

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

Trade name : Instru Zym  
UFI : J6R0-U04K-300K-EG68  
Type of product : Detergent

**1.2. Relevant identified uses of the substance or mixture and uses advised against****1.2.1. Relevant identified uses**

Main use category : Professional uses  
Use of the substance/mixture : instrument cleaner  
Medical device  
(I)

**1.2.2. Uses advised against**

No additional information available

**1.3. Details of the supplier of the safety data sheet****Supplier**

Laboratorium Dr. Deppe GmbH  
Hooghe Weg 35  
D-47906 Kempen  
T +49 21 52 55 65 0 - F +49 21 52 50 84 9  
[sdb@dr-deppe.de](mailto:sdb@dr-deppe.de) - [www.dr-deppe.de](http://www.dr-deppe.de)

**Email competent person**

sdb@dr-deppe.de

**1.4. Emergency telephone number**

Emergency number : INTERNATIONAL: +49 - (0) 6132 - 84463, GBK GmbH (24h - 7d/w - 365d/a)

**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****Classification according to Regulation (EC) No. 1272/2008 [CLP]**

|   |      |
|---|------|
| Acute toxicity (oral), Category 4                                 | H302 |
| Skin corrosion/irritation, Category 1, Sub-Category 1B            | H314 |
| Serious eye damage/eye irritation, Category 1                     | H318 |
| Specific target organ toxicity — Repeated exposure, Category 2    | H373 |
| Hazardous to the aquatic environment — Acute Hazard, Category 1   | H400 |
| Hazardous to the aquatic environment — Chronic Hazard, Category 2 | H411 |

Full text of H-statements: see section 16

**Adverse physicochemical, human health and environmental effects**

May cause damage to organs through prolonged or repeated exposure. Harmful if swallowed. Causes serious eye damage. Causes severe skin burns and eye damage. Very toxic to aquatic life. Toxic to aquatic life with long lasting effects.

**2.2. Label elements****Labelling according to Regulation (EC) No. 1272/2008 [CLP]**

Hazard pictograms (CLP) :



GHS05

GHS07

GHS08

GHS09

Signal word (CLP) :

Danger

Contains :

ethanediol; Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides; dicyldimethylammonium chloride

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|                                |  |
|--------------------------------|--|
| Hazard statements (CLP)        | : H302 - Harmful if swallowed.<br>H314 - Causes severe skin burns and eye damage.<br>H373 - May cause damage to organs through prolonged or repeated exposure.<br>H410 - Very toxic to aquatic life with long lasting effects.   |
| Precautionary statements (CLP) | : P260 - Do not breathe mist, vapours, spray.<br>P264 - Wash hands, forearms and face thoroughly after handling.<br>P273 - Avoid release to the environment.<br>P280 - Wear protective gloves, protective clothing, eye protection, face protection.<br>P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.<br>P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.<br>P310 - Immediately call a POISON CENTER, a doctor.<br>P391 - Collect spillage. |

### 2.3. Other hazards

PBT: not relevant – no registration required  
vPvB: not relevant – no registration required

| Component  |   |
|--|---|
| ethanediol (107-21-1)  | This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII<br>This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII |
| Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides (68424-85-1) | This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII<br>This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII |
| didecyldimethylammonium chloride (7173-51-5)                                       | This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII<br>This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII |
| propan-2-ol (67-63-0)  | This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII<br>This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII |
| ethanol (64-17-5)  | This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII<br>This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII |
| Propane-1,2-diol (57-55-6)   | This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII<br>This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII |

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

| Name   | Product identifier  | %           | Classification according to Regulation (EC) No. 1272/2008 [CLP]            |
|--|---|-------------|--|
| ethanediol substance with national workplace exposure limit(s) (GB); substance with a Community workplace exposure limit | (CAS-No.) 107-21-1<br>(EC-No.) 203-473-3<br>(EC Index-No.) 603-027-00-1<br>(REACH-no) 01-2119456816-28-xxxx | ≥ 20 – < 25 | Acute Tox. 4 (Oral), H302<br>(ATE=500 mg/kg bodyweight)<br>STOT RE 2, H373 |

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|   |  |                   |   |
|---|--|-------------------|---|
| Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides           | (CAS-No.) 68424-85-1<br>(EC-No.) 270-325-2<br>(REACH-no) 01-2119965180-41-xxxx                               | $\geq 5 - < 10$   | Acute Tox. 4 (Oral), H302<br>(ATE=795 mg/kg bodyweight)<br>Skin Corr. 1B, H314<br>Eye Dam. 1, H318<br>Aquatic Acute 1, H400 (M=10)<br>Aquatic Chronic 1, H410 |
| didecyldimethylammonium chloride  | (CAS-No.) 7173-51-5<br>(EC-No.) 230-525-2<br>(EC Index-No.) 612-131-00-6<br>(REACH-no) 01-2119945987-15-xxxx | $\geq 2.5 - < 5$  | Acute Tox. 3 (Oral), H301<br>(ATE=264 mg/kg bodyweight)<br>Skin Corr. 1B, H314<br>Aquatic Acute 1, H400 (M=10)<br>Aquatic Chronic 2, H411                     |
| propan-2-ol<br>substance with national workplace exposure limit(s)<br>(GB)      | (CAS-No.) 67-63-0<br>(EC-No.) 200-661-7<br>(EC Index-No.) 603-117-00-0<br>(REACH-no) 01-2119457558-25-xxxx   | $\geq 1 - < 2.5$  | Flam. Liq. 2, H225<br>Eye Irrit. 2, H319<br>STOT SE 3, H336   |
| ethanol<br>substance with national workplace exposure limit(s)<br>(GB)          | (CAS-No.) 64-17-5<br>(EC-No.) 200-578-6<br>(EC Index-No.) 603-002-00-5<br>(REACH-no) 01-2119457610-43-xxxx   | $\geq 0.25 - < 1$ | Flam. Liq. 2, H225<br>Eye Irrit. 2, H319  |
| Propane-1,2-diol<br>substance with national workplace exposure limit(s)<br>(GB) | (CAS-No.) 57-55-6<br>(EC-No.) 200-338-0<br>(REACH-no) 01-2119456809-23-xxxx                                  | $\geq 0.25 - < 1$ | Not classified  |

### Specific concentration limits:

| Name    | Product identifier   | Specific concentration limits      |
|---------|--|------------------------------------|
| ethanol | (CAS-No.) 64-17-5<br>(EC-No.) 200-578-6<br>(EC Index-No.) 603-002-00-5<br>(REACH-no) 01-2119457610-43-xxxx | ( 50 ≤ C < 100) Eye Irrit. 2, H319 |

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

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

|                                       |  |
|---------------------------------------|--|
| First-aid measures general            | : In all cases of doubt, or when symptoms persist, seek medical attention. Call a physician immediately.   |
| First-aid measures after inhalation   | : Remove person to fresh air and keep comfortable for breathing.   |
| First-aid measures after skin contact | : Rinse skin with water/shower. Take off immediately all contaminated clothing. Call a physician immediately.  |
| First-aid measures after eye contact  | : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately. |
| First-aid measures after ingestion    | : Rinse mouth. Do not induce vomiting. Call a physician immediately.   |

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

|                                     |                           |
|-------------------------------------|---------------------------|
| Symptoms/effects after skin contact | : Burns.                  |
| Symptoms/effects after eye contact  | : Serious damage to eyes. |
| Symptoms/effects after ingestion    | : Burns.                  |

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

Treat symptomatically.

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### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire. Water spray. Dry powder. Foam. Carbon dioxide.

Unsuitable extinguishing media : Strong water jet.

#### 5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Toxic fumes may be released. Carbon monoxide. Carbon dioxide. Nitrogen oxides.

#### 5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

Other information : Do not allow run-off from fire fighting to enter drains or water courses. Disposal must be done according to official regulations.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

##### 6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. Do not breathe mist, vapours, spray. Avoid contact with skin and eyes.

##### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

#### 6.2. Environmental precautions

Avoid sub-soil penetration. Prevent entry to sewers and public waters. Notify authorities if product enters sewers or public waters.

#### 6.3. Methods and material for containment and cleaning up

For containment : Collect spillage.

Methods for cleaning up : Take up liquid spill into absorbent material. Take up mechanically (sweeping, shovelling) and collect in suitable container for disposal.

Other information : Disposal must be done according to official regulations.

#### 6.4. Reference to other sections

Information for safe handling. See section 7. Concerning personal protective equipment to use, see section 8. For further information refer to section 13.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment. Do not breathe mist, vapours, spray. Avoid contact with skin and eyes.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Wash contaminated clothing before reuse.

#### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep cool. Store locked up.

Information about storage in one common storage facility : Keep away from food, drink and animal feeding stuffs.

#### 7.3. Specific end use(s)

No additional information available

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### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### 8.1.1 National occupational exposure and biological limit values

| ethanediol (107-21-1)                                     |   |
|---|---|
| <b>EU - Indicative Occupational Exposure Limit (IOEL)</b> |   |
| Local name  | Ethylene glycol   |
| IOEL TWA  | 52 mg/m <sup>3</sup>  |
| IOEL TWA [ppm]  | 20 ppm  |
| IOEL STEL   | 104 mg/m <sup>3</sup>   |
| IOEL STEL [ppm]   | 40 ppm  |
| Notes   | Skin  |
| Regulatory reference                                      | COMMISSION DIRECTIVE 2000/39/EC   |
| <b>United Kingdom - Occupational Exposure Limits</b>      |   |
| Local name  | Ethane-1,2-diol   |
| WEL TWA (OEL TWA) [1]                                     | 10 mg/m <sup>3</sup> particulate<br>52 mg/m <sup>3</sup> vapour   |
| WEL TWA (OEL TWA) [2]                                     | 20 ppm vapour   |
| WEL STEL (OEL STEL)                                       | 104 mg/m <sup>3</sup> vapour  |
| WEL STEL (OEL STEL) [ppm]                                 | 40 ppm vapour   |
| Remark (WEL)  | Sk (Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity) |
| Regulatory reference                                      | EH40/2005 (Fourth edition, 2020). HSE   |

| Propane-1,2-diol (57-55-6)                           |  |
|--|--|
| <b>United Kingdom - Occupational Exposure Limits</b> |  |
| Local name   | Propane-1,2-diol   |
| WEL TWA (OEL TWA) [1]                                | 10 mg/m <sup>3</sup> particulates<br>474 mg/m <sup>3</sup> total vapour and particulates |
| WEL TWA (OEL TWA) [2]                                | 150 ppm total vapour and particulates  |
| Regulatory reference                                 | EH40/2005 (Fourth edition, 2020). HSE  |

| ethanol (64-17-5)                                    |                                       |
|--|---------------------------------------|
| <b>United Kingdom - Occupational Exposure Limits</b> |                                       |
| Local name   | Ethanol                               |
| WEL TWA (OEL TWA) [1]                                | 1920 mg/m <sup>3</sup>                |
| WEL TWA (OEL TWA) [2]                                | 1000 ppm                              |
| Regulatory reference                                 | EH40/2005 (Fourth edition, 2020). HSE |

| propan-2-ol (67-63-0)                                |                       |
|--|-----------------------|
| <b>United Kingdom - Occupational Exposure Limits</b> |                       |
| Local name   | Propan-2-ol           |
| WEL TWA (OEL TWA) [1]                                | 999 mg/m <sup>3</sup> |

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| <b>propan-2-ol (67-63-0)</b> |                                       |
|------------------------------|---------------------------------------|
| WEL TWA (OEL TWA) [2]        | 400 ppm                               |
| WEL STEL (OEL STEL)          | 1250 mg/m <sup>3</sup>                |
| WEL STEL (OEL STEL) [ppm]    | 500 ppm                               |
| Regulatory reference         | EH40/2005 (Fourth edition, 2020). HSE |

### 8.1.2. Recommended monitoring procedures

No additional information available

### 8.1.3. Air contaminants formed

No additional information available

### 8.1.4. DNEL and PNEC

| <b>ethanediol (107-21-1)</b>             |                          |
|--|--------------------------|
| <b>DNEL/DMEL (Workers)</b>               |                          |
| Long-term - systemic effects, dermal     | 106 mg/kg bodyweight/day |
| Long-term - systemic effects, inhalation | 35 mg/m <sup>3</sup>     |
| <b>DNEL/DMEL (General population)</b>    |                          |
| Long-term - systemic effects, dermal     | 53 mg/kg bodyweight/day  |
| Long-term - local effects, inhalation    | 7 mg/m <sup>3</sup>      |
| <b>PNEC (Water)</b>                      |                          |
| PNEC aqua (freshwater)                   | 10 mg/l                  |
| PNEC aqua (marine water)                 | 1 mg/l                   |
| PNEC aqua (intermittent, freshwater)     | 10 mg/l                  |
| PNEC aqua (intermittent, marine water)   | 10 mg/l                  |
| <b>PNEC (Sediment)</b>                   |                          |
| PNEC sediment (freshwater)               | 37 mg/kg dwt             |
| PNEC sediment (marine water)             | 3.7 mg/kg dwt            |
| <b>PNEC (Soil)</b>                       |                          |
| PNEC soil                                | 1.53 mg/kg dwt           |
| <b>PNEC (STP)</b>                        |                          |
| PNEC sewage treatment plant              | 199.5 mg/l               |

| <b>Propane-1,2-diol (57-55-6)</b>        |                       |
|--|-----------------------|
| <b>DNEL/DMEL (Workers)</b>               |                       |
| Long-term - systemic effects, inhalation | 168 mg/m <sup>3</sup> |
| Long-term - local effects, inhalation    | 10 mg/m <sup>3</sup>  |
| <b>DNEL/DMEL (General population)</b>    |                       |
| Long-term - systemic effects, inhalation | 50 mg/m <sup>3</sup>  |
| Long-term - local effects, inhalation    | 10 mg/m <sup>3</sup>  |
| <b>PNEC (Water)</b>                      |                       |
| PNEC aqua (freshwater)                   | 260 mg/l              |
| PNEC aqua (marine water)                 | 26 mg/l               |
| PNEC aqua (intermittent, freshwater)     | 183 mg/l              |

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| <b>PNEC (Sediment)</b>       |                |
|------------------------------|----------------|
| PNEC sediment (freshwater)   | 572 mg/kg dwt  |
| PNEC sediment (marine water) | 57.2 mg/kg dwt |
| <b>PNEC (Soil)</b>           |                |
| PNEC soil                    | 50 mg/kg dwt   |
| <b>PNEC (STP)</b>            |                |
| PNEC sewage treatment plant  | 20000 mg/l     |

| <b>ethanol (64-17-5)</b>                 |                          |
|--|--------------------------|
| <b>DNEL/DMEL (Workers)</b>               |                          |
| Long-term - systemic effects, dermal     | 343 mg/kg bodyweight/day |
| Long-term - systemic effects, inhalation | 950 mg/m <sup>3</sup>    |
| <b>DNEL/DMEL (General population)</b>    |                          |
| Long-term - systemic effects, oral       | 87 mg/kg bodyweight/day  |
| Long-term - systemic effects, inhalation | 114 mg/m <sup>3</sup>    |
| Long-term - systemic effects, dermal     | 206 mg/kg bodyweight/day |
| <b>PNEC (Water)</b>                      |                          |
| PNEC aqua (freshwater)                   | 0.96 mg/l                |
| PNEC aqua (marine water)                 | 0.79 mg/l                |
| PNEC aqua (intermittent, freshwater)     | 2.75 mg/l                |
| <b>PNEC (Sediment)</b>                   |                          |
| PNEC sediment (freshwater)               | 3.6 mg/kg dwt            |
| PNEC sediment (marine water)             | 2.9 mg/kg dwt            |
| <b>PNEC (Soil)</b>                       |                          |
| PNEC soil                                | 0.63 mg/kg dwt           |
| <b>PNEC (Oral)</b>                       |                          |
| PNEC oral (secondary poisoning)          | 0.38 kg/kg food          |
| <b>PNEC (STP)</b>                        |                          |
| PNEC sewage treatment plant              | 580 mg/l                 |

| <b>Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides (68424-85-1)</b> |                          |
|---|--------------------------|
| <b>DNEL/DMEL (Workers)</b>  |                          |
| Long-term - systemic effects, dermal  | 5.7 mg/kg bodyweight/day |
| Long-term - systemic effects, inhalation  | 3.96 mg/m <sup>3</sup>   |
| <b>DNEL/DMEL (General population)</b>   |                          |
| Long-term - systemic effects, oral  | 3.4 mg/kg bodyweight/day |
| Long-term - systemic effects, inhalation  | 1.64 mg/m <sup>3</sup>   |
| Long-term - systemic effects, dermal  | 3.4 mg/kg bodyweight/day |
| <b>PNEC (Water)</b>   |                          |
| PNEC aqua (freshwater)  | 0.0009 mg/l              |
| PNEC aqua (marine water)  | 0.00096 mg/l             |
| PNEC aqua (intermittent, freshwater)  | 0.00016 mg/l             |

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| <b>PNEC (Sediment)</b>       |                 |
|------------------------------|-----------------|
| PNEC sediment (freshwater)   | 12.27 mg/kg dwt |
| PNEC sediment (marine water) | 13.09 mg/kg dwt |
| <b>PNEC (Soil)</b>           |                 |
| PNEC soil                    | 7 mg/kg dwt     |
| <b>PNEC (STP)</b>            |                 |
| PNEC sewage treatment plant  | 0.4 mg/l        |

| <b>propan-2-ol (67-63-0)</b>             |                          |
|--|--------------------------|
| <b>DNEL/DMEL (Workers)</b>               |                          |
| Long-term - systemic effects, dermal     | 888 mg/kg bodyweight/day |
| Long-term - systemic effects, inhalation | 500 mg/m <sup>3</sup>    |
| <b>DNEL/DMEL (General population)</b>    |                          |
| Long-term - systemic effects, oral       | 26 mg/kg bodyweight/day  |
| Long-term - systemic effects, inhalation | 89 mg/m <sup>3</sup>     |
| Long-term - systemic effects, dermal     | 319 mg/kg bodyweight/day |
| <b>PNEC (Water)</b>                      |                          |
| PNEC aqua (freshwater)                   | 140.9 mg/l               |
| PNEC aqua (marine water)                 | 140.9 mg/l               |
| PNEC aqua (intermittent, freshwater)     | 140.9 mg/l               |
| <b>PNEC (Sediment)</b>                   |                          |
| PNEC sediment (freshwater)               | 552 mg/kg dwt            |
| PNEC sediment (marine water)             | 552 mg/kg dwt            |
| <b>PNEC (Soil)</b>                       |                          |
| PNEC soil                                | 28 mg/kg dwt             |
| <b>PNEC (Oral)</b>                       |                          |
| PNEC oral (secondary poisoning)          | 160 mg/kg                |
| <b>PNEC (STP)</b>                        |                          |
| PNEC sewage treatment plant              | 2251 mg/l                |

| <b>didecyldimethylammonium chloride (7173-51-5)</b> |                 |
|---|-----------------|
| <b>PNEC (Water)</b>                                 |                 |
| PNEC aqua (freshwater)                              | 1.1 µg/L        |
| PNEC aqua (marine water)                            | 0.11 µg/L       |
| <b>PNEC (Sediment)</b>                              |                 |
| PNEC sediment (freshwater)                          | 61.86 mg/kg dwt |
| PNEC sediment (marine water)                        | 6.186 mg/kg dwt |
| <b>PNEC (Soil)</b>                                  |                 |
| PNEC soil   | 1.4 mg/kg dwt   |
| <b>PNEC (STP)</b>                                   |                 |
| PNEC sewage treatment plant                         | 0.14 mg/l       |



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### 8.1.5. Control banding

No additional information available

## 8.2. Exposure controls

### 8.2.1. Appropriate engineering controls

#### Appropriate engineering controls:

Ensure good ventilation of the work station. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

### 8.2.2. Personal protection equipment

#### 8.2.2.1. Eye and face protection

##### Eye protection:

Wear closed safety glasses. EN 166. Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure

#### 8.2.2.2. Skin protection

##### Skin and body protection:

Wear suitable protective clothing. EN 340. EN 13034

##### Hand protection:

Chemically resistant protective gloves. EN 374. Choosing the proper glove is a decision that depends not only on the type of material, but also on other quality features, which differ for each manufacturer. Please follow the instructions related to the permeability and the penetration time provided by the manufacturer. Gloves must be replaced after each use and whenever signs of wear or perforation appear

| Type                                   | Material             | Permeation        | Thickness (mm) | Penetration                         | Standard   |
|--|----------------------|-------------------|----------------|-------------------------------------|------------|
| Chemically resistant protective gloves | Nitrile rubber (NBR) | 6 (> 480 minutes) | -              | No additional information available | EN ISO 374 |

#### 8.2.2.3. Respiratory protection

##### Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment. A-P2. EN 143. Breathing apparatus with filter. Breathing equipment is only to be used in order to handle the residual risk of short term jobs if all other risk minimizing measures have been carried out e.g. retention and/or local exhaust

#### 8.2.2.4. Thermal hazards

No additional information available

### 8.2.3. Environmental exposure controls

#### Environmental exposure controls:

Avoid release to the environment.

#### Other information:

Do not eat, drink or smoke when using this product. Avoid contact with skin and eyes. Always wash hands after handling the product.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

|                 |                   |
|-----------------|-------------------|
| Physical state  | : Liquid          |
| Colour          | : yellowish.      |
| Appearance      | : clear.          |
| Odour           | : characteristic. |
| Odour threshold | : Not available   |
| Melting point   | : Not applicable  |
| Freezing point  | : Not available   |

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|   |                             |
|---|-----------------------------|
| Boiling point                                   | : > 100 °C                  |
| Flammability                                    | : Not applicable            |
| Explosive properties                            | : Product is not explosive. |
| Oxidising properties                            | : Non oxidizing.            |
| Explosive limits                                | : Not available             |
| Lower explosive limit (LEL)                     | : Not available             |
| Upper explosive limit (UEL)                     | : Not available             |
| Flash point                                     | : > 60 °C                   |
| Auto-ignition temperature                       | : Not available             |
| Decomposition temperature                       | : Not available             |
| pH  | : 5.5 – 6.5                 |
| Viscosity, kinematic                            | : Not available             |
| Solubility                                      | : Not available             |
| Partition coefficient n-octanol/water (Log Kow) | : Not available             |
| Vapour pressure                                 | : Not available             |
| Vapour pressure at 50 °C                        | : Not available             |
| Density   | : 1.015 – 1.26 g/ml (20 °C) |
| Relative density                                | : Not available             |
| Relative vapour density at 20 °C                | : Not available             |
| Particle size                                   | : Not applicable            |
| Particle size distribution                      | : Not applicable            |
| Particle shape                                  | : Not applicable            |
| Particle aspect ratio                           | : Not applicable            |
| Particle aggregation state                      | : Not applicable            |
| Particle agglomeration state                    | : Not applicable            |
| Particle specific surface area                  | : Not applicable            |
| Particle dustiness                              | : Not applicable            |

### 9.2. Other information

#### 9.2.1. Information with regard to physical hazard classes

No additional information available

#### 9.2.2. Other safety characteristics

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

No additional information available

### 10.5. Incompatible materials

Oxidizing agent.

### 10.6. Hazardous decomposition products

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

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### SECTION 11: Toxicological information

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

|                             |   |
|-----------------------------|---|
| Acute toxicity (oral)       | : Harmful if swallowed.   |
| Acute toxicity (dermal)     | : Not classified (Based on available data, the classification criteria are not met) |
| Acute toxicity (inhalation) | : Not classified (Based on available data, the classification criteria are not met) |

|                   |                       |
|-------------------|-----------------------|
| <b>Instru Zym</b> |                       |
| ATE CLP (oral)    | 1757 mg/kg bodyweight |

|                              |   |
|------------------------------|---|
| <b>ethanediol (107-21-1)</b> |   |
| LD50 oral rat                | 7712 mg/kg bodyweight                             |
| LD50 oral                    | ≈ 1600 mg/kg bodyweight (human (estimated value)) |
| LD50 dermal                  | > 3500 mg/kg bodyweight (mouse)                   |
| LC50 Inhalation - Rat        | > 2.5 mg/l (6 h)                                  |

|                         |                  |
|-------------------------|------------------|
| <b>Propane-1,2-diol</b> |                  |
| LC50 Inhalation - Rat   | > 317 mg/l (2 h) |

|   |                             |
|---|-----------------------------|
| <b>Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides (68424-85-1)</b> |                             |
| LD50 oral rat   | 795 mg/kg (OECD 401 method) |
| LD50 dermal rabbit  | ≈ 3412 mg/kg (24 h)         |

|   |   |
|---|---|
| <b>didecyldimethylammonium chloride (7173-51-5)</b> |   |
| LD50 oral rat                                       | 264 mg/kg bodyweight (female; (OECD 401 method))  |
| LD50 dermal rat                                     | > 1000 mg/kg bodyweight (Mortality has been observed at the given dose level;(OECD 402 method)) |

|                                   |   |
|-----------------------------------|---|
| Skin corrosion/irritation         | : Causes severe skin burns.<br>pH: 5.5 – 6.5  |
| Serious eye damage/irritation     | : Causes serious eye damage.<br>pH: 5.5 – 6.5                                       |
| Respiratory or skin sensitisation | : Not classified (Based on available data, the classification criteria are not met) |
| Germ cell mutagenicity            | : Not classified (Based on available data, the classification criteria are not met) |
| Carcinogenicity                   | : Not classified (Based on available data, the classification criteria are not met) |
| Reproductive toxicity             | : Not classified (Based on available data, the classification criteria are not met) |
| STOT-single exposure              | : Not classified (Based on available data, the classification criteria are not met) |

|                              |                                    |
|------------------------------|------------------------------------|
| <b>propan-2-ol (67-63-0)</b> |                                    |
| STOT-single exposure         | May cause drowsiness or dizziness. |

|   |  |
|---|--|
| <b>didecyldimethylammonium chloride (7173-51-5)</b> |  |
| NOAEL (oral, rat)                                   | ≈ 46 mg/kg bodyweight/day (93d;male;(OECD 408 method)) |

|                        |  |
|------------------------|--|
| STOT-repeated exposure | : May cause damage to organs through prolonged or repeated exposure. |
|------------------------|--|

|                              |  |
|------------------------------|--|
| <b>ethanediol (107-21-1)</b> |  |
| NOAEL (oral, rat, 90 days)   | 150 mg/kg bodyweight/day (OECD 452 method) |

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|                                     |   |
|-------------------------------------|---|
| NOAEL (dermal, rat/rabbit, 90 days) | 2200 – 4400 mg/kg bodyweight/day (OECD 410 method)  |
| STOT-repeated exposure              | May cause damage to organs (kidneys) through prolonged or repeated exposure (if swallowed). |

### Propane-1,2-diol

|  |   |
|--|---|
| NOAEL (subchronic, oral, animal/female, 90 days) | 2100 mg/kg bodyweight/day (rat; Chronic; 2 years) |
|--|---|

Aspiration hazard : Not classified (Based on available data, the classification criteria are not met)

### 11.2. Information on other hazards

No additional information available

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : Very toxic to aquatic life. Toxic to aquatic life with long lasting effects.  
Hazardous to the aquatic environment, short-term (acute) : Very toxic to aquatic life.  
Hazardous to the aquatic environment, long-term (chronic) : Toxic to aquatic life with long lasting effects.

### Propane-1,2-diol (57-55-6)

|                        |   |
|------------------------|---|
| LC50 - Fish [1]        | 40613 mg/l (96 h; Oncorhynchus mykiss; Environment canada; 1990)      |
| EC50 - Crustacea [1]   | 18340 mg/l (48 h; Ceriodaphnia dubia; EPA 600/4-90/0-27)              |
| ErC50 algae            | 24200 mg/l (72 h; Pseudokirchneriella subcapitata; (OECD 201 method)) |
| NOEC chronic crustacea | 13020 mg/l (7 d; Ceriodaphnia sp.; EPA 600/4-89/001)                  |
| NOEC chronic algae     | 15000 mg/l (72 h; Pseudokirchneriella subcapitata; (OECD 201 method)) |

### Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides (68424-85-1)

|                        |  |
|------------------------|--|
| LC50 - Fish [1]        | 0.85 mg/l (96 h; Pimephales promelas; (OECD 203 method))             |
| EC50 - Crustacea [1]   | 0.016 mg/l (48 h; Daphnia magna; (OECD 202 method))                  |
| ErC50 algae            | 0.03 mg/l (96 h; Pseudokirchneriella subcapitata; (OECD 201 method)) |
| NOEC chronic crustacea | 0.025 mg/l (21 d; Daphnia magna; (OECD 211 method))                  |

### propan-2-ol

|                    |   |
|--------------------|---|
| NOEC chronic algae | 1800 mg/l (7d; Scenedesmus quadricauda) |
|--------------------|---|

### didecyldimethylammonium chloride (7173-51-5)

|                        |  |
|------------------------|--|
| LC50 - Fish [1]        | 0.49 mg/l (96 h; Brachydanio rerio (zebra-fish); (OECD 203 method))    |
| EC50 - Crustacea [1]   | 0.057 mg/l (48 h; Daphnia magna; (OECD 202 method))                    |
| EC50 72h algae         | ≈ 0.062 mg/l (72h; Pseudokirchneriella subcapitata; (OECD 201 method)) |
| ErC50 algae            | 0.062 mg/l (72 h; Pseudokirchnerella subcapitata (OECD 201 method))    |
| NOEC chronic crustacea | 0.021 mg/l (21 d; Daphnia magna; (OECD 211 method))                    |
| NOEC chronic algae     | 0.013 mg/l (OECD 201 method)   |

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### 12.2. Persistence and degradability

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|                               |  |
|-------------------------------|--|
| Persistence and degradability | The surfactant(s) contained in this preparation complies(comply) with the biodegradability criteria as laid down in Regulation (EC) No. 648/2004 on detergents. Data to support this assertion are held at the disposal of the competent authorities of the Member States and will be made available to them, at their direct request or at the request of a detergent manufacturer. |
|-------------------------------|--|

#### ethanediol (107-21-1)

|                               |                                       |
|-------------------------------|---------------------------------------|
| Persistence and degradability | Readily biodegradable.                |
| Biodegradation                | 90 – 100 % (10 d; (OECD 301A method)) |

#### Propane-1,2-diol (57-55-6)

|                               |                                   |
|-------------------------------|-----------------------------------|
| Persistence and degradability | Readily biodegradable.            |
| Biodegradation                | 98.3 % (28 d; (OECD 301F method)) |

#### ethanol (64-17-5)

|                               |                        |
|-------------------------------|------------------------|
| Persistence and degradability | Readily biodegradable. |
| Biodegradation                | 84 % (20 d)            |

#### Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides (68424-85-1)

|                               |                           |
|-------------------------------|---------------------------|
| Persistence and degradability | Readily biodegradable.    |
| Biodegradation                | > 60 % (OECD 301D method) |

#### propan-2-ol (67-63-0)

|                               |                        |
|-------------------------------|------------------------|
| Persistence and degradability | Readily biodegradable. |
| Biodegradation                | 53 % (5 d)             |

#### didecyldimethylammonium chloride (7173-51-5)

|                               |                        |
|-------------------------------|------------------------|
| Persistence and degradability | Readily biodegradable. |
| Biodegradation                | 69 % (28d)             |

### 12.3. Bioaccumulative potential

#### ethanediol (107-21-1)

|   |   |
|---|---|
| Partition coefficient n-octanol/water (Log Pow) | -1.36 (Quantitative structure-activity relationship (QSAR)) |
| Bioaccumulative potential                       | Bioaccumulation unlikely.                                   |

#### Propane-1,2-diol (57-55-6)

|   |                                     |
|---|-------------------------------------|
| Bioconcentration factor (BCF REACH)             | 0.09 (calculated value)             |
| Partition coefficient n-octanol/water (Log Pow) | -1.07 (Test method EU A.8; 20.5 °C) |
| Bioaccumulative potential                       | not bioaccumulable.                 |

#### ethanol (64-17-5)

|   |                           |
|---|---------------------------|
| Partition coefficient n-octanol/water (Log Kow) | -0.35 (20 °C)             |
| Bioaccumulative potential                       | Bioaccumulation unlikely. |

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| <b>Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides (68424-85-1)</b> |                        |
|---|------------------------|
| Bioconcentration factor (BCF REACH)   | 79 (OECD 305 method)   |
| Partition coefficient n-octanol/water (Log Kow)   | 2.88 (OECD 107 method) |

| <b>propan-2-ol (67-63-0)</b>                    |                           |
|---|---------------------------|
| Partition coefficient n-octanol/water (Log Pow) | 0.05 (25 °C)              |
| Bioaccumulative potential                       | Bioaccumulation unlikely. |

| <b>didecyldimethylammonium chloride (7173-51-5)</b> |                                 |
|---|---------------------------------|
| Partition coefficient n-octanol/water (Log Pow)     | 2.59 (20 °C; (OECD 105 method)) |

### 12.4. Mobility in soil

| <b>ethanediol (107-21-1)</b>                    |   |
|---|---|
| Partition coefficient n-octanol/water (Log Koc) | 0 (Quantitative structure-activity relationship (QSAR)) |

| <b>Propane-1,2-diol (57-55-6)</b>               |   |
|---|---|
| Surface tension                                 | 71.6 mN/m (21.5 °C; 1.01 g/L; Test method EU A.5) |
| Partition coefficient n-octanol/water (Log Koc) | 0.46 (calculated value)                           |

| <b>ethanol (64-17-5)</b> |                    |
|--------------------------|--------------------|
| Surface tension          | 22.31 mN/m (20 °C) |

| <b>propan-2-ol (67-63-0)</b> |                                       |
|------------------------------|---------------------------------------|
| Ecology - soil               | Expected to be highly mobile in soil. |

| <b>didecyldimethylammonium chloride (7173-51-5)</b> |                              |
|---|------------------------------|
| Surface tension                                     | 25.82 mN/m (OECD 115 method) |

### 12.5. Results of PBT and vPvB assessment

| <b>Instru Zym</b>                             |  |
|---|--|
| PBT: not relevant – no registration required  |  |
| vPvB: not relevant – no registration required |  |

| <b>Component</b>   |   |
|--|---|
| ethanediol (107-21-1)  | This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII<br>This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII |
| Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides (68424-85-1) | This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII<br>This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII |
| didecyldimethylammonium chloride (7173-51-5)                                       | This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII<br>This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII |
| propan-2-ol (67-63-0)  | This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII<br>This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII |
| ethanol (64-17-5)  | This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII<br>This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII |

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|                            |   |
|----------------------------|---|
| Propane-1,2-diol (57-55-6) | This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII<br>This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII |
|----------------------------|---|

### 12.6. Endocrine disrupting properties

No additional information available

### 12.7. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

|  |  |
|--|--|
| Waste treatment methods                    | : Disposal must be done according to official regulations. European waste catalogue. Do not discharge into drains or the environment. Do not dispose of with domestic waste.   |
| Product/Packaging disposal recommendations | : Recycle or dispose of in compliance with current legislation.  |
| HP Code                                    | : HP5 - "Specific Target Organ Toxicity (STOT)/Aspiration Toxicity:" waste which can cause specific target organ toxicity either from a single or repeated exposure, or which cause acute toxic effects following aspiration.<br>HP6 - "Acute Toxicity:" waste which can cause acute toxic effects following oral or dermal administration, or inhalation exposure.<br>HP8 - "Corrosive:" waste which on application can cause skin corrosion.<br>HP14 - "Ecotoxic:" waste which presents or may present immediate or delayed risks for one or more sectors of the environment |

## SECTION 14: Transport information

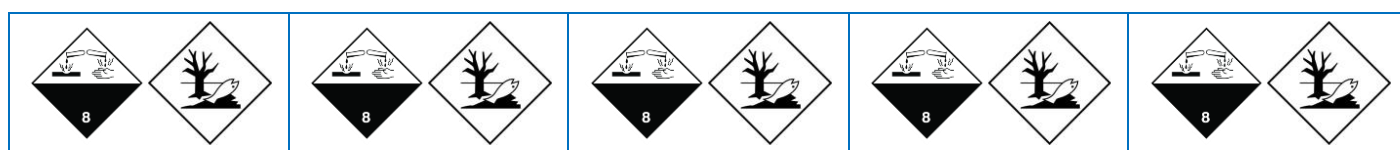
In accordance with ADR / IMDG / IATA / ADN / RID

| ADR   | IMDG  | IATA   | ADN  | RID  |
|---|---|--|--|--|
| <b>14.1. UN number or ID number</b>   |   |  |  |  |
| UN 3264   | UN 3264   | UN 3264  | UN 3264  | UN 3264  |
| <b>14.2. UN proper shipping name</b>  |   |  |  |  |
| CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides ; didecyldimethylammonium chloride)  | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides ; didecyldimethylammonium chloride)  | Corrosive liquid, acidic, inorganic, n.o.s. (Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides ; didecyldimethylammonium chloride)   | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides ; didecyldimethylammonium chloride)   | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides ; didecyldimethylammonium chloride)   |
| <b>Transport document description</b>   |   |  |  |  |
| UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides ; didecyldimethylammonium chloride), 8, II, (E), ENVIRONMENTALLY HAZARDOUS | UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides ; didecyldimethylammonium chloride), 8, II, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS | UN 3264 Corrosive liquid, acidic, inorganic, n.o.s. (Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides ; didecyldimethylammonium chloride), 8, II, ENVIRONMENTALLY HAZARDOUS | UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides ; didecyldimethylammonium chloride), 8, II, ENVIRONMENTALLY HAZARDOUS | UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides ; didecyldimethylammonium chloride), 8, II, ENVIRONMENTALLY HAZARDOUS |
| <b>14.3. Transport hazard class(es)</b>   |   |  |  |  |
| 8   | 8   | 8  | 8  | 8  |

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### 14.4. Packing group

|    |    |    |    |    |
|----|----|----|----|----|
| II | II | II | II | II |
|----|----|----|----|----|

### 14.5. Environmental hazards

|                                     |   |                                     |                                     |                                     |
|-------------------------------------|---|-------------------------------------|-------------------------------------|-------------------------------------|
| Dangerous for the environment : Yes | Dangerous for the environment : Yes<br>Marine pollutant : Yes | Dangerous for the environment : Yes | Dangerous for the environment : Yes | Dangerous for the environment : Yes |
|-------------------------------------|---|-------------------------------------|-------------------------------------|-------------------------------------|

No supplementary information available

### 14.6. Special precautions for user

#### Overland transport

|   |       |
|---|-------|
| Classification code (ADR)                 | : C1  |
| Special provisions (ADR)                  | : 274 |
| Limited quantities (ADR)                  | : 1I  |
| Excepted quantities (ADR)                 | : E2  |
| Transport category (ADR)                  | : 2   |
| Hazard identification number (Kemler No.) | : 80  |
| Orange plates                             | :     |



|                               |      |
|-------------------------------|------|
| Tunnel restriction code (ADR) | : E  |
| EAC code                      | : 2X |
| APP code                      | : B  |

#### Transport by sea

|                             |       |
|-----------------------------|-------|
| Special provisions (IMDG)   | : 274 |
| EmS-No. (Fire)              | : F-A |
| EmS-No. (Spillage)          | : S-B |
| Stowage and handling (IMDG) | : SW2 |

#### Air transport

|  |            |
|--|------------|
| PCA Excepted quantities (IATA)               | : E2       |
| PCA Limited quantities (IATA)                | : Y840     |
| PCA limited quantity max net quantity (IATA) | : 0.5L     |
| PCA packing instructions (IATA)              | : 851      |
| PCA max net quantity (IATA)                  | : 1L       |
| CAO max net quantity (IATA)                  | : 30L      |
| Special provisions (IATA)                    | : A3, A803 |

#### Inland waterway transport

|                                       |       |
|---------------------------------------|-------|
| Classification code (ADN)             | : C1  |
| Special provisions (ADN)              | : 274 |
| Limited quantities (ADN)              | : 1 L |
| Excepted quantities (ADN)             | : E2  |
| Carriage permitted (ADN)              | : T   |
| Additional requirements/Remarks (ADN) | :     |

#### Rail transport

|                                    |       |
|------------------------------------|-------|
| Classification code (RID)          | : C1  |
| Special provisions (RID)           | : 274 |
| Limited quantities (RID)           | : 1L  |
| Excepted quantities (RID)          | : E2  |
| Transport category (RID)           | : 2   |
| Hazard identification number (RID) | : 80  |

### 14.7. Maritime transport in bulk according to IMO instruments

Not applicable



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### SECTION 15: Regulatory information

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

##### 15.1.1. EU-Regulations

| The following restrictions are applicable according to Annex XVII of the REACH Regulation (EC) No 1907/2006: |   |
|--|---|
| Reference code   | Applicable on                                   |
| 3(a)   | ethanol ; propan-2-ol                           |
| 40.  | ethanol ; propan-2-ol                           |
| 3(b)   | Instru Zym ; ethanediol ; ethanol ; propan-2-ol |
| 3(c)   | Instru Zym                                      |

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

Substances subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals: Didecyldimethylammonium chloride (7173-51-5)

Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

Other information, restriction and prohibition regulations : Take note of Directive 94/33/EC on the protection of young people at work. Regulation (EC) No. 648/2004 of 31 March 2004 on detergents.

| Detergent Regulation (648/2004/EC): Labelling of contents: |        |
|--|--------|
| Component  | %      |
| cationic surfactants                                       | 5-<15% |
| enzymes  |        |
| disinfectants  |        |
| BENZISOTHIAZOLINONE  |        |
| perfumes   |        |
| LIMONENE   |        |
| CITRAL   |        |

##### Directive 2012/18/EU (SEVESO III)

| Seveso III Part I (Categories of dangerous substances)                   | Qualifying quantity (tonnes) |            |
|--|------------------------------|------------|
|  | Lower-tier                   | Upper-tier |
| E1 Hazardous to the Aquatic Environment in Category Acute 1 or Chronic 1 | 100                          | 200        |

##### 15.1.2. National regulations

###### United Kingdom

Other information : This safety data sheet is for informational purposes only and does not comply with national legal requirements without reference to a national distributor. The national distributor is responsible for a legally compliant safety data sheet.

#### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

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### SECTION 16: Other information

| Indication of changes: |                  |          |          |
|------------------------|------------------|----------|----------|
| Section                | Changed item     | Change   | Comments |
|                        | General revision |          |          |
| 1.1                    | Emergency number | Modified |          |

| Abbreviations and acronyms: |   |
|-----------------------------|---|
| ADN                         | European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways   |
| ADR                         | European Agreement concerning the International Carriage of Dangerous Goods by Road               |
| ATE                         | Acute Toxicity Estimate   |
| BCF                         | Bioconcentration factor   |
| CLP                         | Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008                       |
| DMEL                        | Derived Minimal Effect level  |
| DNEL                        | Derived-No Effect Level   |
| EC50                        | Median effective concentration  |
| IARC                        | International Agency for Research on Cancer   |
| IATA                        | International Air Transport Association   |
| IMDG                        | International Maritime Dangerous Goods  |
| LC50                        | Median lethal concentration   |
| LD50                        | Median lethal dose  |
| LOAEL                       | Lowest Observed Adverse Effect Level  |
| NOAEC                       | No-Observed Adverse Effect Concentration  |
| NOAEL                       | No-Observed Adverse Effect Level  |
| NOEC                        | No-Observed Effect Concentration  |
| OECD                        | Organisation for Economic Co-operation and Development  |
| PBT                         | Persistent Bioaccumulative Toxic  |
| PNEC                        | Predicted No-Effect Concentration   |
| REACH                       | Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006 |
| RID                         | Regulations concerning the International Carriage of Dangerous Goods by Rail                      |
| SDS                         | Safety Data Sheet   |
| STP                         | Sewage treatment plant  |
| TLM                         | Median Tolerance Limit  |
| vPvB                        | Very Persistent and Very Bioaccumulative  |

Data sources : Information provided by the manufacturer. European Chemicals Agency, <http://echa.europa.eu/>.  
Department issuing data : KFT Chemieservice GmbH  
specification sheet: Im Leuschnerpark 3  
D-64347 Griesheim

Phone: +49 6155-8981-400  
Fax: +49 6155 8981-500  
SDS Service: +49 6155 8981-522

Contact person : Barbara Stark

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| Full text of H- and EUH-statements: |  |
|-------------------------------------|--|
| Acute Tox. 3 (Oral)                 | Acute toxicity (oral), Category 3                                      |
| Acute Tox. 4 (Oral)                 | Acute toxicity (oral), Category 4                                      |
| Aquatic Acute 1                     | Hazardous to the aquatic environment — Acute Hazard, Category 1        |
| Aquatic Chronic 1                   | Hazardous to the aquatic environment — Chronic Hazard, Category 1      |
| Aquatic Chronic 2                   | Hazardous to the aquatic environment — Chronic Hazard, Category 2      |
| Eye Dam. 1                          | Serious eye damage/eye irritation, Category 1                          |
| Eye Irrit. 2                        | Serious eye damage/eye irritation, Category 2                          |
| Flam. Liq. 2                        | Flammable liquids, Category 2  |
| Skin Corr. 1B                       | Skin corrosion/irritation, Category 1, Sub-Category 1B                 |
| STOT RE 2                           | Specific target organ toxicity — Repeated exposure, Category 2         |
| STOT SE 3                           | Specific target organ toxicity — Single exposure, Category 3, Narcosis |
| H225                                | Highly flammable liquid and vapour.                                    |
| H301                                | Toxic if swallowed.  |
| H302                                | Harmful if swallowed.  |
| H314                                | Causes severe skin burns and eye damage.                               |
| H318                                | Causes serious eye damage.   |
| H319                                | Causes serious eye irritation.   |
| H336                                | May cause drowsiness or dizziness.                                     |
| H373                                | May cause damage to organs through prolonged or repeated exposure.     |
| H400                                | Very toxic to aquatic life.  |
| H410                                | Very toxic to aquatic life with long lasting effects.                  |
| H411                                | Toxic to aquatic life with long lasting effects.                       |

| Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]: |      |                    |
|---|------|--------------------|
| Acute Tox. 4 (Oral)   | H302 | Calculation method |
| Skin Corr. 1B   | H314 | Calculation method |
| Eye Dam. 1  | H318 | Calculation method |
| STOT RE 2   | H373 | Calculation method |
| Aquatic Acute 1   | H400 | Calculation method |
| Aquatic Chronic 2   | H411 | Calculation method |

KFT SDS EU 01

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.