

Safety data sheet number PID16967

Version 4

Revision date 19/Nov/2015

Supercedes date 29/Jun/2015



## Safety Data Sheet SUREMUL<sup>†</sup> PLUS

### 1. Identification of the substance/preparation and of the Company/undertaking

#### 1.1 Product identifier

Product name SUREMUL<sup>†</sup> PLUS  
Product code PID16967

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

Recommended use Emulsifier  
Uses advised against Consumer use

#### 1.3 Details of the supplier of the safety data sheet

Supplier identification  
M-I Drilling Fluids UK Limited  
C/O Schlumberger  
Enterprise Drive  
Westhill Industrial Estate  
Westhill, AB32 6TQ  
Scotland UK  
+47 51577424  
MISDS@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

|             |   |
|-------------|---|
| Netherlands | National Poisons Information Center (NL): +31 30 274 88 88 (NB: this service is only available to health professionals) |
|-------------|---|

### 2. Hazards identification

#### 2.1 Classification of the substance or mixture

Regulation (EC) No. 1272/2008

##### Health hazards

|                                   |                 |
|-----------------------------------|-----------------|
| Serious eye damage/eye irritation | Category 2      |
| Skin sensitisation                | Sub-Category 1B |

Environmental hazards Not classified

Physical Hazards Not classified

#### 2.2 Label Elements



**Signal word**

WARNING

**Hazard statements**

H317 - May cause an allergic skin reaction

H319 - Causes serious eye irritation

**EU specific hazard statements**

EUH066 - Repeated exposure may cause skin dryness or cracking

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

P261 - Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray

P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water

P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P501 - Dispose of contents/container in accordance with local regulations.

**Supplementary precautionary statements**

P264 - Wash face, hands and any exposed skin thoroughly after handling

P272 - Contaminated work clothing should not be allowed out of the workplace

P333 + P313 - If skin irritation or rash occurs: Get medical advice/ attention

P363 - Wash contaminated clothing before re-use

-

**Contains**

Fatty acids, tall-oil, reaction products with diethylenetriamine, maleic anhydride, tetraethylenepentamine and triethylenetetramine

2-[2-(2-butoxyethoxy)ethoxy]ethanol

Hydrocarbons, C10-C14, N-Alkanes, Isoalkanes, <2% Aromatics

Poly(oxy-1,2-ethanediyl), a-butyl-omega-hydroxy

2-(2-Butoxyethoxy)ethanol

**2.3 Other data**

Not classified as PBT/vPvB by current EU criteria

**3. Composition/information on ingredients**

### 3.1 Substances

Not Applicable

### 3.2 Mixtures

| Component   | EC-No.    | CAS-No     | Weight % - range | Classification (67/548) | Classification (Reg. 1272/2008) | REACH registration number |
|---|-----------|------------|------------------|-------------------------|---------------------------------|---------------------------|
| Fatty acids, tall-oil, reaction products with diethylenetriamine, maleic anhydride, tetraethylenepentamine and triethylenetetramine | 273-601-0 | 68990-47-6 | 30-60            | Xi; R43                 | Skin Sens. 1 (H317)             | 01-2119496070-42-x<br>xxx |
| 2-[2-(2-butoxyethoxy)ethoxy]ethanol   | 205-592-6 | 143-22-6   | <30              | Xi; R41                 | Eye Dam. 1 (H318)               | 01-2119475107-38-X<br>XXX |
| Hydrocarbons, C10-C14, N-Alkanes, Isoalkanes, <2% Aromatics   | 920-274-3 | *          | 10-30            | Xn; R65                 | Asp. Tox. 1 (H304)<br>EUH066    | 01-2119458951-30-x<br>xxx |
| Poly(oxy-1,2-ethanediy l), a-butyl-omega-hydroxy  | 500-012-0 | 9004-77-7  | <3               | Xi; R38, R41            | Eye Damage 1 (H318)             | 01-2119484615-30-x<br>xxx |
| 2-(2-Butoxyethoxy)ethanol   | 203-961-6 | 112-34-5   | 1-5              | Xi; R36                 | Eye Irrit. 2 (H319)             | 01-2119475104-44-X<br>XXX |

### **Comments**

The viscosity of this product is high enough that it is not an aspiration risk and the R65/H304 phrase does not apply.

\*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.

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

## 4. First aid measures

### 4.1 First Aid

#### **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. Seek medical attention if irritation occurs.

#### **Skin contact**

Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Seek medical attention if irritation occurs.

**Eye contact** Remove contact lenses. Promptly wash eyes with lots of water while lifting eye lids. Continue to rinse for at least 15 minutes. Seek immediate medical attention/advice.

#### **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.

#### **Main 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**  
Water Fog, Alcohol Foam, CO<sub>2</sub>, Dry Chemical.

**Extinguishing media which shall 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.

### **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. Avoid contact with eyes. Do not get on skin or clothing. Wash thoroughly after handling. 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 materials 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. Prevent the formation of vapors, mists and aerosols. 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. Keep airborne concentrations below exposure limits.

**Storage precautions** Keep containers tightly closed in a dry, cool and well-ventilated place. Avoid contact with:  
Strong oxidising agents

**Storage class** Chemical storage.

**Packaging material** 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**

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/m<sup>3</sup> and ST. EXP = 10mg/m<sup>3</sup>.

| Component   | EU OEL - Third List   | Austria        | Australia      | Denmark               |
|---|---|----------------|----------------|-----------------------|
| Fatty acids, tall-oil, reaction products with diethylenetriamine, maleic anhydride, tetraethylenepentamine and triethylenetetramine | Not determined  | Not determined | Not determined | Not determined        |
| 2-[2-(2-butoxyethoxy)ethoxy]ethanol   | Not determined  | Not determined | Not determined | Not determined        |
| Hydrocarbons, C10-C14, N-Alkanes, Isoalkanes, <2% Aromatics   | Not determined  | Not determined | Not determined | Not determined        |
| Poly(oxy-1,2-ethanediyl), a-butyl-omega-hydroxy   | Not determined  | Not determined | Not determined | Not determined        |
| 2-(2-Butoxyethoxy)ethanol   | 10 ppm TWA<br>67.5 mg/m <sup>3</sup> TWA<br>15 ppm STEL<br>101.2 mg/m <sup>3</sup> STEL | Not determined | Not determined | 100 mg/m <sup>3</sup> |

| Component   | Malaysia       | France                           | Germany                                | Hungary        |
|---|----------------|----------------------------------|--|----------------|
| Fatty acids, tall-oil, reaction products with diethylenetriamine, maleic anhydride, tetraethylenepentamine and triethylenetetramine | Not determined | Not determined                   | Not determined                         | Not determined |
| 2-[2-(2-butoxyethoxy)ethoxy]ethanol   | Not determined | Not determined                   | Not determined                         | Not determined |
| Hydrocarbons, C10-C14, N-Alkanes, Isoalkanes, <2% Aromatics   | Not determined | Not determined                   | Not determined                         | Not determined |
| Poly(oxy-1,2-ethanediyl), a-butyl-omega-hydroxy   | Not determined | Not determined                   | Not determined                         | Not determined |
| 2-(2-Butoxyethoxy)ethanol   | Not determined | 10 ppm<br>67.5 mg/m <sup>3</sup> | 10 ppm MAK<br>67 mg/m <sup>3</sup> MAK | Not determined |

| Component   | New Zealand    | Italy          | Netherlands             | Norway  |
|---|----------------|----------------|-------------------------|---|
| Fatty acids, tall-oil, reaction products with diethylenetriamine, maleic anhydride, tetraethylenepentamine and triethylenetetramine | Not Determined | Not determined | Not determined          | Not determined  |
| 2-[2-(2-butoxyethoxy)ethoxy]ethanol   | Not Determined | Not determined | Not determined          | Not determined  |
| Hydrocarbons, C10-C14, N-Alkanes, Isoalkanes, <2% Aromatics   | Not Determined | Not determined | Not determined          | Not determined  |
| Poly(oxy-1,2-ethanediyl), a-butyl-omega-hydroxy   | Not Determined | Not determined | Not determined          | Not determined  |
| 2-(2-Butoxyethoxy)ethanol   | Not Determined | Not determined | 50 mg/m <sup>3</sup> GW | 10 ppm TWA<br>68 mg/m <sup>3</sup> TWA<br>20 ppm STEL<br>102 mg/m <sup>3</sup> STEL |

| Component   | Poland   | Portugal       | Romania        | Russia                   |
|---|--|----------------|----------------|--------------------------|
| Fatty acids, tall-oil, reaction products with diethylenetriamine, maleic anhydride, tetraethylenepentamine and triethylenetetramine | Not determined   | Not determined | Not determined | Not determined           |
| 2-[2-(2-butoxyethoxy)ethoxy]ethanol   | Not determined   | Not determined | Not determined | Not determined           |
| Hydrocarbons, C10-C14, N-Alkanes, Isoalkanes, <2% Aromatics   | Not determined   | Not determined | Not determined | Not determined           |
| Poly(oxy-1,2-ethanediyl), a-butyl-omega-hydroxy   | Not determined   | Not determined | Not determined | Not determined           |
| 2-(2-Butoxyethoxy)ethanol   | 100 mg/m <sup>3</sup> STEL<br>67 mg/m <sup>3</sup> TWA | Not determined | Not determined | 10 mg/m <sup>3</sup> MAC |

| Component   | Spain   | Switzerland   | Turkey  | UK  |
|---|---|---|---|---|
| Fatty acids, tall-oil, reaction products with diethylenetriamine, maleic anhydride, tetraethylenepentamine and triethylenetetramine | Not determined  | Not determined  | Not determined  | Not determined  |
| 2-[2-(2-butoxyethoxy)ethoxy]ethanol   | Not determined  | Not determined  | Not determined  | Not determined  |
| Hydrocarbons, C10-C14, N-Alkanes, Isoalkanes, <2% Aromatics   | Not determined  | Not determined  | Not determined  | Not determined  |
| Poly(oxy-1,2-ethanediyl), a-butyl-omega-hydroxy   | Not determined  | Not determined  | Not determined  | Not determined  |
| 2-(2-Butoxyethoxy)ethanol   | 15 ppm VLA-EC<br>101.2 mg/m <sup>3</sup> VLA-EC<br>10 ppm VLA-ED<br>indicative limit value;<br>manufacturing,<br>commercialization, and<br>use restrictions under<br>REACH<br>67.5 mg/m <sup>3</sup> VLA-ED<br>indicative limit value;<br>manufacturing,<br>commercialization, and<br>use restrictions under<br>REACH | 15 ppm STEL<br>101.2 mg/m <sup>3</sup> STEL<br>10 ppm MAK<br>67 mg/m <sup>3</sup> MAK | 15 ppm STEL<br>101.2 mg/m <sup>3</sup> STEL<br>10 ppm TWA<br>67.5 mg/m <sup>3</sup> TWA | 15 ppm STEL<br>101.2 mg/m <sup>3</sup> STEL<br>10 ppm TWA<br>67.5 mg/m <sup>3</sup> TWA |

#### Derived No Effect Level (DNEL)

##### Short term exposure local effects

**Fatty acids, tall-oil, reaction products with diethylenetriamine, maleic anhydride, tetraethylenepentamine and triethylenetetramine**

Dermal 1388 µg/cm<sup>2</sup>

Inhalation 14693 µg/m<sup>3</sup>

**2-(2-Butoxyethoxy)ethanol**

Inhalation 101.2 mg/m<sup>3</sup>

**Fatty acids, tall-oil, reaction products with diethylenetriamine, maleic anhydride, tetraethylenepentamine and triethylenetetramine**

Dermal 1388 µg/cm<sup>2</sup>

Inhalation 14693 µg/m<sup>3</sup>

##### Short term exposure systemic effects

**Fatty acids, tall-oil, reaction products with diethylenetriamine, maleic anhydride, tetraethylenepentamine and triethylenetetramine**

Dermal 33332 µg/kg  
 Inhalation 29386 µg/m<sup>3</sup>

**2-(2-Butoxyethoxy)ethanol**

Inhalation 67.5 mg/m<sup>3</sup>

**Long term exposure systemic effects**

**Fatty acids, tall-oil, reaction products with diethylenetriamine, maleic anhydride, tetraethylenepentamine and triethylenetetramine**

Dermal 16666 µg/kg  
 Inhalation 14693 µg/m<sup>3</sup>

**2-[2-(2-butoxyethoxy)ethoxy]ethanol**

Dermal 50 mg/kg  
 Inhalation 195 mg/m<sup>3</sup>

**Poly(oxy-1,2-ethanediyl), a-butyl-omega-hydroxy**

Dermal 50 mg/kg  
 Inhalation 195 mg/m<sup>3</sup>

**2-(2-Butoxyethoxy)ethanol**

Dermal 20 mg/kg  
 Inhalation 67.5 mg/m<sup>3</sup>

**Predicted No Effect Concentration (PNEC)**

**Fatty acids, tall-oil, reaction products with diethylenetriamine, maleic anhydride, tetraethylenepentamine and triethylenetetramine**

Fresh Water 0.00217 mg/L  
 Sea Water 0.000217 mg/L  
 Fresh water sediment 180 mg/kg  
 Sea sediment 18 mg/kg  
 Soil 146 mg/kg  
 Impact on Sewage Treatment 1 mg/l  
 Intermittent release 0.0217 mg/l

**2-[2-(2-butoxyethoxy)ethoxy]ethanol**

Fresh Water 1.5 mg/l  
 Fresh water sediment 5.77 mg/kg  
 Soil 0.45 mg/kg  
 Impact on Sewage Treatment 200 mg/l  
 Intermittent release 5 mg/l

**Poly(oxy-1,2-ethanediyl), a-butyl-omega-hydroxy**

Fresh Water 4.5 mg/L  
 Sea Water 0.31 mg/L  
 Fresh water sediment 6.6 mg/kg  
 Sea sediment 0.66 mg/kg  
 Soil 1.32 mg/kg  
 Impact on Sewage Treatment 500 mg/L  
 Intermittent release 24.9 mg/L

**2-(2-Butoxyethoxy)ethanol**

Fresh Water 1.0 mg/L  
 Sea Water 0.1 mg/L  
 Fresh water sediment 4 mg/kg  
 Sea sediment 0.4 mg/kg  
 Soil 0.4 mg/kg  
 Impact on Sewage Treatment 200 mg/L  
 Intermittent release 3.9 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 measures to reduce exposure**

Ensure adequate ventilation. Provide mechanical general and/or local exhaust ventilation to prevent release of vapor or mist into work environment.

**Personal protective equipment**

- Eye protection** Safety glasses with side-shields.
- Hand protection** Use protective gloves made of: Neoprene, Nitrile, PVC, Be aware that liquid may penetrate the gloves. Frequent change is advisable.
- Respiratory protection** No personal respiratory protective equipment normally required, When workers are facing concentrations above the exposure limit they must use appropriate certified respirators, 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.



**9. Physical and chemical properties**

**9.1 Information on basic physical and chemical properties**

|                       |                |
|-----------------------|----------------|
| <b>Physical state</b> | Liquid         |
| <b>Appearance</b>     | Viscous        |
| <b>Odour</b>          | Slight         |
| <b>Colour</b>         | amber          |
| <b>Odor threshold</b> | Not applicable |

| <u>Property</u>            | <u>Values</u>            | <u>Remarks</u> |
|----------------------------|--------------------------|----------------|
| pH                         | 2 - 4                    |                |
| pH @ dilution              |                          |                |
| Melting/freezing point     | No information available |                |
| Boiling point/range        | > 86.7 °C / > 188.06 °F  |                |
| Flash Point                | > 68 °C / > 154.4 °F     |                |
| Evaporation rate           | No information available |                |
| Flammability (solid, gas)  | Not Applicable           |                |
| Flammability Limits in Air |                          |                |
| Upper flammability Limit   | Not applicable           |                |
| Lower flammability limit   | Not applicable           |                |
| Vapor pressure             | No information available |                |
| Vapor density              | No information available |                |

|                                     |                            |         |
|-------------------------------------|----------------------------|---------|
| <b>Specific gravity</b>             | No information available - |         |
| <b>Bulk density</b>                 | No information available   |         |
| <b>Relative density</b>             | 0.92 - 0.96 kg/l           |         |
| <b>Water solubility</b>             | Insoluble in water         |         |
| <b>Solubility in other solvents</b> | No information available   |         |
| <b>Autoignition temperature</b>     | No information available   |         |
| <b>Decomposition temperature</b>    | No information available   |         |
| <b>Kinematic viscosity</b>          | > 20.5 cSt                 | @ 40 °C |
| <b>Viscosity, dynamic</b>           | No information available   |         |
| <b>Log Pow</b>                      | No information available   |         |

|                             |                |
|-----------------------------|----------------|
| <b>Explosive properties</b> | Not Applicable |
| <b>Oxidizing properties</b> | None known.    |

#### 9.2 Other information

|                         |                          |
|-------------------------|--------------------------|
| <b>Pour point</b>       | No information available |
| <b>Molecular weight</b> | No information available |
| <b>VOC content(%)</b>   | None                     |
| <b>Density VALUE</b>    | No information available |

## 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**

Hazardous polymerisation does not occur.

### 10.4 Conditions to avoid

None known.

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

|                               |  |
|-------------------------------|--|
| <b>Eye contact</b>            | Causes serious eye irritation.   |
| <b>Skin contact</b>           | May cause an allergic skin reaction. Repeated exposure may cause skin dryness or cracking. |
| <b>Ingestion</b>              | Ingestion may cause stomach discomfort.  |
| <b>Unknown acute toxicity</b> | Not Applicable.  |

| Component   | LD50 Oral            | LD50 Dermal             | LC50 Inhalation   |
|---|----------------------|-------------------------|-------------------|
| Fatty acids, tall-oil, reaction products with diethylenetriamine, maleic anhydride, tetraethylenepentamine and triethylenetetramine | No data available    | No data available       | No data available |
| 2-[2-(2-butoxyethoxy)ethoxy]ethanol   | = 5300 mg/kg ( Rat ) | = 3480 mg/kg ( Rabbit ) | No data available |
| Hydrocarbons, C10-C14, N-Alkanes, Isoalkanes, <2% Aromatics   | No data available    | No data available       | No data available |
| Poly(oxy-1,2-ethanediyl), a-butyl-omega-hydroxy   | No data available    | No data available       | No data available |
| 2-(2-Butoxyethoxy)ethanol   | = 3384 mg/kg ( Rat ) | = 2700 mg/kg ( Rabbit ) | No data available |

|   |  |
|---|--|
| <b>Sensitisation</b>                                      | May cause sensitization by skin contact.   |
| <b>Mutagenic effects</b>                                  | This product does not contain any known or suspected mutagens.   |
| <b>Carcinogenicity</b>                                    | This product does not contain any known or suspected carcinogens.  |
| <b>Reproductive toxicity</b>                              | This product does not contain any known or suspected reproductive hazards.   |
| <b>Routes of exposure</b>                                 | Eye contact. Skin contact.   |
| <b>Routes of entry</b>                                    | Eye contact.   |
| <b>Specific target organ toxicity (single exposure)</b>   | Not classified   |
| <b>Specific target organ toxicity (repeated exposure)</b> | Not classified.  |
| <b>Aspiration hazard</b>                                  | The viscosity of this product is high enough that it is not an aspiration risk and the R65/H304 phrase does not apply. |

## 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.

| Component   | Toxicity to fish  | Toxicity to algae                            | Toxicity to daphnia and other aquatic invertebrates                    |
|---|---|--|--|
| Fatty acids, tall-oil, reaction products with diethylenetriamine, maleic anhydride, tetraethylenepentamine and triethylenetetramine | No information available  | No information available                     | No information available   |
| 2-[2-(2-butoxyethoxy)ethoxy]ethanol   | = 2400 mg/L LC50 Pimephales promelas 96 h 2200 - 4600 mg/L LC50 Leuciscus idus 96 h | > 500 mg/L EC50 Desmodesmus subspicatus 72 h | > 500 mg/L EC50 Daphnia magna 48 h                                     |
| Hydrocarbons, C10-C14, N-Alkanes, Isoalkanes, <2% Aromatics   | No information available  | No information available                     | No information available   |
| Poly(oxy-1,2-ethanediyl), a-butyl-omega-hydroxy   | No information available  | No information available                     | No information available   |
| 2-(2-Butoxyethoxy)ethanol   | = 1300 mg/L LC50 Lepomis macrochirus 96 h   | > 100 mg/L EC50 Desmodesmus subspicatus 96 h | = 2850 mg/L EC50 Daphnia magna 24 h > 100 mg/L EC50 Daphnia magna 48 h |

**12.2 Persistence and degradability**

The product contains substances which are not expected to be biodegradable.

**12.3 Bioaccumulative potential**

The product contains potentially bioaccumulating substances.

**12.4 Mobility in soil**

**Mobility**

Insoluble in water.

**12.5 Results of PBT and vPvB assessment**

Not classified as PBT/vPvB by current EU criteria.

**12.6 Other adverse effects.**

None known.

**13. Disposal considerations**

**13.1 Waste treatment methods**

|  |  |
|--|--|
| <b>Waste from residues / unused products</b> | Dispose of in accordance with local regulations.   |
| <b>Contaminated packaging</b>                | Empty containers should be transported/delivered using a registered waste carrier for local recycling or waste disposal.   |
| <b>EWC waste disposal No.</b>                | 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 04 Waste Code: 7152 Organic waste without halogen. |

**14. Transport information**

**14.1 UN number**

Not regulated

**14.2 Proper shipping name**

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

**14.3. Hazard class(es)**

|                                     |               |
|-------------------------------------|---------------|
| <b>ADR/RID/ADN/ADG Hazard class</b> | Not regulated |
| <b>IMDG Hazard class</b>            | Not regulated |
| <b>ICAO Hazard class/division</b>   | Not regulated |

**14.4 Packing group**

|                                      |               |
|--------------------------------------|---------------|
| <b>ADR/RID/ADN/ADG Packing Group</b> | Not regulated |
| <b>IMDG Packing group</b>            | Not regulated |
| <b>ICAO Packing group</b>            | Not regulated |

**14.5 Environmental hazard**

No

**14.6 Special precautions**

Not Applicable

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

Please contact MISDS@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**

**Australian Standard for the Uniform Scheduling of Drugs and Poisons**

2-(2-Butoxyethoxy)ethanol  
Schedule 5

**New Zealand hazard classification** Irritant

**HSNO approval no.** HSR002503

**Group number** HSNO 6.4A

Commission Regulation (EU) No 453/2010 of 20 May 2010 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 and 2000/21/EC, 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.

**Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013 [P.U.(A) 310/2013] (CLASS Regulations)**

**The Industry Code of Practice on Chemical Classification and Hazard Communication 2014 [P.U. (B) 128/2014] (ICOP) International inventories**

|   |                 |
|---|-----------------|
| <b>USA, Toxic Substances Control Act inventory (TSCA)</b>       | Does not Comply |
| <b>European Union - EINECS and ELINCS</b>                       | Complies        |
| <b>Canada, Domestic Substance List (DSL)</b>                    | Does not Comply |
| <b>Philippines (PICCS)</b>                                      | Does not Comply |
| <b>Inventory - Japan - Existing and New Chemicals list</b>      | Does not Comply |
| <b>China (IECSC)</b>  | Does not Comply |
| <b>Australia (AICS)</b>   | Does not Comply |
| <b>Korea (KECL)</b>   | Complies        |
| <b>Inventory - New Zealand - Inventory of Chemicals (NZIoC)</b> | Complies        |

CAS Number 68526-58-9 and 93924-07-3 (List No. 920-274-3) can be used to identify the substance given a list number in section 3 in areas not subject to the REACH regulation. Contact REACH@miswaco.slb.com for REACH information.

**15.2 Chemical Safety Report**

No information available

## 16. Other information

|  |  |
|--|--|
| <b>Prepared by</b>                               | Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Anne Karin (Anka) Fosse |
| <b>Supercedes date</b>                           | 29/Jun/2015  |
| <b>Revision date</b>                             | 19/Nov/2015  |
| <b>Version</b>                                   | 4  |
| <b>The following sections have been revised:</b> | 1,, 2,, 6,, 7,, 8,, 9,, 10,, 15,, 16, Updated according to GHS/CLP.                  |

### Text of R phrases mentioned in Section 3

R36 - Irritating to eyes  
R38 - Irritating to skin  
R41 - Risk of serious damage to eyes  
R43 - May cause sensitization by skin contact  
R65 - Harmful: may cause lung damage if swallowed

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

H317 - May cause an allergic skin reaction  
H319 - Causes serious eye irritation  
H304 - May be fatal if swallowed and enters airways  
H319 - Causes serious eye irritation  
EUH066 - Repeated exposure may cause skin dryness or cracking

†A mark of M-I L.L.C.

### Disclaimer

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