]
- Solubility** : Insoluble in the following materials: cold water and hot water.
- Miscible with water** : No.
- Partition coefficient: n-octanol/water** : Not available.
- Auto-ignition temperature** : 230°C (>446°F) [ASTM E 659]
- Decomposition temperature** : Not available.
- Viscosity** : Kinematic (40°C (104°F)): <20.5 mm²/s (<20.5 cSt) [ISO 3104]
- Flow time (ISO 2431)** : Not available.
- Particle characteristics**
- Median particle size** : Not applicable.

Section 10. Stability and reactivity

- Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
- Chemical stability** : Stable under recommended storage and handling conditions (see Section 7).
- Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- Conditions to avoid** : Heat, open flames, sparks and static discharge.

Incompatible materials : Reactive or incompatible with the following materials:
strong acids
Strong oxidizing agents

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/substance	Result	Species	Dose	Exposure	Test
<input checked="" type="checkbox"/> Hydrocarbons, C15-C20, n-alkanes, isoalkanes, cyclics, < 0.03% aromatics	LC50 Inhalation Dusts and mists	Rat	>5266 mg/m ³	4 hours	OECD 403
	LD50 Dermal	Rabbit	>3160 mg/kg	-	OECD 402
	LD50 Oral	Rat	>5000 mg/kg	-	OECD 401

Conclusion/Summary : Based on available data, the classification criteria are not met.

Irritation/Corrosion

Skin : Based on available data, the classification criteria are not met.

Eyes : Based on available data, the classification criteria are not met.

Respiratory : Based on available data, the classification criteria are not met.

Sensitization

Skin : Based on available data, the classification criteria are not met.

Respiratory : Based on available data, the classification criteria are not met.

Mutagenicity

Conclusion/Summary : Based on available data, the classification criteria are not met.

Carcinogenicity

Conclusion/Summary : Based on available data, the classification criteria are not met.

Reproductive toxicity

Conclusion/Summary : Based on available data, the classification criteria are not met.

Teratogenicity

Conclusion/Summary : Based on available data, the classification criteria are not met.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Name	Result
Hydrocarbons, C15-C20, n-alkanes, isoalkanes, cyclics, < 0.03% 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** : No known significant effects or critical hazards.
Skin contact : No known significant effects or critical hazards.
Ingestion : May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : No specific data.
Inhalation : No specific data.
Skin contact : No specific data.
Ingestion : Adverse symptoms may include the following:
 nausea or vomiting

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

- 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.

- General** : No known significant effects or critical hazards.
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.

Numerical measures of toxicity

Acute toxicity estimates

N/A

Section 12. Ecological information

Toxicity

Product/substance	Result	Species	Exposure	Test
Hydrocarbons, C15-C20, n-alkanes, isoalkanes, cyclics, < 0.03% aromatics	Acute EC50 10000 mg/l	Algae - Skeletonema costatum	72 hours	ISO 10253
	Acute EC50 3193 mg/l	Daphnia - Acartia tonsa	48 hours	ISO 14669
	Acute LC50 1028 mg/l	Fish	96 hours	-

Persistence and degradability

Product/substance	Test	Result	Dose	Inoculum
Hydrocarbons, C15-C20, n-alkanes, isoalkanes, cyclics, < 0.03% aromatics	OECD 306	74 % - Readily - 28 days	-	-



EDC 95-11 US

TotalEnergies

SDS # : 084462

Product/substance	Aquatic half-life	Photolysis	Biodegradability
Hydrocarbons, C15-C20, n-alkanes, isoalkanes, cyclics, < 0.03% aromatics	-	-	Readily

Bioaccumulative potential

Product/substance	LogK _{ow}	BCF	Potential
Hydrocarbons, C15-C20, n-alkanes, isoalkanes, cyclics, < 0.03% aromatics	-	171	low

Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Mobility in soil : Given its physical and chemical characteristics, the product generally shows low soil mobility. The product is insoluble and floats on water.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : 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. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	IMDG	ICAO/IATA
UN/ID No	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-
Transport hazard class(es)	-	-	-
Packing group	-	-	-
Environmental hazards	No.	No.	No.

Additional information

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.

Transport in bulk according to IMO instruments : Not available.

Section 15. Regulatory information

U.S. Federal regulations : TSCA 8(a) CDR Exempt/Partial exemption: Not determined

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : ASPIRATION HAZARD - Category 1

Composition/information on ingredients

Name	%	Classification
Hydrocarbons, C15-C20, n-alkanes, isoalkanes, cyclics, < 0.03% aromatics	100	ASPIRATION HAZARD - Category 1

State regulations

Massachusetts : This material is not listed.

New York : This material is not listed.

New Jersey : This material is not listed.

Pennsylvania : This material is not listed.

California Prop. 65

To the best of our knowledge, this product does not contain any substances known to the State of California to cause cancer, developmental and/or reproductive harm

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.

Inventory list

- Australia inventory (AIC)** : This material is listed or exempted.
- Canada inventory (DSL/NDL)** : This material is listed or exempted.
- China inventory (IECSC)** : This material is listed or exempted.
- Europe inventory (EINECS/ELINCS/NLP)** : This material is listed or exempted.
- Japan inventory** : **Japan inventory (CSCL)**: This material is listed or exempted.
Japan inventory (ISHL): This material is listed or exempted.
- New Zealand Inventory of Chemicals (NZIoC)** : This material is listed or exempted.
- Philippines inventory (PICCS)** : This material is listed or exempted.
- Korea inventory (KECI)** : This material is listed or exempted.
- Taiwan Chemical Substances Inventory (TCSI)** : This material is listed or exempted.
- Thailand inventory** : This material is listed or exempted.
- Turkey inventory** : This material is listed or exempted.
- United States inventory (TSCA 8b)** : This material is listed or exempted.
- Vietnam inventory** : This material is listed or exempted.

The information stated in this section relates solely to the conformity of the chemical product with the countries Inventories. The information used to confirm the inventory status of this product may be based on additional data to the chemical composition shown in Section 3. Other regulations may apply for importation or marketing authorizations.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health	/	3
Flammability		1
Physical hazards		0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

National Fire Protection Association (U.S.A.)





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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

Procedure used to derive the classification

Classification	Justification
ASPIRATION HAZARD - Category 1	Expert judgment

History

Date of revision : 2022/03/03

Date of previous revision : 2021/10/23

Version : 2.02

Key to abbreviations

- : ATE = Acute Toxicity Estimate
- : BCF = Bioconcentration Factor
- : GHS = Globally Harmonized System of Classification and Labelling of Chemicals
- : IATA = International Air Transport Association
- : IBC = Intermediate Bulk Container
- : IMDG = International Maritime Dangerous Goods
- : LogPow = logarithm of the octanol/water partition coefficient
- : MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
- : N/A = Not available
- : SGG = Segregation Group
- : UN = United Nations

References

: Not available.

Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.



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According to Regulation (EC) No. 1907/2006, Regulation (EC) No. 2015/830

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

1.1

Product information

Product Name : Flowzan® Biopolymer
 Material : 1123442, 1016765, 1016826, 1016827

1.2

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

Relevant Identified Uses : Drilling Fluid Additive
 Supported

1.3

Details of the supplier of the safety data sheet

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
 Responsible Party: Product Safety Group
 Email:sds@cpchem.com

1.4

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

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Argentina: +(54)-1159839431

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

SECTION 2: Hazards identification**2.1****Classification of the substance or mixture
REGULATION (EC) No 1272/2008**

Not a hazardous substance or mixture.

2.2**Labeling (REGULATION (EC) No 1272/2008)**

Not a hazardous substance or mixture.

SECTION 3: Composition/information on ingredients**3.1 - 3.2****Substance or Mixture**

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**4.1****Description of 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 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

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5.1**Extinguishing media**

Unsuitable extinguishing media : High volume water jet.

5.2**Special hazards arising from the substance or mixture**

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.

5.3**Advice for firefighters**

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**6.1****Personal precautions, protective equipment and emergency procedures**

Personal precautions : Avoid dust formation.

6.2**Environmental precautions**

Environmental precautions : If the product contaminates rivers and lakes or drains inform respective authorities.

6.3**Methods and materials for containment and cleaning up**

Methods for cleaning up : Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

Additional advice : Special exposure hazards arising from the substance or mixture itself, combustion products, resulting gases
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.

6.4**Reference to other sections**

Reference to other sections : For personal protection see section 8. For disposal

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considerations see section 13.

SECTION 7: Handling and storage**7.1****Precautions for safe handling
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.

7.2**Conditions for safe storage, including any incompatibilities****Storage**

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

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

SECTION 8: Exposure controls/personal protection**8.1****Control parameters
Ingredients with workplace control parameters****SE**

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

PT

Componentes	Bases	Valor	Parâmetros de controlo	Nota
Calcium Stearate	PT OEL	VLE-MP	10 mg/m3	A4,

A4 Agente não classificável como carcinogénico no Homem.

LT

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

IE

Components	Basis	Value	Control parameters	Note
Calcium Stearate	IE OEL	OELV - 8 hrs (TWA)	10 mg/m3	

ES

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

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BE

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

8.2**Exposure controls****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 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, aerosolization, 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**9.1****Information on basic physical and chemical properties****Appearance**

- Form : Powder
 Physical state : solid
 Color : Cream to light yellow

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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 (as aqueous solution)
Pour point	: No data available
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**10.1**

Reactivity : Stable at normal ambient temperature and pressure.

10.2

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

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10.3**Possibility of hazardous reactions**

Hazardous reactions : Further information: Stable under recommended storage conditions., No hazards to be specially mentioned.

10.4

Conditions to avoid : No data available.

10.5

Materials to avoid : No data available.

10.6

Hazardous decomposition products : No data available

Other data : No decomposition if stored and applied as directed.

SECTION 11: Toxicological information**11.1****Information on toxicological effects**

Flowzan® Biopolymer
Further information : Dust can cause mechanical irritation of the eyes, skin, and respiratory tract.

SECTION 12: Ecological information**12.1****Toxicity****Ecotoxicity effects**

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

Toxicity to daphnia and other aquatic invertebrates : This material is not expected to be harmful to aquatic organisms.

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

12.2**Persistence and degradability**

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

12.3**Bioaccumulative potential**

Elimination information (persistence and degradability)

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Bioaccumulation : This material is not expected to bioaccumulate.

12.4**Mobility in soil**

Mobility : No data available

12.5**Results of PBT and vPvB assessment**

Results of PBT 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.

12.6**Other adverse effects**

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

Ecotoxicology Assessment

Short-term (acute) aquatic hazard : This material is not expected to be harmful to aquatic organisms.

Long-term (chronic) aquatic hazard : This material is not expected to be harmful to aquatic organisms.

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

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**14.1 - 14.7****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)

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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.

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.

Maritime transport in bulk according to IMO instruments

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

Commission Regulation (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

15.2

Major Accident Hazard Legislation : ZEU_SEVES3 Update:
Not applicable

Other Registrations

Regulation

Danish PR number:

Registration number

1764847

Notification status

Flowzan® Biopolymer

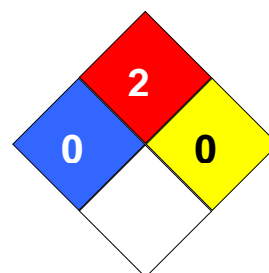
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Europe REACH	:	On the inventory, or in compliance with the inventory
Switzerland CH INV	:	On the inventory, or in compliance with the inventory
United States of America (USA) TSCA	:	All substances listed as active on the TSCA inventory
Canada DSL	:	All components of this product are on the Canadian DSL
Other AIIC	:	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
Philippines PICCS	:	On the inventory, or in compliance with the inventory
Taiwan TCSI	:	On the inventory, or in compliance with the inventory
Korea KECI	:	Not 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

**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	PEL	Permissible Exposure Limit

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	Chemicals Association		
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%		

SDS no. PID20170
Version 2
Revision date 09/Aug/2018
Supersedes Date: 08/Jul/2016



Safety Data Sheet SAFE-SURF* EU

1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name SAFE-SURF* EU
Product code PID20170

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

Recommended Use Completion fluid additive.

Uses advised against Consumer use

1.3 Details of the supplier of the safety data sheet

Supplier

Schlumberger Oilfield UK PLC
Schlumberger House, Buckingham Gate
Gatwick Airport
West Sussex RH6 0NZ

+47 51577424

SDS@slb.com

1.4 Emergency Telephone Number

Emergency telephone (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 561 1600

National Poison Center Numbers

Netherlands	National Poisons Information Center (NL): +31 30 274 88 88 (NB: this service is only available to health professionals)
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2. Hazards Identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008

Health hazards

Acute toxicity - Oral	Category 4
Acute toxicity - Dermal	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 1

Environmental hazards Not classified

Physical Hazards Not classified

2.2 Label elements



Signal word

DANGER

Hazard Statements

- H302 - Harmful if swallowed
- H312 - Harmful in contact with skin
- H315 - Causes skin irritation
- H318 - Causes serious eye damage
- H332 - Harmful if inhaled

Precautionary Statements

- P280 - Wear protective gloves, protective clothing, eye protection
- P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
- 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
- P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
- P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

Supplementary precautionary statements

- P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
- P264 - Wash face, hands and any exposed skin thoroughly after handling
- P270 - Do not eat, drink or smoke when using this product
- P271 - Use only outdoors or in a well-ventilated area
- P310 - Immediately call a POISON CENTER or physician
- P330 - Rinse mouth
- P332 + P313 - If skin irritation occurs: Get medical attention
- P362 + P364 - Take off contaminated clothing and wash it before reuse

Contains

- 2-butoxyethanol
- D-Glucopyranose, oligomeric, C8-10 glycosides

2.3 Other hazards

Not classified as PBT/vPvB by current EU criteria

Thermal decomposition can lead to release of irritating and toxic gases and vapors

3. Composition/information on Ingredients

3.1 Substances

Not applicable

3.2 Mixtures

Chemical Name	EC No	CAS No	Weight-%	Component information	REACH registration number
2-butoxyethanol	203-905-0	111-76-2	30-60	Acute Tox. 4 (H302) Acute Tox. 4 (H312) Acute Tox. 4 (H332) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319)	EU: 01-2119475108-3 6-xxxx
D-Glucopyranose, oligomeric, C8-10 glycosides	500-220-1	68515-73-1	5-10	Eye Dam.1 (H318)	EU: 01-2119488530-3 6-xxxx

Comments

The product contains other ingredients which do not contribute to the overall classification.

4. First Aid Measures

4.1 First aid measures

Inhalation	Move to fresh air. Keep at rest. If breathing is difficult, (trained personnel should) give oxygen. Seek immediate medical attention/advice.
Ingestion	Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Seek medical attention if irritation occurs.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Seek medical attention if irritation occurs.
Eye Contact	Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first five minutes, then continue rinsing eye. Seek medical attention at once.

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

General advice	The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.
Symptoms	
Inhalation	Please see Section 11. Toxicological Information for further information.
Ingestion	Please see Section 11. Toxicological Information for further information.
Skin contact	Please see Section 11. Toxicological Information for further information.

Eye contact Please see Section 11. Toxicological Information for further information.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician Treat symptomatically.

5. Fire-Fighting Measures

5.1 Extinguishing media

Suitable extinguishing media

Use extinguishing media appropriate for surrounding material.

Extinguishing media which must not be used for safety reasons

None known.

5.2. Special hazards arising from the substance or mixture

Unusual fire and explosion hazards

None known.

Hazardous combustion products

Fire or high temperatures create: Carbon oxides (COx).

5.3 Advice for firefighters

Special protective equipment for fire-fighters

As in any fire, wear self-contained breathing apparatus and full protective gear.

Special Fire-Fighting Procedures

Containers close to fire should be removed immediately or cooled with water.

6. Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. See also section 8.

6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

Environmental exposure controls

Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

6.3 Methods and material for containment and cleaning up

Methods for containment

Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up

Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. After cleaning, flush away traces with water.

6.4 Reference to other sections

See section 13 for more information.

7. Handling and Storage

7.1 Precautions for safe handling

Handling

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Do not breathe vapors or spray mist. Avoid spills and splashing during use.

Hygiene Measures

Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing

7.2 Conditions for safe storage, including any incompatibilities

Technical measures/precautions Ensure adequate ventilation. Keep airborne concentrations below exposure limits.

Storage precautions Keep containers tightly closed in a dry, cool and well-ventilated place

Storage class Chemical storage.

Packaging materials Use specially constructed containers only.

7.3 Specific end uses

See Section 1.2.

8. Exposure Controls/Personal Protection

8.1 Control parameters

Exposure limits No biological limit allocated

Component Information

Chemical Name	EU OEL	Austria	Denmark
2-butoxyethanol	50 ppm STEL 246 mg/m ³ STEL 20 ppm TWA 98 mg/m ³ TWA Possibility of significant uptake through the skin*1)	40 ppm STEL 200 mg/m ³ STEL 20 ppm TWA 98 mg/m ³ TWA	20 ppm 98 mg/m ³
D-Glucopyranose, oligomeric, C8-10 glycosides	Not determined	Not determined	Not determined
Chemical Name	France	Germany	Hungary
2-butoxyethanol	50ppmSTEL 246mg/m ³ STEL 10 ppmTWA 49 mg/m ³ TWA	10 ppm TWA 49 mg/m ³ TWA	98mg/m ³ TWA 246mg/m ³ STEL
D-Glucopyranose, oligomeric, C8-10 glycosides	Not determined	Not determined	Not determined
Chemical Name	Italy	Netherlands	Norway
2-butoxyethanol	Not determined	100 mg/m ³ TWA	10 ppm TWA 50 mg/m ³ TWA 15 ppm STEL 75 mg/m ³ STEL Skin
D-Glucopyranose, oligomeric, C8-10 glycosides	Not determined	Not determined	Not determined

Chemical Name	Poland	Portugal	Romania
2-butoxyethanol	200 mg/m ³ STEL NDSh 98 mg/m ³ TWA NDS	Skin 50 ppm STEL VLE-CD 246 mg/m ³ STEL VLE-CD 20 ppm TWA indicative limit value 98 mg/m ³ TWA indicative limit value	50ppmSTEL 246mg/m ³ STEL 20ppmTWA 98mg/m ³ TWA
D-Glucopyranose, oligomeric, C8-10 glycosides	Not determined	Not determined	Not determined
Chemical Name	Spain	Switzerland	UK
2-butoxyethanol	50 ppm STEL 245 mg/m ³ STEL Skin*2) 20 ppm TWA VLA-ED 98 mg/m ³ TWA VLA-ED	20 ppm STEL 98 mg/m ³ STEL Skin*2) 10 ppm TWA MAK 49 mg/m ³ TWA MAK	50 ppm STEL 246 mg/m ³ STEL Skin*2) 25 ppm TWA 123 mg/m ³ TWA
D-Glucopyranose, oligomeric, C8-10 glycosides	Not determined	Not determined	Not determined

Europe - REACH

Derived No Effect Level (DNEL)

Short term exposure local effects

2-butoxyethanol

Inhalation 246 mg/m³

Short term exposure systemic effects

2-butoxyethanol

Dermal 89 mg/kg
Inhalation 1091 mg/m³

Long term exposure systemic effects

2-butoxyethanol

Dermal 125 mg/kg
Inhalation 98 mg/m³

D-Glucopyranose, oligomeric, C8-10 glycosides

Dermal 595000 mg/kg
Inhalation 420 mg/m³

Predicted No Effect Concentration (PNEC)

2-butoxyethanol

Fresh Water 8.8 mg/l
Sea Water 0.88 mg/l
Freshwater sediment 34.6 mg/kg
Sea sediment 3.46 mg/kg
Soil 2.33 mg/kg
Impact on sewage treatment 463 mg/l
Intermittent release 26.4 mg/l

D-Glucopyranose, oligomeric, C8-10 glycosides

Fresh Water 0.176 mg/L
Sea Water 0.018 mg/L
Freshwater sediment 1.516 mg/kg
Sea sediment 0.152 mg/kg
Soil 0.654 mg/kg
Impact on sewage treatment 560 mg/L
Intermittent release 0.27 mg/L

8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

Engineering Controls

Ensure adequate ventilation. Mechanical ventilation or local exhaust ventilation is required.

Personal protective equipment

- Eye protection** Use eye protection according to EN 166, designed to protect against liquid splashes. Tightly fitting safety goggles. Safety glasses with side-shields.
- Hand protection** Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Impervious gloves made of: Neoprene Nitrile Butyl
Break through time >480 minutes
Glove thickness >=0.4 mm
Be aware that liquid may penetrate the gloves. Frequent change is advisable.
- Respiratory protection** No personal respiratory protective equipment normally required, In case of insufficient ventilation wear suitable respiratory equipment, Respirator with a vapor filter (EN 141), Use respirator with organic vapor protection (A, brown), At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.
- Skin and body protection** Wear suitable protective clothing, Eye wash and emergency shower must be available at the work place.

Hygiene Measures Wash hands before eating, drinking or smoking, Remove and wash contaminated clothing before re-use.



8.2.3 Environmental exposure controls

Environmental exposure Use appropriate containment to avoid environmental contamination See section 6 for more information

9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Clear
Odor	Sweet
Color	Colorless - Light orange
Odor threshold	Not applicable

<u>Property</u>	<u>Values</u>	<u>Remarks</u>
pH	3.2	
pH @ dilution	No information available	
Melting point	No information available	
Boiling point/range	No information available	
Flash point	No information available	
Evaporation rate (BuAc =1)	No information available	
Flammability (solid, gas)	Not applicable	
Flammability Limit in Air		
Upper flammability limit	Not applicable	
Lower flammability limit	Not applicable	
Vapor pressure	~ 16 mmHg	@ 20 °C
Vapor density	No information available	
Specific gravity	No information available	
Bulk density	No information available	
Relative density	0.99 s.g	@ 20°C.
Water solubility	Soluble in water	
Solubility in other solvents	No information available	
Autoignition temperature	No information available	

Decomposition temperature No information available
Kinematic viscosity No information available
Dynamic viscosity No information available
log Pow No information available

Explosive properties Not applicable
Oxidizing properties None known.

9.2 Other information

Pour point No information available
Molecular weight No information available
VOC content(%) None
Density No information available

Comments

The data listed above are typical physical and chemical properties and should not be construed as product specification.

10. Stability and Reactivity

10.1 Reactivity

No specific reactivity hazards associated with this product.

10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

10.3 Possibility of Hazardous Reactions

Hazardous polymerization

Not known.

10.4 Conditions to avoid

None known.

10.5 Incompatible materials

No materials to be especially mentioned.

10.6 Hazardous decomposition products

See Section 5.2.

11. Toxicological Information

11.1 Information on toxicological effects

Acute toxicity

Inhalation Harmful by inhalation. Inhalation of vapors in high concentration may cause shortness of breath (lung edema).

Eye contact Causes serious eye damage.

Skin contact Causes skin irritation. Components of the product may be absorbed into the body through the skin.

Ingestion Harmful if swallowed.

Unknown acute toxicity Not applicable.

Toxicology data for the components

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
2-butoxyethanol	1200 mg/kg (Guinea pigs)	> 2000 mg/kg (Rat)	400 ppm (Rabbit)
D-Glucopyranose, oligomeric, C8-10 glycosides	> 2000 mg/kg bw (Rat) ECHA Data	> 2000 mg/kg (Rabbit) ECHA Data	No data available

Sensitization This product does not contain any components suspected to be sensitizing.

Mutagenic effects This product does not contain any known or suspected mutagens.

Carcinogenicity This product does not contain any known or suspected carcinogens.

Reproductive toxicity This product does not contain any known or suspected reproductive hazards.

Routes of Exposure Inhalation. Eye contact. Skin contact. Ingestion.

Routes of entry Inhalation. Eye contact. Skin contact. Ingestion.

Specific target organ toxicity - Single exposure Not classified

Specific target organ toxicity - Repeated exposure Not classified.

Aspiration hazard Not applicable.

Other information Key literature references and sources for data. See Section 16 for more information.

12. Ecological Information

12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. The product may affect the acidity (pH-factor) in water with risk of harmful effects to aquatic organisms.

Toxicity to algae
This product is not considered toxic to algae.

Toxicity to fish
This product is not considered toxic to fish.

Toxicity to daphnia and other aquatic invertebrates
This product is not considered toxic to invertebrates.

Toxicology data for the components

Chemical Name	Toxicity to fish	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates
2-butoxyethanol	= 2950 mg/L LC50 Lepomis macrochirus 96 h = 1490 mg/L LC50 Lepomis macrochirus 96 h	No information available	= 1698 - 1940 mg/L (LC50; Daphnia magna) = 1720 mg/L (EC50; water flea)

D-Glucopyranose, oligomeric, C8-10 glycosides	170 mg/l LC50 Zebra fish	37 mg/L (= 21 mg a.i./L) EC50 to the freshwater algae Scenedesmus subspicatus 72h	> 100 mg/l EC50 Daphnia magna 48h
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12.2 Persistence and degradability

Readily biodegradable. See component information below.

Chemical Name	Persistence and degradability
2-butoxyethanol	Readily biodegradable
D-Glucopyranose, oligomeric, C8-10 glycosides	OECD 301 Readily biodegradable

12.3 Bioaccumulative potential

The product does not contain any substances expected to be bioaccumulating. See component information below.

Chemical Name	Bioaccumulation
2-butoxyethanol	Not likely to bioaccumulate
D-Glucopyranose, oligomeric, C8-10 glycosides	Not likely to bioaccumulate

12.4 Mobility

Mobility

Soluble in water. See component information below.

Chemical Name	Mobility
2-butoxyethanol	Soluble in water
D-Glucopyranose, oligomeric, C8-10 glycosides	Partially soluble

Mobility in soil

See component information below.

Chemical Name	Mobility in soil
2-butoxyethanol	No information available
D-Glucopyranose, oligomeric, C8-10 glycosides	No information available

12.5 Results of PBT and vPvB assessment

Not classified as PBT/vPvB by current EU criteria.

12.6 Other adverse effects.

None known.

12.7 Other information

Key literature references and sources for data. See Section 16 for more information.

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.
EWC Waste Disposal No	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 The following Waste Codes are only suggestions: EWC waste disposal No: 07 01 04 Waste Code: 7152 Organic waste without halogen.

14. Transport information

14.1. UN number

Not regulated

14.2. UN proper shipping name

The product is not covered by international regulation on the transport of dangerous goods

14.3 Hazard class(es)

ADR/RID/ADN/ADG Hazard class	Not regulated
IMDG/ANTAQ Hazard class	Not regulated
ICAO/ANAC Hazard class/division	Not regulated

14.4 Packing group

ADR/RID/ADN/ADG Packing group	Not regulated
IMDG/ANTAQ Packing group	Not regulated
ICAO/ANAC Packing group	Not regulated

14.5 Environmental hazard

No

14.6 Special precautions

Not applicable

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

Please contact SDS@slb.com for info regarding transport in Bulk.

15. Regulatory Information

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

This safety data sheet complies with the requirements of:
Regulation (EC) No. 1907/2006 and Regulation (EC) No. 1272/2008
Commission Regulation (EU) No 2015/830 of 28 May 2015
Registration, Evaluation, Authorization and Restriction of Chemicals (REACH)

Dangerous substance category per Seveso Directive (2012/18/EU)

This product does not contain substances listed under Dangerous substance category per Seveso Directive (2012/18/EU)

Netherlands

Dutch Mining Regulations: In accordance with Mining Regulations 9.2 and Chapter 4 of the Working Conditions Decree.

International inventories

USA (TSCA)	Complies
Canada (DSL)	Complies
Philippines (PICCS)	Complies
Japan (ENCS)	Does not comply
China (IECSC)	Complies
Australia (AICS)	Complies
Korean (KECL)	Complies
New Zealand (NZIoC)	Complies

Europe - REACH

All products supplied from the European Economic Area (EEA) are compliant with the REACH Regulation EC 1907/2006. For products supplied from the EEA, Schlumberger and/or its suppliers have pre-registered and is registering all of the substances that it and/or its suppliers manufactures in or imports into the EEA that are subject to Title II of the REACH Regulation. All products supplied from outside the EEA are subject to REACH only if imported into the EEA. The importer of the products must comply with REACH for each imported substance. Contact REACH@slb.com for REACH information.

15.2 Chemical Safety Report

No information available

16. Other Information

Prepared by	Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Anne Karin (Anka) Fosse
Supersedes Date:	08/Jul/2016
Revision date	09/Aug/2018
Version	2
This SDS has been revised in the following section(s)	1, 2, 3, 8, 11, 12, 15, 16 Product Code change No changes with regard to classification have been made.

Key literature references and sources for data

www.ChemADVISOR.com

Supplier

National Chemical Inventories

National regulatory information

National occupational exposure limits

Training Advice

Do not handle until all safety precautions have been read and understood

Follow general hygiene considerations recognized as common good workplace practices

Full text of H-Statements referred to under sections 2 and 3

H302 - Harmful if swallowed

H312 - Harmful in contact with skin

H315 - Causes skin irritation

H318 - Causes serious eye damage

H332 - Harmful if inhaled

H319 - Causes serious eye irritation

*A mark of M-I L.L.C., a Schlumberger Company

Disclaimer

The information contained herein is considered in good faith as reliable of the date issued and is based upon on measurements, tests or data derived from supplier's own study or furnished by others. In providing this SDS information, Supplier makes no express or implied warranties as to the information or product; merchantability or fitness of purpose; any express or implied warranty; or non-infringement of intellectual property rights; and supplier assumes no responsibility for any direct, special or consequential damages, results obtained, or the activities of others. To the maximum extent permitted by law, supplier's warranty obligations and buyer's sole remedies are as stated in separate agreement between the parties.

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Edition Number: 4
Date Prepared: 01 May 2012
Supersedes: 16 Aug 2004

SDS No. SMDS-04a

SHELL SARALINE 185V

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY

Product name: Shell Saraline 185V
Product type: Synthetic Drilling Base Fluid
Supplier: Shell MDS Malaysia Sdn. Bhd.
Address: Tanjong Kidurong, P.O. Box 1084, 97008 Bintulu
Sarawak, Malaysia.
Contact numbers:
Telephone: +60 (86) 292 222
Telex: MA 73113
Fax: +60 (86) 252 211
Emergency telephone number:
24hr Answering Service +60 (86) 292 222

2. COMPOSITION/INFORMATION ON INGREDIENTS

Substance Formal Name C9 to C21 Alkanes, Linear and Branched.
Substance Chemical Family Aliphatic Hydrocarbons
CAS number 90622-53-0

3. HAZARDS IDENTIFICATION

Human health hazards: If swallowed, aspiration into the lungs may cause chemical pneumonitis.
Safety hazards: Not classified as flammable but will burn.
Environmental hazards: None known.

4. FIRST AID MEASURES

First Aid - Inhalation: Remove to fresh air. If rapid recovery does not occur obtain medical attention.
First Aid - Skin: Wash skin with water using soap frequently. Contaminated clothing must be removed as soon as possible. It must be laundered before reuse.

First Aid - Eye:	Flush eye with water. If persistent irritation occurs, obtain medical attention.
First Aid - Ingestion:	DO NOT DELAY. Do not induce vomiting. Protect the airway if vomiting begins. Give nothing by mouth. If breathing but unconscious, place in the recovery position. If breathing has stopped, apply artificial respiration. OBTAIN MEDICAL ATTENTION IMMEDIATELY.
Advice to physicians:	Treat symptomatically.

5. FIRE FIGHTING MEASURES

Specific hazards:	Combustion products may include carbon monoxide and unburnt hydrocarbons. The vapour is heavier than air, spreads along the ground and distant ignition is possible.
Extinguishing media:	Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.
Unsuitable extinguishing media:	Do not use water in a jet. Use of Halon extinguishers should be avoided for environmental reasons.
Other information:	Keep adjacent drums and tanks cool by spraying with water.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:	Remove all possible sources of ignition in the surrounding area and evacuate all personnel. Do not breathe vapour, mists. Avoid contact with skin, eyes and clothing. Take off immediately all contaminated clothing.
Personal protection:	Wear protective clothing specified for normal operations (see Section 8).
Environmental precautions:	Prevent from entering into drains, ditches or rivers. Use appropriate containment to avoid environmental contamination.
Clean-up methods - small spillage:	Absorb or contain liquid with sand, earth or spill control material. Shovel up and place in a labelled sealable container for subsequent safe disposal. Do not disperse using water.
Clean-up methods - large spillage:	Transfer to a labelled, sealable container for product recovery or safe disposal. Otherwise treat as for small spillage.
Other information:	Local authorities should be advised if significant spillages couldn't be contained. Observe all relevant local regulations. See Section 13 for information on disposal.

7. HANDLING AND STORAGE

Handling:	When using do not eat, drink or smoke. Only use in well-ventilated areas. Take precautionary measures against static discharges. Earth or bond all equipment.
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Handling temperature:	Ambient.
Storage:	Locate tanks away from heat and other sources of ignition. Do not store in unsuitable, unlabelled or incorrectly labelled containers. Keep container tightly closed in a dry, well-ventilated place away from direct sunlight and other sources of heat or ignition. Drums should be correctly stacked to a maximum of 3 high. Prevent ingress of water. Keep in a bunded area. Keep out of reach of children.
Storage temperature:	Ambient.
Product transfer:	Electrostatic charges may be generated during pumping. Ensure electrical continuity by bonding all equipment. Avoid splash filling. Particular care must be taken when 'switch loading' road/rail tankers which have previously contained gasoline. Wait 10 minutes after tank filling before opening hatches or manholes.
Tank cleaning:	Cleaning, inspection and maintenance of storage tanks is a specialist operation, which requires the implementation of strict procedures and precautions. These include issuing work permits, gas-freeing of tanks, using a manned harness and lifeline and wearing air-supplied breathing apparatus. Prior to entry and whilst cleaning is underway, the atmosphere within the tank must be monitored using an oxygen meter and/or explosimeter.
Recommended materials:	Use mild steel, stainless steel for containers. Aluminium may also be used for applications where it does not present an unnecessary fire hazard. Use amine-adduct cured epoxy paint for container linings. Use compressed asbestos fibre, PTFE, Viton A, Viton B for seals and gaskets.
Unsuitable materials:	Materials for the construction of facilities for storing, handling and distributing this product should neither present unnecessary safety hazards nor adversely affect its quality. Examples of materials to avoid are: copper, copper alloys (ferrous and nonferrous). Synthetic materials such as plastics and fibreglass may also be unsuitable, depending on the material specification and intended use. Materials for packages, containers (including containers for the retention or despatch of samples) and container linings must not adversely affect the quality of the product. They must be impermeable and must not be weakened or otherwise affected by the product. Examples of materials to avoid are: natural rubber, polymethyl methacrylate, polystyrene, polyvinyl chloride, polyisobutylene. Polyethylene and polypropylene are also unsuitable unless they are high-density types, which have been specifically tested for compatibility with this product.
Other information:	Ensure that all local regulations regarding handling and storage facilities are followed. Never siphon by mouth.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure standards:	None Established
Respiratory protection:	Not normally required. In a confined space self-contained breathing apparatus may be required.
Hand protection:	PVC or nitrile rubber gloves if splashes are likely to occur.
Eye protection:	Monogoggles if splashes are likely to occur.
Body protection:	Wear overalls to minimise contamination of personal clothing. Launder overalls and undergarments regularly. Safety shoes or boots - chemical resistant.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Liquid at ambient temperature.
Colour:	Colourless
Odour:	Odourless
Initial boiling point:	Circa 200°C
Final boiling point:	Circa 320°C
Vapour pressure:	<0.1 kPa at 40°C
Density:	Circa 780 kg/m ³ at 15°C
Kinematic viscosity:	Circa 2.8 mm ² /s at 40°C
Vapour density (air=1):	> 5
Pour point:	Circa -27°C
Flash point:	> 85°C (PMCC)
Flammability limit - lower:	Circa 1%(V/V)
Flammability limit - upper:	Circa 6%(V/V)
Auto-ignition temperature:	> 220°C
Explosive properties:	In use, may form flammable/explosive vapour-air mixtures.
Oxidizing properties:	None
Solubility in water:	Insoluble

10. STABILITY/REACTIVITY

Stability:	Stable.
Conditions to avoid:	Heat, flames and sparks.
Materials to avoid:	Strong oxidizing agents.
Hazardous decomposition products:	None known.

11. TOXICOLOGICAL INFORMATION

Basis for assessment:	Toxicological studies have not been carried out on this product. Information given is based on a knowledge of available data on the hydrocarbon streams, available data on similar products and on toxicological knowledge of the constituents.
Acute toxicity - oral:	LD ₅₀ >5000 mg/kg. Ingestion may lead to vomiting and aspiration into the lungs, this may result in chemical pneumonitis, which may be fatal.
Acute toxicity - dermal:	LD ₅₀ >2000 mg/kg.
Acute toxicity - inhalation:	LC ₅₀ expected to be >5 mg/l.
Eye irritation:	Expected to be slightly irritating.
Skin irritation:	Expected to be slightly irritating. Repeated exposure may cause skin dryness or cracking.
Respiratory irritation:	Expected to be slightly irritating.
Skin sensitization:	Not expected to be a skin sensitizer
Sub chronic/Chronic Toxicity:	Repeated skin exposure may cause moderate to severe irritation. Repeated inhalation of mists is expected to cause irritation of the respiratory tract.
Carcinogenicity:	Based on compositional analysis of this product, which shows that it contains linear and branched alkanes and virtually no aromatic compounds, dermal application is not expected to produce skin tumours in mice.
Mutagenicity:	In vitro mutagenicity studies have indicated that mutagenic activity for middle distillates is related to 4- to 6-ring polycyclic aromatic content, which is virtually zero in this product. Therefore this product is not expected to be mutagenic.
Reproductive Toxicity:	Not expected to be a developmental toxicant.
Human effects:	Prolonged/repeated contact may cause defatting of the skin, which can lead to dermatitis and may make the skin more susceptible to irritation and penetration by other materials. See Section 4 for information regarding acute effects to humans.

12. ECOLOGICAL INFORMATION

Basis for assessment:	Ecotoxicity/biodegradability studies have been performed on this product. Other information given is based on the knowledge of similar products.
Mobility:	Floats on water. Partly evaporates from water or soil surfaces, but a significant proportion will remain after one day. Large volumes may penetrate soil and could contaminate groundwater.
Persistence/degradability:	Readily biodegradable. Oxidizes rapidly by photochemical reactions in air.
Bioaccumulation:	Not expected to bioaccumulate significantly.

Ecotoxicity:	Poorly soluble mixture. Films formed on water may affect oxygen transfer and damage organisms. Product is not harmful to aquatic organisms, LL/EL ₅₀ > 100 mg/l. (LL/EL ₅₀ expressed as the nominal amount of product required to prepare aqueous test extract)
Sewage treatment:	Not toxic at the limit of water solubility.

13. DISPOSAL CONSIDERATIONS

Precautions:	See Section 8.
Waste disposal:	Waste arising from a spillage or tank cleaning should be disposed of in accordance with prevailing regulations, preferably to a recognised collector or contractor. The competence of the collector or contractor should be established beforehand. Do not dispose into the environment, in drains or in water courses.
Product disposal:	Recycle if possible, otherwise incineration.
Container disposal:	200 litre drums should be drained and returned to the supplier or sent to a drum conditioner without removing or defacing markings or labels. Drums should not be reused without first obliterating all markings.

14. TRANSPORT INFORMATION

Not classified as dangerous for conveyance under UN, IMO, ADR/RID and IATA/ICAO codes

15. REGULATORY INFORMATION

EC Classification:	Harmful.
EC Symbol:	Xn
EC Risk Phrases:	R65 Harmful : may cause lung damage if swallowed.
EC Safety Phrases:	S62 If swallowed , do not induce vomiting; seek medical advice and show this container or label.

16. OTHER INFORMATION

Uses and restrictions:	Used as synthetic drilling base fluid
Technical contact point:	Norazlam Norbi
Technical contact number:	
Telephone:	+60 (3) 2091 2218
Fax:	+60 (3) 2051 2535

SDS history:

Edition number: 4
First issued: 10/07/2003
Revised: 03/03/2004
Revised: 16/08/2004
Revised: 01/05/2005

SDS distribution:

This document contains important information to ensure the safe storage, handling and use of this product. The information in this document should be brought to the attention of the person in your organisation responsible for advising on safety matters.

DISCLAIMER: 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 be construed as guaranteeing any specific property of the product.

Shell Saraline 185V

Not Available

Chemwatch Hazard Alert Code: 1

Chemwatch: 4669-99

Version No: 3.1.1.1

Safety Data Sheet according to HSNO Regulations

Issue Date: 27/06/2017

Print Date: 08/05/2019

L.GHS.NZLEN.RISK

SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

Product Identifier

Product name	Shell Saraline 185V
Synonyms	aliphatic hydrocarbons; C9-C21 alkanes, Linear and Branched
Other means of identification	Not Available

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

Relevant identified uses	Used as synthetic drilling base fluid.
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Details of the supplier of the safety data sheet

Registered company name	Not Available
Address	Not Available
Telephone	Not Available
Fax	Not Available
Website	Not Available
Email	Not Available

Emergency telephone number

Association / Organisation	Not Available
Emergency telephone numbers	Not Available
Other emergency telephone numbers	Not Available

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

Considered a Hazardous Substance according to the criteria of the New Zealand Hazardous Substances New Organisms legislation. Not regulated for transport of Dangerous Goods.


CHEMWATCH HAZARD RATINGS

	Min	Max
Flammability	1	
Toxicity	1	
Body Contact	1	
Reactivity	1	
Chronic	0	

0 = Minimum
1 = Low
2 = Moderate
3 = High
4 = Extreme

Classification [1]	Flammable Liquid Category 4, Acute Toxicity (Oral) Category 5, Acute Toxicity (Inhalation) Category 5, Specific target organ toxicity - single exposure Category 3 (narcotic effects), Aspiration Hazard Category 1 <i>*LIMITED EVIDENCE</i>
Legend:	1. Classified by Chemwatch; 2. Classification drawn from CCID EPA NZ; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI
Determined by Chemwatch using GHS/HSNO criteria	3.1D, 6.1E (aspiration), 6.1E (inhalation), 6.1E (oral), 6.9 (narcotic) <i>*LIMITED EVIDENCE</i>

Label elements

Hazard pictogram(s)	
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SIGNAL WORD	DANGER
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Hazard statement(s)

H227	Combustible liquid.
H303	May be harmful if swallowed.
H333	May be harmful if inhaled.
H336	May cause drowsiness or dizziness.
H304	May be fatal if swallowed and enters airways.

*LIMITED EVIDENCE

Supplementary statement(s)

Not Applicable

Precautionary statement(s) Prevention

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P271	Use only outdoors or in a well-ventilated area.
P261	Avoid breathing mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary statement(s) Response

P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician/first aider.
P331	Do NOT induce vomiting.
P370+P378	In case of fire: Use alcohol resistant foam or normal protein foam to extinguish.
P304+P312	IF INHALED: Call a POISON CENTER/doctor/physician/first aider/if you feel unwell.

Precautionary statement(s) Storage

P405	Store locked up.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.

Precautionary statement(s) Disposal

P501	Dispose of contents/container in accordance with local regulations.
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SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS**Substances**

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
90622-53-0.	>90	<u>alkanes, C12-26, branched and linear</u>

SECTION 4 FIRST AID MEASURES**Description of first aid measures**

Eye Contact	<p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> ▶ Wash out immediately with fresh running water. ▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. ▶ Seek medical attention without delay; if pain persists or recurs seek medical attention. ▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	<p>If skin or hair contact occurs:</p> <ul style="list-style-type: none"> ▶ Flush skin and hair with running water (and soap if available). ▶ Seek medical attention in event of irritation.
Inhalation	<ul style="list-style-type: none"> ▶ If fumes or combustion products are inhaled remove from contaminated area. ▶ Lay patient down. Keep warm and rested. ▶ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. ▶ Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. ▶ Transport to hospital, or doctor.
Ingestion	<ul style="list-style-type: none"> ▶ If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus. ▶ If swallowed do NOT induce vomiting. ▶ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. ▶ Observe the patient carefully. ▶ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious. ▶ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. ▶ Seek medical advice. ▶ Avoid giving milk or oils. ▶ Avoid giving alcohol.

Indication of any immediate medical attention and special treatment needed

Any material aspirated during vomiting may produce lung injury. Therefore emesis should not be induced mechanically or pharmacologically. Mechanical means should be used if it is considered necessary to evacuate the stomach contents; these include gastric lavage after endotracheal intubation. If spontaneous vomiting has occurred after ingestion, the patient should be monitored for difficult breathing, as adverse effects of aspiration into the lungs may be delayed up to 48 hours.

Continued...

For acute or short term repeated exposures to petroleum distillates or related hydrocarbons:

- ▶ Primary threat to life, from pure petroleum distillate ingestion and/or inhalation, is respiratory failure.
- ▶ Patients should be quickly evaluated for signs of respiratory distress (e.g. cyanosis, tachypnoea, intercostal retraction, obtundation) and given oxygen. Patients with inadequate tidal volumes or poor arterial blood gases (pO₂ 50 mm Hg) should be intubated.
- ▶ Arrhythmias complicate some hydrocarbon ingestion and/or inhalation and electrocardiographic evidence of myocardial injury has been reported; intravenous lines and cardiac monitors should be established in obviously symptomatic patients. The lungs excrete inhaled solvents, so that hyperventilation improves clearance.
- ▶ A chest x-ray should be taken immediately after stabilisation of breathing and circulation to document aspiration and detect the presence of pneumothorax.
- ▶ Epinephrine (adrenalin) is not recommended for treatment of bronchospasm because of potential myocardial sensitisation to catecholamines. Inhaled cardioselective bronchodilators (e.g. Alupent, Salbutamol) are the preferred agents, with aminophylline a second choice.
- ▶ Lavage is indicated in patients who require decontamination; ensure use of cuffed endotracheal tube in adult patients. [Ellenhorn and Barceloux: Medical Toxicology]

SECTION 5 FIREFIGHTING MEASURES

Extinguishing media

- ▶ Foam.
- ▶ Dry chemical powder.
- ▶ BCF (where regulations permit).
- ▶ Carbon dioxide.

Special hazards arising from the substrate or mixture

Fire Incompatibility	▶ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result
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Advice for firefighters

Fire Fighting	<ul style="list-style-type: none"> ▶ Alert Fire Brigade and tell them location and nature of hazard. ▶ Wear full body protective clothing with breathing apparatus. ▶ Prevent, by any means available, spillage from entering drains or water course. ▶ Use water delivered as a fine spray to control fire and cool adjacent area.
Fire/Explosion Hazard	<ul style="list-style-type: none"> ▶ Combustible. ▶ Slight fire hazard when exposed to heat or flame. ▶ Heating may cause expansion or decomposition leading to violent rupture of containers. ▶ On combustion, may emit toxic fumes of carbon monoxide (CO). <p>Combustion products include: carbon monoxide (CO) carbon dioxide (CO₂) other pyrolysis products typical of burning organic material. May emit poisonous fumes. May emit corrosive fumes.</p>

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills	<ul style="list-style-type: none"> ▶ Remove all ignition sources. ▶ Clean up all spills immediately. ▶ Avoid breathing vapours and contact with skin and eyes. ▶ Control personal contact with the substance, by using protective equipment. 																																																																											
Major Spills	<p>Chemical Class: aliphatic hydrocarbons For release onto land: recommended sorbents listed in order of priority.</p> <table border="1"> <thead> <tr> <th>SORBENT TYPE</th> <th>RANK</th> <th>APPLICATION</th> <th>COLLECTION</th> <th>LIMITATIONS</th> </tr> </thead> <tbody> <tr> <td colspan="5">LAND SPILL - SMALL</td> </tr> <tr> <td>cross-linked polymer - particulate</td> <td>1</td> <td>shovel</td> <td>shovel</td> <td>R, W, SS</td> </tr> <tr> <td>cross-linked polymer - pillow</td> <td>1</td> <td>throw</td> <td>pitchfork</td> <td>R, DGC, RT</td> </tr> <tr> <td>wood fiber - pillow</td> <td>2</td> <td>throw</td> <td>pitchfork</td> <td>R, P, DGC, RT</td> </tr> <tr> <td>treated wood fibre- pillow</td> <td>2</td> <td>throw</td> <td>pitchfork</td> <td>DGC, RT</td> </tr> <tr> <td>sorbent clay - particulate</td> <td>3</td> <td>shovel</td> <td>shovel</td> <td>R, I, P</td> </tr> <tr> <td>foamed glass - pillow</td> <td>3</td> <td>throw</td> <td>pitchfork</td> <td>R, P, DGC, RT</td> </tr> <tr> <td colspan="5">LAND SPILL - MEDIUM</td> </tr> <tr> <td>cross-linked polymer - particulate</td> <td>1</td> <td>blower</td> <td>skiploader</td> <td>R,W,SS</td> </tr> <tr> <td>cross-linked polymer - pillow</td> <td>2</td> <td>throw</td> <td>skiploader</td> <td>R, DGC, RT</td> </tr> <tr> <td>sorbent clay - particulate</td> <td>3</td> <td>blower</td> <td>skiploader</td> <td>R, I, P</td> </tr> <tr> <td>polypropylene - particulate</td> <td>3</td> <td>blower</td> <td>skiploader</td> <td>W, SS, DGC</td> </tr> <tr> <td>expanded mineral - particulate</td> <td>4</td> <td>blower</td> <td>skiploader</td> <td>R, I, W, P, DGC</td> </tr> <tr> <td>polypropylene - mat</td> <td>4</td> <td>throw</td> <td>skiploader</td> <td>DGC, RT</td> </tr> </tbody> </table>	SORBENT TYPE	RANK	APPLICATION	COLLECTION	LIMITATIONS	LAND SPILL - SMALL					cross-linked polymer - particulate	1	shovel	shovel	R, W, SS	cross-linked polymer - pillow	1	throw	pitchfork	R, DGC, RT	wood fiber - pillow	2	throw	pitchfork	R, P, DGC, RT	treated wood fibre- pillow	2	throw	pitchfork	DGC, RT	sorbent clay - particulate	3	shovel	shovel	R, I, P	foamed glass - pillow	3	throw	pitchfork	R, P, DGC, RT	LAND SPILL - MEDIUM					cross-linked polymer - particulate	1	blower	skiploader	R,W,SS	cross-linked polymer - pillow	2	throw	skiploader	R, DGC, RT	sorbent clay - particulate	3	blower	skiploader	R, I, P	polypropylene - particulate	3	blower	skiploader	W, SS, DGC	expanded mineral - particulate	4	blower	skiploader	R, I, W, P, DGC	polypropylene - mat	4	throw	skiploader	DGC, RT
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Continued...

<p>Legend</p> <p>DGC: Not effective where ground cover is dense</p> <p>R: Not reusable</p> <p>I: Not incinerable</p> <p>P: Effectiveness reduced when rainy</p> <p>RT: Not effective where terrain is rugged</p> <p>SS: Not for use within environmentally sensitive sites</p> <p>W: Effectiveness reduced when windy</p> <p>Reference: Sorbents for Liquid Hazardous Substance Cleanup and Control;</p> <p>R.W Melvold et al: Pollution Technology Review No. 150: Noyes Data Corporation 1988</p> <p>Moderate hazard.</p> <ul style="list-style-type: none"> ▶ Clear area of personnel and move upwind. ▶ Alert Fire Brigade and tell them location and nature of hazard. ▶ Wear breathing apparatus plus protective gloves.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

Safe handling	<ul style="list-style-type: none"> ▶ Containers, even those that have been emptied, may contain explosive vapours. ▶ Do NOT cut, drill, grind, weld or perform similar operations on or near containers. ▶ Electrostatic discharge may be generated during pumping - this may result in fire. ▶ Ensure electrical continuity by bonding and grounding (earthing) all equipment. ▶ Restrict line velocity during pumping in order to avoid generation of electrostatic discharge (≤ 1 m/sec until fill pipe submerged to twice its diameter, then ≤ 7 m/sec). ▶ Avoid splash filling. ▶ Avoid all personal contact, including inhalation. ▶ Wear protective clothing when risk of exposure occurs. ▶ Use in a well-ventilated area. ▶ Prevent concentration in hollows and sumps.
Other information	<ul style="list-style-type: none"> ▶ Store in original containers. ▶ Keep containers securely sealed. ▶ No smoking, naked lights or ignition sources. ▶ Store in a cool, dry, well-ventilated area.

Conditions for safe storage, including any incompatibilities

Suitable container	<ul style="list-style-type: none"> ▶ Metal can or drum ▶ Packaging as recommended by manufacturer. ▶ Check all containers are clearly labelled and free from leaks.
Storage incompatibility	<ul style="list-style-type: none"> ▶ Avoid reaction with oxidising agents



+	X	+	O	X	+	+
X	— Must not be stored together					
O	— May be stored together with specific preventions					
+	— May be stored together					

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA

Not Available

EMERGENCY LIMITS


Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
Shell Saraline 185V	Not Available	Not Available	Not Available	Not Available

Ingredient	Original IDLH	Revised IDLH
alkanes, C12-26, branched and linear	Not Available	Not Available

MATERIAL DATA

Exposure controls

Appropriate engineering controls	<p>Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.</p> <p>The basic types of engineering controls are:</p> <p>Process controls which involve changing the way a job activity or process is done to reduce the risk.</p> <p>Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.</p>
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Personal protection	
Eye and face protection	<ul style="list-style-type: none"> ▶ Safety glasses with side shields. ▶ Chemical goggles. ▶ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task.
Skin protection	See Hand protection below
Hands/feet protection	<p>The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.</p> <p>The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.</p> <p>Personal hygiene is a key element of effective hand care.</p> <ul style="list-style-type: none"> ▶ Wear chemical protective gloves, e.g. PVC. ▶ Wear safety footwear or safety gumboots, e.g. Rubber
Body protection	See Other protection below
Other protection	<ul style="list-style-type: none"> ▶ Overalls. ▶ P.V.C. apron. ▶ Barrier cream.

Respiratory protection

Type A-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Selection of the Class and Type of respirator will depend upon the level of breathing zone contaminant and the chemical nature of the contaminant. Protection Factors (defined as the ratio of contaminant outside and inside the mask) may also be important.

Required minimum protection factor	Maximum gas/vapour concentration present in air p.p.m. (by volume)	Half-face Respirator	Full-Face Respirator
up to 10	1000	A-AUS / Class1 P2	-
up to 50	1000	-	A-AUS / Class 1 P2
up to 50	5000	Airline *	-
up to 100	5000	-	A-2 P2
up to 100	10000	-	A-3 P2
100+			Airline**

* - Continuous Flow ** - Continuous-flow or positive pressure demand

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO₂), G = Agricultural chemicals, K = Ammonia(NH₃), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Colourless liquid with no odour; does not mix with water.		
Physical state	Liquid	Relative density (Water = 1)	0.78@15C
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	Not Applicable	Decomposition temperature	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	200-320	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	>85 (PMCC)	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Combustible.	Oxidising properties	Not Available
Upper Explosive Limit (%)	6 (v/v)	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	1 (v/v)	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water	Immiscible	pH as a solution (1%)	Not Applicable
Vapour density (Air = 1)	Not Available	VOC g/L	Not Available

SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	<ul style="list-style-type: none"> ▶ Unstable in the presence of incompatible materials. ▶ Product is considered stable. ▶ Hazardous polymerisation will not occur.

Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

Inhaled	<p>Inhalation of aerosols (mists, fumes), generated by the material during the course of normal handling, may be damaging to the health of the individual. Limited evidence or practical experience suggests that the material may produce irritation of the respiratory system, in a significant number of individuals, following inhalation. In contrast to most organs, the lung is able to respond to a chemical insult by first removing or neutralising the irritant and then repairing the damage. The repair process, which initially evolved to protect mammalian lungs from foreign matter and antigens, may however, produce further lung damage resulting in the impairment of gas exchange, the primary function of the lungs. Respiratory tract irritation often results in an inflammatory response involving the recruitment and activation of many cell types, mainly derived from the vascular system.</p> <p>Inhalation hazard is increased at higher temperatures.</p> <p>Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by narcosis, reduced alertness, loss of reflexes, lack of coordination and vertigo.</p> <p>Acute effects from inhalation of high concentrations of vapour are pulmonary irritation, including coughing, with nausea; central nervous system depression - characterised by headache and dizziness, increased reaction time, fatigue and loss of co-ordination</p> <p>Some aliphatic hydrocarbons produce axonal neuropathies. Isoparaffinic hydrocarbons produce injury to the kidneys of male rats. When albino rats were exposed to isoparaffins at 21.4 mg/l for 4 hours, all animals experienced weakness, tremors, salivation, mild to moderate convulsions, chromodacryorrhoea and ataxia within the first 24 hours. Symptoms disappeared after 24 hours.</p> <p>High inhaled concentrations of mixed hydrocarbons may produce narcosis characterised by nausea, vomiting and lightheadedness. Inhalation of aerosols may produce severe pulmonary oedema, pneumonitis and pulmonary haemorrhage. Inhalation of petroleum hydrocarbons consisting substantially of low molecular weight species (typically C2-C12) may produce irritation of mucous membranes, incoordination, giddiness, nausea, vertigo, confusion, headache, appetite loss, drowsiness, tremors and anaesthetic stupor. Massive exposures may produce central nervous system depression with sudden collapse and deep coma; fatalities have been recorded.</p>
Ingestion	<p>Accidental ingestion of the material may be damaging to the health of the individual.</p> <p>Swallowing of the liquid may cause aspiration of vomit into the lungs with the risk of haemorrhaging, pulmonary oedema, progressing to chemical pneumonitis; serious consequences may result.</p> <p>Signs and symptoms of chemical (aspiration) pneumonitis may include coughing, gasping, choking, burning of the mouth, difficult breathing, and bluish coloured skin (cyanosis).</p> <p>Ingestion of petroleum hydrocarbons may produce irritation of the pharynx, oesophagus, stomach and small intestine with oedema and mucosal ulceration resulting; symptoms include a burning sensation in the mouth and throat. Large amounts may produce narcosis with nausea and vomiting, weakness or dizziness, slow and shallow respiration, swelling of the abdomen, unconsciousness and convulsions. Myocardial injury may produce arrhythmias, ventricular fibrillation and electrocardiographic changes. Central nervous system depression may also occur.</p> <p>Many aliphatic hydrocarbons create a burning sensation because they are irritating to the GI mucosa. Vomiting has been reported in up to one third of all hydrocarbon exposures. While most aliphatic hydrocarbons have little GI absorption, aspiration frequently occurs, either initially or in a semi-delayed fashion as the patient coughs or vomits, thereby resulting in pulmonary effects. Once aspirated, the hydrocarbons can create a severe pneumonitis.</p> <p>Central nervous system (CNS) depression may include nonspecific discomfort, symptoms of giddiness, headache, dizziness, nausea, anaesthetic effects, slowed reaction time, slurred speech and may progress to unconsciousness. Serious poisonings may result in respiratory depression and may be fatal.</p>
Skin Contact	<p>The material is not thought to produce adverse health effects or skin irritation following contact (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting.</p> <p>Entry into the blood-stream through, for example, cuts, abrasions, puncture wounds or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.</p>
Eye	<p>Although the liquid is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn).</p>
Chronic	<p>Limited evidence suggests that repeated or long-term occupational exposure may produce cumulative health effects involving organs or biochemical systems.</p> <p>Repeated or prolonged exposure to mixed hydrocarbons may produce narcosis with dizziness, weakness, irritability, concentration and/or memory loss, tremor in the fingers and tongue, vertigo, olfactory disorders, constriction of visual field, paraesthesias of the extremities, weight loss and anaemia and degenerative changes in the liver and kidney. Chronic exposure by petroleum workers, to the lighter hydrocarbons, has been associated with visual disturbances, damage to the central nervous system, peripheral neuropathies (including numbness and paraesthesias), psychological and neurophysiological deficits, bone marrow toxicities (including hypoplasia possibly due to benzene) and hepatic and renal involvement. Chronic dermal exposure to petroleum hydrocarbons may result in defatting which produces localised dermatoses. Surface cracking and erosion may also increase susceptibility to infection by microorganisms.</p>

Shell Saraline 185V	TOXICITY	IRRITATION
	Not Available	Not Available
alkanes, C12-26, branched and linear	TOXICITY	IRRITATION
	dermal (rat) LD50: >2000 mg/kg ^[2] Oral (rat) LD50: >5000 mg/kg ^[1]	Not Available

Legend: 1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. * Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances

ALKANES, C12-26, BRANCHED AND LINEAR	<p>No significant acute toxicological data identified in literature search.</p> <p>Studies indicate that normal, branched and cyclic paraffins are absorbed from the mammalian gastrointestinal tract and that the absorption of n-paraffins is inversely proportional to the carbon chain length, with little absorption above C30. With respect to the carbon chain lengths likely to be present in mineral oil, n-paraffins may be absorbed to a greater extent than iso- or cyclo-paraffins.</p> <p>The major classes of hydrocarbons have been shown to be well absorbed by the gastrointestinal tract in various species. In many cases, the hydrophobic</p>
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	hydrocarbons are ingested in association with dietary lipids.		
Acute Toxicity	✓	Carcinogenicity	✗
Skin Irritation/Corrosion	✗	Reproductivity	✗
Serious Eye Damage/Irritation	✗	STOT - Single Exposure	✓
Respiratory or Skin sensitisation	✗	STOT - Repeated Exposure	✗
Mutagenicity	✗	Aspiration Hazard	✓

Legend: ✗ – Data either not available or does not fill the criteria for classification
 ✓ – Data available to make classification

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

Shell Saraline 185V	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	Not Available	Not Available	Not Available	Not Available	Not Available

alkanes, C12-26, branched and linear	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	1.13mg/L	2
	EC50	48	Crustacea	2mg/L	2
	EC50	72	Algae or other aquatic plants	1.714mg/L	2
	NOEC	96	Crustacea	=0.002mg/L	1

Legend: Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data

For hydrocarbons:

Environmental fate:

The lower molecular weight hydrocarbons are expected to form a "slick" on the surface of waters after release in calm sea conditions. This is expected to evaporate and enter the atmosphere where it will be degraded through reaction with hydroxy radicals.

Some hydrocarbon will become associated with benthic sediments, and it is likely to be spread over a fairly wide area of sea floor. Marine sediments may be either aerobic or anaerobic.

Drinking Water Standards: hydrocarbon total: 10 ug/l (UK max.).

DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
	No Data available for all ingredients	No Data available for all ingredients

Bioaccumulative potential

Ingredient	Bioaccumulation
	No Data available for all ingredients

Mobility in soil

Ingredient	Mobility
	No Data available for all ingredients

SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods

Product / Packaging disposal	
	<ul style="list-style-type: none"> ▶ Recycle wherever possible or consult manufacturer for recycling options. ▶ Consult State Land Waste Authority for disposal. ▶ Bury or incinerate residue at an approved site. ▶ Recycle containers if possible, or dispose of in an authorised landfill.

Ensure that the hazardous substance is disposed in accordance with the Hazardous Substances (Disposal) Notice 2017

Disposal Requirements

Packages that have been in direct contact with the hazardous substance must be only disposed if the hazardous substance was appropriately removed and cleaned out from the package.

The package must be disposed according to the manufacturer's directions taking into account the material it is made of.

Packages which hazardous content have been appropriately treated and removed may be recycled.

The hazardous substance must only be disposed if it has been treated by a method that changed the characteristics or composition of the substance and it is no longer hazardous.

SECTION 14 TRANSPORT INFORMATION

Labels Required

Continued...

Marine Pollutant	NO Not Applicable
HAZCHEM	Not Applicable

Land transport (UN): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

SECTION 15 REGULATORY INFORMATION

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

This substance is to be managed using the conditions specified in an applicable Group Standard

HSR Number	Group Standard
HSR002525	Cleaning Products (Combustible) Group Standard 2017
HSR002617	N.O.S. (Combustible) Group Standard 2017
HSR002596	Laboratory Chemicals and Reagent Kits Group Standard 2017
HSR002597	Leather and Textile Products (Combustible) Group Standard 2017
HSR002490	Additives, Process Chemicals and Raw Materials (Combustible) Group Standard 2017
HSR002647	Reagent Kits Group Standard 2017
HSR002640	Polymers (Combustible) Group Standard 2017
HSR002635	Photographic Chemicals (Combustible) Group Standard 2017
HSR002561	Embalming Products (Combustible) Group Standard 2017
HSR002581	Fuel Additives (Combustible) Group Standard 2017
HSR002554	Dental Products (Combustible) Group Standard 2017
HSR002574	Food Additives and Fragrance Materials (Combustible) Group Standard 2017
HSR100425	Pharmaceutical Active Ingredients Group Standard 2017
HSR002602	Lubricants (Combustible) Group Standard 2017
HSR002546	Corrosion Inhibitors (Combustible) Group Standard 2017
HSR002649	Solvents (Combustible) Group Standard 2017
HSR100757	Veterinary Medicine (Limited Pack Size, Finished Dose) Standard 2017
HSR100758	Veterinary Medicines (Non-dispersive Closed System Application) Group Standard 2017
HSR100759	Veterinary Medicines (Non-dispersive Open System Application) Group Standard 2017
HSR002657	Surface Coatings and Colourants (Combustible) Group Standard 2017
HSR002552	Cosmetic Products Group Standard 2017

ALKANES, C12-26, BRANCHED AND LINEAR(90622-53-0.) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Not Applicable

Hazardous Substance Location

Subject to the Health and Safety at Work (Hazardous Substances) Regulations 2017.

Hazard Class	Quantity beyond which controls apply for closed containers	Quantity beyond which controls apply when use occurring in open containers
Not Applicable	Not Applicable	Not Applicable

Certified Handler

Subject to Part 4 of the Health and Safety at Work (Hazardous Substances) Regulations 2017.

Class of substance	Quantities
Not Applicable	Not Applicable

Refer Group Standards for further information

Tracking Requirements

Not Applicable

National Inventory Status

National Inventory	Status
Australia - AICS	No (alkanes, C12-26, branched and linear)
Canada - DSL	No (alkanes, C12-26, branched and linear)
Canada - NDSL	No (alkanes, C12-26, branched and linear)

China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	No (alkanes, C12-26, branched and linear)
Korea - KECI	Yes
New Zealand - NZIoC	No (alkanes, C12-26, branched and linear)
Philippines - PICCS	No (alkanes, C12-26, branched and linear)
USA - TSCA	No (alkanes, C12-26, branched and linear)
Taiwan - TCSI	Yes
Mexico - INSQ	No (alkanes, C12-26, branched and linear)
Vietnam - NCI	No (alkanes, C12-26, branched and linear)
Russia - ARIPS	Yes
Thailand - TECl	No (alkanes, C12-26, branched and linear)
Legend:	Yes = All declared ingredients are on the inventory No = Not determined or one or more ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)

SECTION 16 OTHER INFORMATION

Revision Date	27/06/2017
Initial Date	Not Available

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

Definitions and abbreviations

PC—TWA: Permissible Concentration-Time Weighted Average
 PC—STEL: Permissible Concentration-Short Term Exposure Limit
 IARC: International Agency for Research on Cancer
 ACGIH: American Conference of Governmental Industrial Hygienists
 STEL: Short Term Exposure Limit
 TEEL: Temporary Emergency Exposure Limit.
 IDLH: Immediately Dangerous to Life or Health Concentrations
 OSF: Odour Safety Factor
 NOAEL :No Observed Adverse Effect Level
 LOAEL: Lowest Observed Adverse Effect Level
 TLV: Threshold Limit Value
 LOD: Limit Of Detection
 OTV: Odour Threshold Value
 BCF: BioConcentration Factors
 BEI: Biological Exposure Index

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TEL (+61 3) 9572 4700.

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

1.1. Product identifier

Product name: SOBO S GOLD 08

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

Use of substance / mixture: PC35: Washing and cleaning products (including solvent based products).

1.3. Details of the supplier of the safety data sheet

Company name: Oil Technics Ltd
Linton Business Park
Gourdon
Aberdeenshire
DD10 0NH
United Kingdom, Scotland

Tel: +44 (0) 1561 361515

Email: info@oiltechnics.com

1.4. Emergency telephone number

Emergency tel: +44 (0) 1561 361515 (24 Hours)

Section 2: Hazards identification

2.1. Classification of the substance or mixture

Classification under CLP: Eye Irrit. 2: H319

Most important adverse effects: Causes serious eye irritation.

2.2. Label elements

Label elements under CLP:

Hazard statements: H319: Causes serious eye irritation.

Signal words: Warning

Hazard pictograms: GHS07: Exclamation mark



Precautionary statements: P264: Wash hands thoroughly after handling.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+313: If eye irritation persists: Get medical advice/attention.

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2.3. Other hazards

PBT: This product is not identified as a PBT/vPvB substance.

Section 3: Composition/information on ingredients

3.2. Mixtures

Hazardous ingredients:

TETRAPOTASSIUM PYROPHOSPHATE (TKPP) - REACH registered number(s): 01-2119489369-18

EINECS	CAS	CHIP Classification	CLP Classification	Percent
230-785-7	7320-34-5	-	Eye Irrit. 2: H319	1-5%

ALKYLPOLYGLYCOSIDE C9-11

603-654-0	132778-08-6	-	Eye Dam. 1: H318	1-5%
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Non-classified ingredients:

WATER

EINECS	CAS	CHIP Classification	CLP Classification	Percent
-	7732-18-5	-	-	>80%

Section 4: First aid measures

4.1. Description of first aid measures

Skin contact: Wash immediately with plenty of soap and water.

Eye contact: Bathe the eye with running water for 15 minutes.

Ingestion: Wash out mouth with water.

Inhalation: Consult a doctor.

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

Skin contact: There may be mild irritation at the site of contact.

Eye contact: There may be irritation and redness.

Ingestion: There may be irritation of the throat.

Inhalation: No symptoms.

Delayed / immediate effects: Immediate effects can be expected after short-term exposure.

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

Immediate / special treatment: Not applicable.

Section 5: Fire-fighting measures

5.1. Extinguishing media

Extinguishing media: Suitable extinguishing media for the surrounding fire should be used. Use water spray to cool containers.

[cont...]

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5.2. Special hazards arising from the substance or mixture

Exposure hazards: In combustion emits toxic fumes.

5.3. Advice for fire-fighters

Advice for fire-fighters: Wear self-contained breathing apparatus. Wear protective clothing to prevent contact with skin and eyes.

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions: Refer to section 8 of SDS for personal protection details. Turn leaking containers leak-side up to prevent the escape of liquid.

6.2. Environmental precautions

Environmental precautions: Do not discharge into drains or rivers. Contain the spillage using bunding.

6.3. Methods and material for containment and cleaning up

Clean-up procedures: Absorb into dry earth or sand. Transfer to a closable, labelled salvage container for disposal by an appropriate method.

6.4. Reference to other sections

Reference to other sections: Refer to section 8 of SDS.

Section 7: Handling and storage

7.1. Precautions for safe handling

Handling requirements: Avoid direct contact with the substance. Ensure there is sufficient ventilation of the area. Avoid the formation or spread of mists in the air.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Store in cool, well ventilated area. Keep container tightly closed.

7.3. Specific end use(s)

Specific end use(s): No data available.

Section 8: Exposure controls/personal protection

8.1. Control parameters

Hazardous ingredients:

TETRAPOTASSIUM PYROPHOSPHATE (TKPP)

Workplace exposure limits:

Respirable dust

State	8 hour TWA	15 min. STEL	8 hour TWA	15 min. STEL

[cont...]

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UK	1mg/m3	2mg/m3	-	-
----	--------	--------	---	---

DNEL/PNEC Values

DNEL / PNEC No data available.

8.2. Exposure controls

Engineering measures: Ensure there is sufficient ventilation of the area.

Respiratory protection: Respiratory protection not required.

Hand protection: Protective gloves.

Eye protection: Safety glasses. Ensure eye bath is to hand.

Skin protection: Protective clothing.

Environmental: An environmental assessment must be made to ensure compliance with local environmental legislation.

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

State: Liquid

Colour: Colourless

Odour: Barely perceptible odour

Evaporation rate: Slow

Oxidising: Non-oxidising (by EC criteria)

Solubility in water: Soluble

Viscosity: Non-viscous

Kinematic viscosity: <10 mPas

Viscosity test method: Kinematic viscosity in 10⁻⁶ m²/s at 40°C (ISO 3104/3105)

Boiling point/range °C: 100

Flash point °C: >93

Relative density: 1.05

pH: 8.5 - 9.5

9.2. Other information

Other information: No data available.

Section 10: Stability and reactivity

10.1. Reactivity

Reactivity: Stable under recommended transport or storage conditions.

10.2. Chemical stability

Chemical stability: Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous reactions: Hazardous reactions will not occur under normal transport or storage conditions.
Decomposition may occur on exposure to conditions or materials listed below.

[cont...]

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10.4. Conditions to avoid

Conditions to avoid: Heat.

10.5. Incompatible materials

Materials to avoid: Strong oxidising agents. Strong acids.

10.6. Hazardous decomposition products

Haz. decomp. products: In combustion emits toxic fumes.

Section 11: Toxicological information

11.1. Information on toxicological effects

Toxicity values:

Route	Species	Test	Value	Units
ORAL	RAT	LD50	>5000	mg/kg

Hazardous ingredients:

TETRAPOTASSIUM PYROPHOSPHATE (TKPP)

ORAL	RAT	LD50	>2000	mg/kg
------	-----	------	-------	-------

ALKYLPOLYGLYCOSIDE C9-11

ORAL	-	LD50	2000	mg/kg
------	---	------	------	-------

Excluded effects for mixture:

Effect	Route	Basis
Acute toxicity (harmful)	-	Classified as non-hazardous because of lack of data
Acute toxicity (toxic)	-	Classified as non-hazardous because of lack of data
Acute toxicity (very toxic)	-	Classified as non-hazardous because of lack of data
Irritation	-	Classified as non-hazardous because of lack of data
Corrosivity	-	Classified as non-hazardous because of lack of data
Sensitisation	-	Classified as non-hazardous because of lack of data
Repeated dose toxicity	-	Classified as non-hazardous because of lack of data
Carcinogenicity	-	Classified as non-hazardous because of lack of data

[cont...]

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Mutagenicity	-	Classified as non-hazardous because of lack of data
Toxicity for reproduction	-	Classified as non-hazardous because of lack of data

Symptoms / routes of exposure

Skin contact: There may be mild irritation at the site of contact.

Eye contact: There may be irritation and redness.

Ingestion: There may be irritation of the throat.

Inhalation: No symptoms.

Delayed / immediate effects: Immediate effects can be expected after short-term exposure.

Section 12: Ecological information

12.1. Toxicity

Ecotoxicity values:

Species	Test	Value	Units
Bacteria	48H EC50	>100	mg/l
FISH	96H LC50	>10	mg/l

Hazardous ingredients:

TETRAPOTASSIUM PYROPHOSPHATE (TKPP)

ALGAE	72H IC50	>100	mg/l
Daphnia magna	48H EC50	>100	mg/l
RAINBOW TROUT (<i>Oncorhynchus mykiss</i>)	96H LC50	>100	mg/l

ALKYLPOLYGLYCOSIDE C9-11

FISH	96H LC50	10	mg/l
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12.2. Persistence and degradability

Persistence and degradability: Biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential: No bioaccumulation potential.

12.4. Mobility in soil

Mobility: Readily absorbed into soil.

12.5. Results of PBT and vPvB assessment

PBT identification: This product is not identified as a PBT/vPvB substance.

12.6. Other adverse effects

Other adverse effects: Negligible ecotoxicity.

[cont...]

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Section 13: Disposal considerations

13.1. Waste treatment methods

Disposal operations: Transfer to a suitable container and arrange for collection by specialised disposal company.

Recovery operations: Recycling/reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes).

Disposal of packaging: May be reused following decontamination.

NB: The user's attention is drawn to the possible existence of regional or national regulations regarding disposal.

Section 14: Transport information

Transport class: This product does not require a classification for transport.

Section 15: Regulatory information

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

15.2. Chemical Safety Assessment

Section 16: Other information

Other information

Other information: This safety data sheet is prepared in accordance with Commission Regulation (EU) No 453/2010.

Phrases used in s.2 and s.3: H318: Causes serious eye damage.

H319: Causes serious eye irritation.

Legend to abbreviations: PNEC = predicted no effect level

DNEL = derived no effect level

LD50 = median lethal dose

LC50 = median lethal concentration

EC50 = median effective concentration

IC50 = median inhibitory concentration

dw = dry weight

bw = body weight

cc = closed cup

oc = open cup

MUS = mouse

GPG = guinea pig

RBT = rabbit

HAM = hamster

HMN = human

MAM = mammal

[cont...]

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PGN = pigeon

IVN = intravenous

SCU = subcutaneous

SKN = skin

DRM = dermal

OCC = ocular/corneal

PCP = physico-chemical properties

Legal disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any damage resulting from handling or from contact with the above product.

Safety data sheet number PID1664
Version 9
Revision date 11/Oct/2021
Supercedes Date: 07/May/2018



Safety Data Sheet VERSAMOD*

1. Identification of the Substance/Preparation and of the Company/Undertaking

1.1 Product identifier

Product name VERSAMOD*
Product code PID1664

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

Recommended Use Rheology modifier.

Uses advised against Consumer use

1.3 Details of the supplier of the safety data sheet

Supplier

Schlumberger Oilfield UK PLC
Schlumberger House, Buckingham Gate
Gatwick Airport
West Sussex RH6 0NZ

+47 51577424

SDS@slb.com

1.4 Emergency Telephone Number

Emergency telephone (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 561 1600

National Poison Center Numbers

Denmark	Poison Control Hotline (DK): +45 82 12 12 12
Norway	Poison information centre: +47 22 59 13 00

2. Hazards Identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Health hazards Not classified

Environmental hazards Not classified

Physical Hazards Not classified

2.2 Label elements

Signal word

None

Hazard Statements

This product is not classified as hazardous therefore no (H) hazard statements assigned.

Precautionary Statements

This product is not classified as hazardous therefore has no (P) precautionary statements assigned.

-

Contains

Hydrocarbons, C13-C15, n-alkanes, isoalkanes, cyclics, < 2% aromatics*

2.3 Other hazards

Not classified as PBT/vPvB by current EU criteria

3. Composition/information on Ingredients

3.1 Substances

Not applicable

3.2 Mixtures

Chemical Name	EC No	CAS No	Weight-%	Component information
Hydrocarbons, C13-C15, n-alkanes, isoalkanes, cyclics, < 2% aromatics*	917-488-4	RM1005430	30-60	Asp. Tox. 1 (H304) EUH066

Chemical Name	REACH registration number	Specific concentration limit (SCL)	M-Factor	M-factor (Long term)
Hydrocarbons, C13-C15, n-alkanes, isoalkanes, cyclics, < 2% aromatics*	01-2119485032-45-XXXX	No information available	No information available	No information available

Acute Toxicity Estimate

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50 - 4 hour - dust/mist	Inhalation LC50 - 4 hour - gas	Inhalation LC50 - 4 hour - vapour
Hydrocarbons, C13-C15, n-alkanes, isoalkanes, cyclics, < 2% aromatics*	No information available	No information available	No information available	No information available	No information available

Comments

The viscosity of this product is high enough that it is not an aspiration risk and the H304 phrase does not apply

The product contains other ingredients which do not contribute to the overall classification.

*Substances which have an EC Number that begins with the number "9" is a Provisional List Number. The list numbers published by ECHA do not have any legal significance. The EC substance definition and related classification & labelling has been developed in the framework of the Regulation (EC) No 1907/2006 (REACH). For information about the related CAS number see section 15 of this SDS.

4. First Aid Measures

4.1 First aid measures

Inhalation	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
Ingestion	Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.
Skin contact	Wash skin thoroughly with soap and water. Seek medical attention if irritation occurs.
Eye Contact	Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if any discomfort continues.

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

General advice The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

Symptoms

Inhalation	Please see Section 11. Toxicological Information for further information.
Ingestion	Please see Section 11. Toxicological Information for further information.
Skin contact	Please see Section 11. Toxicological Information for further information.
Eye contact	Please see Section 11. Toxicological Information for further information.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician Treat symptomatically.

5. Firefighting Measures

5.1 Extinguishing media

Suitable extinguishing media

Water Fog, Alcohol Foam, CO₂, Dry Chemical.

Extinguishing media which must not be used for safety reasons

None known.

5.2. Special hazards arising from the substance or mixture

Unusual fire and explosion hazards

None known.

Hazardous combustion products

Thermal decomposition can lead to release of irritating gases and vapours Carbon oxides (COx).

5.3 Advice for firefighters

Special protective equipment for fire-fighters

As in any fire, wear self-contained breathing apparatus and full protective gear.

Special Fire-Fighting Procedures

Containers close to fire should be removed immediately or cooled with water.

6. Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. See also section 8.

6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

Environmental exposure controls

Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

6.3 Methods and material for containment and cleaning up

Methods for containment

Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up

Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. After cleaning, flush away traces with water.

6.4 Reference to other sections

See section 13 for more information.

7. Handling and Storage

7.1 Precautions for safe handling

Handling

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Do not breathe vapours or spray mist. Avoid spills and splashing during use.

Hygiene Measures

Use good work and personal hygiene practices to avoid exposure When using do not eat, drink, smoke, sniff Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing

7.2 Conditions for safe storage, including any incompatibilities

Technical measures/precautions Ensure adequate ventilation. Keep airborne concentrations below exposure limits.

Storage precautions Keep containers tightly closed in a dry, cool and well-ventilated place

Storage class Chemical storage.

Storage class, TRGS 510, Germany LGK12 - Non-combustible liquids

Packaging materials Use specially constructed containers only

7.3 Specific end uses

See Section 1.2.

8. Exposure Controls/Personal Protection

8.1 Control parameters

Exposure Limits Hydrocarbons, C13-C15, n-alkanes, isoalkanes, cyclics, < 2% aromatics: DE - TRGS 900 (MAK) - LTE(8h): 140 mg/m³, 20 ppm
 Oil mist (mineral) workplace exposure limits are currently under review by legislative authorities. This workplace exposure limit (WEL) standard is applicable to highly refined mineral oils and is provided as a guidance limit only LT. EXP = 5mg/m³ and ST. EXP = 10mg/m³.

Component Information

Chemical Name	EU OEL - Third List	Austria	Denmark
Hydrocarbons, C13-C15, n-alkanes, isoalkanes, cyclics, < 2% aromatics*	Not determined	Not determined	Not determined
Chemical Name	France	Germany	Hungary
Hydrocarbons, C13-C15, n-alkanes, isoalkanes, cyclics, < 2% aromatics*	Not determined	Not determined	Not determined
Chemical Name	Italy	Netherlands	Norway
Hydrocarbons, C13-C15, n-alkanes, isoalkanes, cyclics, < 2% aromatics*	Not determined	Not determined	Not determined
Chemical Name	Poland	Portugal	Romania
Hydrocarbons, C13-C15, n-alkanes, isoalkanes, cyclics, < 2% aromatics*	Not determined	Not determined	Not determined
Chemical Name	Spain	Switzerland	UK
Hydrocarbons, C13-C15, n-alkanes, isoalkanes, cyclics, < 2% aromatics*	Not determined	Not determined	Not determined

Notes

No biological limit allocated

8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

Engineering Controls

Ensure adequate ventilation. Mechanical ventilation or local exhaust ventilation is required.

Personal protective equipment

- Eye protection** Use eye protection according to EN 166, designed to protect against liquid splashes. Tightly fitting safety goggles. Safety glasses with side-shields.
- Hand protection** Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Impervious gloves made of: Neoprene Nitrile PVC
 Break through time >480 minutes
 Glove thickness >=0.4 mm
 Be aware that liquid may penetrate the gloves. Frequent change is advisable.
- Respiratory protection** No personal respiratory protective equipment normally required, In case of insufficient ventilation wear suitable respiratory equipment, Respirator with a vapor filter (EN 141), Use respirator with organic vapor protection (A, brown), At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.
- Skin and body protection** Wear suitable protective clothing, Eye wash and emergency shower must be available at the work place.

Hygiene Measures

Wash hands before eating, drinking or smoking, Remove and wash contaminated clothing before re-use.



8.2.3 Environmental exposure controls

Environmental exposure Use appropriate containment to avoid environmental contamination See section 6 for more information

9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Viscous
Odour	Slight
Colour	Amber

<u>Property</u>	<u>Values</u>	<u>Remarks</u>
pH	No information available	
pH @ dilution	No information available	
Melting / freezing point	No information available	
Boiling point/range	No information available	
Flash point	> 100 °C / > 212 °F	PMCC
Evaporation rate	No information available	

Flammability	Not applicable	
Explosion limits:		
Upper explosion limit	No information available	
Lower explosion limit	No information available	
Vapour pressure	No information available	
Relative Vapor Density	No information available	
Specific gravity	0.89 - 0.91	20 °C
Bulk density	No information available	
Water solubility	Insoluble in water	
Solubility in other solvents	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	> 20.5 cSt	@ 40 °C
Dynamic viscosity	No information available	
Partition Coefficient (n-octanol/water)	No information available	
Density and/or Relative Density	No information available	
Explosive properties	Not applicable	
Oxidising properties	None known	

9.2 Other information

Pour point	1.7°C / 35°F
Molecular weight	No information available
VOC content(%)	None

Comments

The data listed above are typical physical and chemical properties and should not be construed as product specification.

10. Stability and Reactivity

10.1 Reactivity

No specific reactivity hazards associated with this product.

10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

10.3 Possibility of Hazardous Reactions

Hazardous polymerisation

Hazardous polymerisation does not occur.

10.4 Conditions to avoid

None known.

10.5 Incompatible materials

No materials to be especially mentioned.

10.6 Hazardous decomposition products

See Section 5.2.

11. Toxicological Information

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

Acute toxicity

Inhalation Inhalation of vapours in high concentration may cause irritation of respiratory system.

Eye contact May cause slight irritation.

Skin contact Prolonged contact may cause redness and irritation.

Ingestion Ingestion may cause stomach discomfort.

Unknown acute toxicity Not applicable.

LD50 Oral > 2000 mg/kg (rat) (based on components) (MIXTURE)

Toxicology data for the components

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Hydrocarbons, C13-C15, n-alkanes, isoalkanes, cyclics, < 2% aromatics*	> 5000 mg/kg (Rat) Literature data	> 2000 mg/kg (Rabbit) Duration: 24h Literature data	> 5 mg/l (Rat) Duration: 4h Literature data

Sensitisation This product does not contain any components suspected to be sensitizing.

Mutagenic effects This product does not contain any known or suspected mutagens.

Carcinogenicity This product does not contain any known or suspected carcinogens.

Reproductive toxicity This product does not contain any known or suspected reproductive hazards.

Routes of Exposure None known.

Routes of entry No route of entry noted.

Specific target organ toxicity - Single exposure Not classified

Specific target organ toxicity - Repeated exposure Not classified.

Aspiration hazard The viscosity of this product is high enough that it is not an aspiration risk and the H304 phrase does not apply.

11.2 Information on other hazards

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

Other information Key literature references and sources for data. See Section 16 for more information.

12. Ecological Information

12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Toxicity to algae

See component information below.

Toxicity to fish

See component information below.

Toxicity to daphnia and other aquatic invertebrates

See component information below.

Toxicology data for the components

Chemical Name	Toxicity to fish	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates
Hydrocarbons, C13-C15, n-alkanes, isoalkanes, cyclics, < 2% aromatics*	Fish EC50/LC50 > 1 g/l - Duration h: 96 Literature data	ISO 10253 Algae EC50/LC50 > 3 g/l Duration h: 72 Literature data	ISO 14669 Daphnia magna EC50/LC50 > 3 g/l Duration h: 48 - Literature data

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.

Chemical Name	Persistence and degradability
Hydrocarbons, C13-C15, n-alkanes, isoalkanes, cyclics, < 2% aromatics*	Readily biodegradable

12.3 Bioaccumulative potential

The product contains potentially bioaccumulating substances.

Chemical Name	Bioaccumulation
Hydrocarbons, C13-C15, n-alkanes, isoalkanes, cyclics, < 2% aromatics*	Test log Pow : 8

12.4 Mobility

Mobility

Insoluble in water. See component information below.

Chemical Name	Mobility
Hydrocarbons, C13-C15, n-alkanes, isoalkanes, cyclics, < 2% aromatics*	No information available

Mobility in soil

See component information below.

Chemical Name	Mobility in soil

Hydrocarbons, C13-C15, n-alkanes, isoalkanes, cyclics, < 2% aromatics*	No information available
--	--------------------------

12.5 Results of PBT and vPvB assessment

Not classified as PBT/vPvB by current EU criteria.

12.6 Endocrine disrupting properties.

This product does not contain any known or suspected endocrine disruptors

12.7 Other adverse effects

None known.

12.8 Additional information

Key literature references and sources for data. See Section 16 for more information.

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.
EWC Waste Disposal No	According to the European Waste Catalogue, 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 The following Waste Codes are only suggestions: EWC waste disposal No: 07 01 99.

14. Transport information

14.1. UN number

Not regulated

14.2. UN proper shipping name

The product is not covered by international regulation on the transport of dangerous goods

14.3. Hazard class(es)

ADR/RID/ADN/ADG Hazard class	Not regulated
IMDG Hazard class	Not regulated
ICAO Hazard class/division	Not regulated

14.4 Packing group

ADR/RID/ADN/ADG Packing Group	Not regulated
IMDG Packing group	Not regulated
ICAO Packing group	Not regulated

14.5 Environmental hazard

No

14.6 Special precautions

Not applicable

14.7 Maritime transport in bulk according to IMO instruments

Please contact SDS@slb.com for info regarding transport in Bulk.

15. Regulatory Information

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

This safety data sheet complies with the requirements of:
 Regulation (EC) No. 1907/2006 and Regulation (EC) No. 1272/2008
 Commission Regulation (EU) No 2015/830 of 28 May 2015
 Registration, Evaluation, Authorization and Restriction of Chemicals (REACH)

Dangerous substance category per Seveso Directive (2012/18/EU)

This product does not contain substances listed under Dangerous substance category per Seveso Directive (2012/18/EU)

Netherlands

Dutch Mining Regulations: In accordance with Mining Regulations 9.2 and Chapter 4 of the Working Conditions Decree.

Germany

Regulations governing systems for handling substances hazardous to waters
 Hazardous substances ordinance

Germany, Water Endangering Classes (VwVwS) Water endangering class = 1

Technical Rules for Hazardous Substances (TRGS) TRGS 220 National aspects when compiling safety data sheets
 TRGS 510 Storage of hazardous substances in non stationary containers
 TRGS 900 Occupational exposure limits

International inventories

USA, Toxic Substances Control Act inventory (TSCA)	Complies
Canada (DSL)	Complies
Philippines (PICCS)	Complies
Inventory - Japan - Existing and New Chemicals list	Does not comply
China (IECSC)	Complies
Australia (AICS)	Complies
Korea (KECL)	Complies
Inventory - New Zealand - Inventory of Chemicals (NZIoC)	Complies

Europe - REACH

All products supplied from the European Economic Area (EEA) are compliant with the REACH Regulation EC 1907/2006. For products supplied from the EEA, Schlumberger and/or its suppliers have pre-registered and is registering all of the substances that it and/or its suppliers manufactures in or imports into the EEA that are subject to Title II of the REACH Regulation. All products supplied from outside the EEA are subject to REACH only if imported into the EEA. The importer of the products must comply with REACH for each imported substance. Contact REACH@slb.com for REACH information.

Denmark Pr. no. 2176959

CAS Number 64742-47-8 can be used to identify the substance given a list number in section 3 in areas not subject to the REACH regulation.

15.2 Chemical Safety Report

No information available

16. Other Information

Prepared by Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Anne Karin (Anka) Fosse
Supersedes Date: 07/May/2018
Revision date 11/Oct/2021
Version 9
This SDS has been revised in the following section(s) 1, 3, 8, 9, 11, 12, 15, No changes with regard to classification have been made.

Key literature references and sources for data

www.ChemADVISOR.com
Supplier
National Chemical Inventories
National regulatory information
National occupational exposure limits

Training Advice

Do not handle until all safety precautions have been read and understood
Follow general hygiene considerations recognised as common good workplace practices

HMIS classification

Health	1
Flammability	1
Physical hazard	0
PPE	B

Full text of H-Statements referred to under sections 2 and 3

This product is not classified as hazardous therefore no (H) hazard statements assigned.

H304 - May be fatal if swallowed and enters airways
EUH066 - Repeated exposure may cause skin dryness or cracking

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Disclaimer

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