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

1.1 Product identifier
Trade name: ANTIFROGEN N WATER-MIXTURE 20%
Material number: 121168
Chemical nature: Monoethylene glycol (1,2-ethane diol) and corrosion inhibitors in aqueous solution (20% active)

1.2 Relevant identified uses of the substance or mixture and uses advised against
Relevant identified uses of the substance or mixture
Industry sector: Functional Fluids
Type of use: Brine for refrigeration
Exposure scenarios: see annex

1.3 Details of the supplier of the safety data sheet
Manufacturer/Supplier: Clariant Produkte (Deutschland) GmbH
Brueningstr. 50
65929 Frankfurt am Main
Telephone no.: +49 6196 757 60
Information about the substance/mixture
BU Industrial & Consumer Specialties
Product Stewardship
E-mail: SDS.Europe@clariant.com

1.4 Emergency telephone number
00800-5121 5121 (24 h)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
Classification (REGULATION (EC) No 1272/2008)
Specific target organ toxicity - repeated exposure, Category 2
H373: May cause damage to organs through prolonged or repeated exposure.

2.2 Label elements
Labelling (REGULATION (EC) No 1272/2008)
Hazard pictograms
Signal word: Warning
Hazard statements: H373 May cause damage to organs through prolonged or
repeated exposure.

Precautionary statements:

Prevention:
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.

Response:
P314 Get medical advice/ attention if you feel unwell.

Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Hazardous components which must be listed on the label:
Ethanediol

2.3 Other hazards
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. According to the present state of knowledge provided this product is handled correctly, there is no danger to humans or the environment.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous components

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Registration number</th>
<th>Classification</th>
<th>Concentration (%) w/w</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanediol</td>
<td>107-21-1 203-473-3 01-2119456816-28 01-2119456816-28-0000 01-2119456816-28-0003 01-2119456816-28-0038 01-2119456816-28-XXXX</td>
<td>STOT RE 2; H373 Acute Tox. 4; H302</td>
<td>&gt;= 20 - &lt; 30</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice: Remove/Take off immediately all contaminated clothing.

If inhaled: If inhaled, remove to fresh air. Get medical advice/ attention.
In case of skin contact: In case of contact, immediately flush skin with plenty of water.

In case of eye contact: In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

If swallowed: Get medical attention immediately.

4.2 Most important symptoms and effects, both acute and delayed
Symptoms: No symptoms known currently.

Risks: No hazards known at this time.

4.3 Indication of any immediate medical attention and special treatment needed
Treatment: Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media
Suitable extinguishing media: Not combustible.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

5.2 Special hazards arising from the substance or mixture
Specific hazards during firefighting: In case of fires, hazardous combustion gases are formed:
Carbon monoxide (CO)
Nitrogen oxides (NOx)

5.3 Advice for firefighters
Special protective equipment for firefighters: Self-contained breathing apparatus
Further information: Wear suitable protective equipment.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Personal precautions: Ensure adequate ventilation.
Wear suitable protective equipment.

6.2 Environmental precautions
Environmental precautions: Do not allow to enter drains or waterways
6.3 Methods and material for containment and cleaning up
Methods for cleaning up: Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Can be landfilled or incinerated, when in compliance with local regulations.

6.4 Reference to other sections
Information regarding Safe handling, see chapter 7., For personal protection see section 8., For disposal considerations see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Advice on safe handling: Provide adequate ventilation.
Advice on protection against fire and explosion: Not combustible.
Hygiene measures: Keep away from food and drink.

7.2 Conditions for safe storage, including any incompatibilities
Further information on storage conditions: Protect from frost.
Other data: Storage time: 24 months

7.3 Specific end use(s)
Specific use(s): No further recommendations.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanediol</td>
<td>107-21-1</td>
<td>TWA</td>
<td>20 ppm</td>
<td>2000/39/EC</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>52 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Further information</td>
<td>Identifies the possibility of significant uptake through the skin, Indicative</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL</td>
<td>40 ppm</td>
<td>2000/39/EC</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>104 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Further information</td>
<td>Identifies the possibility of significant uptake through the skin, Indicative</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

<table>
<thead>
<tr>
<th>Substance name</th>
<th>End Use</th>
<th>Exposure routes</th>
<th>Potential health effects</th>
<th>Value</th>
</tr>
</thead>
</table>
### 8.2 Exposure controls

**Personal protective equipment**

Eye protection: Safety glasses

Hand protection

<table>
<thead>
<tr>
<th>Substance name</th>
<th>Environmental Compartment</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanediol</td>
<td>Fresh water</td>
<td>10 mg/l</td>
</tr>
<tr>
<td>CAS-No.: 107-21-1</td>
<td>salt water</td>
<td>1 mg/l</td>
</tr>
<tr>
<td></td>
<td>Water (intermittent release)</td>
<td>10 mg/l</td>
</tr>
<tr>
<td></td>
<td>Fresh water sediment</td>
<td>37 mg/kg dry weight (d.w.)</td>
</tr>
<tr>
<td></td>
<td>Soil</td>
<td>1.53 mg/kg dry weight (d.w.)</td>
</tr>
<tr>
<td></td>
<td>Sewage treatment plant</td>
<td>199.5 mg/l</td>
</tr>
<tr>
<td></td>
<td>Marine sediment</td>
<td>3.7 mg/kg dry weight (d.w.)</td>
</tr>
<tr>
<td></td>
<td>Fresh water</td>
<td>10 mg/l</td>
</tr>
<tr>
<td></td>
<td>salt water</td>
<td>1 mg/l</td>
</tr>
<tr>
<td></td>
<td>Water (intermittent release)</td>
<td>10 mg/l</td>
</tr>
<tr>
<td></td>
<td>Fresh water sediment</td>
<td>37 mg/kg dry weight (d.w.)</td>
</tr>
<tr>
<td></td>
<td>Soil</td>
<td>1.53 mg/kg dry weight (d.w.)</td>
</tr>
<tr>
<td></td>
<td>Sewage treatment plant</td>
<td>199.5 mg/l</td>
</tr>
<tr>
<td></td>
<td>Marine sediment</td>
<td>3.7 mg/kg dry weight (d.w.)</td>
</tr>
<tr>
<td>Break through time</td>
<td>480 min</td>
<td></td>
</tr>
<tr>
<td>--------------------------</td>
<td>----------</td>
<td></td>
</tr>
<tr>
<td>Glove thickness</td>
<td>0.7 mm</td>
<td></td>
</tr>
<tr>
<td>Remarks</td>
<td>Long-term exposure Impervious butyl rubber gloves</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Break through time</th>
<th>30 min</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glove thickness</td>
<td>0.4 mm</td>
</tr>
<tr>
<td>Remarks</td>
<td>For short-term exposure (splash protection): Nitrile rubber gloves</td>
</tr>
</tbody>
</table>

**Remarks**: These types of protective gloves are offered by various manufacturers. Please note the manufacturers’ detailed statements, especially about the minimum thickness and the minimum breakthrough time. Consider also the particular working conditions under which the gloves are being used.

**Respiratory protection**: Use respiratory protection in case of insufficient exhaust ventilation or prolonged exposure. Full mask to standard DIN EN 136. Filter A (organic gases and vapours) to standard DIN EN 141. The use of filter apparatus presupposes that the environment atmosphere contains at least 17% oxygen by volume, and does not exceed the maximum gas concentration, usually 0.5% by volume. Relevant guidelines to be considered include EN 136/141/143/371/372 as well as other national regulations.

**Protective measures**: Do not inhale vapours

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

- **Appearance**: Liquid
- **Colour**: light yellow
- **Odour**: slightly perceptible
- **Odour Threshold**: not tested.
- **pH**: approx. 8 (20 °C)
  - Concentration: 100 g/l
  - Method: DIN 19268
- **Melting point**: -11 °C
  - Method: DIN 51583
- **Boiling point**: 103 °C
  - (1.013 hPa)
  - Method: ASTM D 1120
- **Flash point**: Method: ASTM D6450 (closed cup)
  - does not flash
<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaporation rate</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Upper explosion limit</td>
<td>not tested.</td>
</tr>
<tr>
<td>Lower explosion limit</td>
<td>not tested.</td>
</tr>
<tr>
<td>Combustion number</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>&lt; 0.01 kPa (20 °C)</td>
</tr>
<tr>
<td>Method</td>
<td>Calculated by Syracuse.</td>
</tr>
<tr>
<td>Relative vapour density</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Density</td>
<td>1.0259 g/cm³ (20 °C)</td>
</tr>
<tr>
<td>Method</td>
<td>DIN 51757</td>
</tr>
<tr>
<td>Bulk density</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Solubility</td>
<td></td>
</tr>
<tr>
<td>Water solubility</td>
<td>completely miscible (20 °C)</td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>not tested.</td>
</tr>
<tr>
<td>Solvent</td>
<td>fat</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Method: DIN 51794</td>
</tr>
<tr>
<td></td>
<td>Not applicable for Liquids with Flash Point &gt; 70 °C.</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>&gt; 250 °C</td>
</tr>
<tr>
<td>Method</td>
<td>DSC</td>
</tr>
<tr>
<td></td>
<td>Measurement under nitrogen No decomposition up to 250 °C.</td>
</tr>
<tr>
<td>Viscosity</td>
<td></td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>1.72 mPa.s (20 °C)</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>1.68 mm²/s (20 °C)</td>
</tr>
<tr>
<td></td>
<td>Method: DIN 51562</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Not explosive</td>
</tr>
<tr>
<td></td>
<td>Method: Expert judgement</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>The substance or mixture is not classified as oxidizing.</td>
</tr>
<tr>
<td></td>
<td>Method: Expert judgement</td>
</tr>
<tr>
<td>9.2 Other information</td>
<td></td>
</tr>
<tr>
<td>Surface tension</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Metal corrosion rate</td>
<td>&lt; 6.25 mm/a</td>
</tr>
</tbody>
</table>
Minimum ignition energy : not tested.
Particle size : Not applicable
Self-ignition : Not applicable

SECTION 10: Stability and reactivity

10.1 Reactivity
See section 10.3. "Possibility of hazardous reactions"

10.2 Chemical stability
Stable under normal conditions.

10.3 Possibility of hazardous reactions
Hazardous reactions : Incompatible with oxidizing agents.

10.4 Conditions to avoid
Conditions to avoid : None known.

10.5 Incompatible materials
Materials to avoid : not known

10.6 Hazardous decomposition products
When handled and stored appropriately, no dangerous decomposition products are known

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product:
Acute oral toxicity : Remarks: not tested.

Acute toxicity estimate: > 2.000 mg/kg
Method: Calculation method

Acute inhalation toxicity : Remarks: not tested.

Acute dermal toxicity : Remarks: not tested.

Components:

Ethanediol:
Acute oral toxicity : LD50 (Rat, male and female): 22.000 mg/kg
Method: Other
GLP: no
Acute inhalation toxicity: LC50 (Rat, male and female): > 2.5 mg/l
Exposure time: 6 h
Method: Other
GLP: yes

Acute dermal toxicity: LD50 (Mouse, male and female): > 3.500 mg/kg
Method: Other
GLP: yes

Skin corrosion/irritation
Product: not tested.

Components: Ethanediol:
Species: Rabbit
Exposure time: 20 h
Method: BASF test
Result: No skin irritation
GLP: no

Serious eye damage/eye irritation
Product: not tested.

Components: Ethanediol:
Species: rabbit eye
Exposure time: 24 h
Method: BASF test
Result: non-irritant
GLP: no

Respiratory or skin sensitisation
Product: not tested.

Components: Ethanediol:
Test Type: Maximisation Test
Exposure routes: Skin contact
Species: Guinea pig
Method: OECD Test Guideline 406
Result: Does not cause skin sensitisation.
GLP: yes
<table>
<thead>
<tr>
<th>Germ cell mutagenicity</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product:</strong></td>
<td>Germ cell mutagenicity-Assessment</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Components:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ethanediol:</strong></td>
<td></td>
</tr>
</tbody>
</table>
| Genotoxicity in vitro | Test Type: Ames test  
Species: Salmonella typhimurium  
Concentration: 33 - 5000 μg/plate  
Metabolic activation: with and without  
Method: OECD Test Guideline 471  
Result: negative  
GLP: yes |  |
| | Test Type: Ames test  
Species: Escherichia coli  
Concentration: 33 - 5000 μg/plate  
Metabolic activation: with and without  
Method: OECD Test Guideline 471  
Result: negative  
GLP: yes |  |
| Genotoxicity in vivo | Test Type: Dominant lethal assay  
Species: Rat (male and female)  
Strain: Fischer F344  
Application Route: oral (feed)  
Exposure time: 3 generation  
Dose: 40 - 200 - 1000 mg/kg  
Method: Other  
Result: negative  
GLP: no |  |

| Germ cell mutagenicity-Assessment | It is concluded that the product is not mutagenic based on evaluation of several mutagenicity tests. |

<table>
<thead>
<tr>
<th>Carcinogenicity</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product:</strong></td>
<td>Carcinogenicity-Assessment</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Components:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ethanediol:</strong></td>
<td></td>
</tr>
<tr>
<td>Carcinogenicity-Assessment</td>
<td>Not classifiable as a human carcinogen.</td>
</tr>
</tbody>
</table>
Reproductive toxicity

Product:
Reproductive toxicity - Assessment : No information available.

Components:
Ethanediol:
Effects on fertility : Species: Rat
Sex: male and female
Dose: 40 - 200 - 1000
Frequency of Treatment: daily
Fischer F344
Application Route: oral (feed)
Test period: 3 generations
NOAEL: > 1.000 mg/kg,
F1: > 1.000 mg/kg,
F2: > 1.000 mg/kg,
Method: Other
GLP: no

Effects on foetal development : Species: Rat
Application Route: oral (gavage)
Exposure time: gestation day 6-15
Dose: 150 - 500 - 1000 - 2500 mg/kg
Group: yes
500 mg/kg
1.000 mg/kg
Number of exposures: daily
Method: Other
GLP: yes

Reproductive toxicity - Assessment : No reproductive toxicity to be expected.
No teratogenic effects to be expected.

STOT - single exposure

Product:
Remarks: not tested.

Components:
Ethanediol:
Assessment: The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT - repeated exposure

Product:
Remarks: not tested.
Components:
Ethanediol:
Target Organs: Kidney
Assessment: May cause damage to organs through prolonged or repeated exposure.

Repeated dose toxicity
Product:
Remarks: not tested.

Components:
Ethanediol:
Species: Rat, male
NOAEL: 150 mg/kg
Application Route: oral (feed)
Exposure time: 16 w
Number of exposures: daily
Dose: 50 - 150 - 500 - 1000 mg/kg
Group: yes
Method: OECD Test Guideline 408
GLP: yes

Species: Dog, male
NOAEL: ca. 2.200 mg/kg
Application Route: Skin contact
Exposure time: 4 w
Number of exposures: daily
Dose: 0,5 - 2 - 8 ml/kg
Group: yes
Method: OECD Test Guideline 410
GLP: yes

Aspiration toxicity
Components:
Ethanediol:
No aspiration toxicity classification

Further information
Product:
Remarks: Kidney injury may occur.
Remarks: Poisoning affects the central nervous system
Remarks: The data on toxicology refer to the active ingredient.
Remarks: The classification was made by the conventional (calculation) method of the CLP Regulation (EC) No 1272/2008.
SECTION 12: Ecological information

12.1 Toxicity

**Product:**

**Toxicity to fish:**
- LC0 (Leuciscus idus (Golden orfe)): 1.000 mg/l
  Remarks: By analogy with a product of similar composition
- LL50 (Danio rerio (zebra fish)): > 100 mg/l
  Exposure time: 96 h
  Test Type: static test
  Method: OECD Test Guideline 203
  GLP: yes
  Remarks: By analogy with a product of similar composition

**Toxicity to daphnia and other aquatic invertebrates:**
Remarks: not tested.

**Toxicity to algae:**
Remarks: not tested.

**Toxicity to microorganisms:**
Remarks: not tested.

**Components:**

**Ethanediol:**

**Toxicity to fish:**
- LC50 (Pimephales promelas (fathead minnow)): 72.860 mg/l
  Exposure time: 96 h
  Test Type: static test
  Analytical monitoring: yes
  Method: EPA
  GLP: no
  Remarks: The details of the toxic effect relate to the nominal concentration.

**Toxicity to daphnia and other aquatic invertebrates:**
- EC50 (Daphnia magna (Water flea)): > 100 mg/l
  Exposure time: 48 h
  Test Type: static test
  Analytical monitoring: yes
  Method: OECD Test Guideline 202
  GLP: yes

**Toxicity to algae:**
- EC50 (Pseudokirchneriella subcapitata (green algae)): 6.500 - 13.000 mg/l
  End point: Growth rate
  Exposure time: 7 d
  Test Type: static test
  Analytical monitoring: no data available
  Method: EPA
  GLP: No information available.
<table>
<thead>
<tr>
<th>Category</th>
<th>Details</th>
</tr>
</thead>
</table>
| Toxicity to microorganisms | EC20 (activated sludge, domestic): > 1.995 mg/l  
End point: Bacteria toxicity (respiration inhibition)  
Exposure time: 0.5 h  
Analytical monitoring: no  
Method: ISO 8192  
GLP: no  
Remarks: By analogy with a product of similar composition |
| Toxicity to fish (Chronic toxicity) | Chronic Toxicity Value: 2.629 mg/l  
Exposure time: 30 d  
End point: Other  
Species: Fish  
Method: Other  
GLP: no  
Remarks: The details of the toxic effect relate to the nominal concentration. |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | NOEC: 8.590 mg/l  
Exposure time: 7 d  
End point: Reproduction rate  
Species: Ceriodaphnia spec.  
Test Type: semi-static test  
Analytical monitoring: yes  
Method: Other  
GLP: No information available.  
Remarks: The details of the toxic effect relate to the nominal concentration. |
| Toxicity to soil dwelling organisms | Remarks: The study is not necessary from a scientific perspective. |
| Plant toxicity | Remarks: The study is not necessary from a scientific perspective. |
| Sediment toxicity | Remarks: The study is not necessary from a scientific perspective. |
| Toxicity to terrestrial organisms | Remarks: The study is not necessary from a scientific perspective. |

### 12.2 Persistence and degradability

**Product:**

**Biodegradability**  
Result: Readily biodegradable.  
Biodegradation: 90%  
Method: OECD Test Guideline 302B  
Remarks: By analogy with a product of similar composition

**Components:**

**Ethanediol:**

**Biodegradability**  
Test Type: aerobic
Inoculum: activated sludge  
Concentration: 53 mg/l  
Result: Readily biodegradable.  
Biodegradation: 90 - 100 %  
Related to: DOC decrease  
Exposure time: 10 d  
Method: OECD Test Guideline 301A  
GLP: yes

12.3 Bioaccumulative potential

**Product:**  
Bioaccumulation: Remarks: not tested.

**Components:**
**Ethanediol:**  
Bioaccumulation: Remarks: Due to the low logPow bioaccumulation is not expected

12.4 Mobility in soil

**Product:**  
Distribution among environmental compartments: Remarks: not tested.

**Components:**
**Ethanediol:**  
Distribution among environmental compartments: Adsorption/Soil Medium: water - soil  
Koc: log Koc: 0  
Method: other (calculated)

12.5 Results of PBT and vPvB assessment

**Product:**  
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..

**Components:**
**Ethanediol:**  
Assessment: This substance is not considered to be persistent, bioaccumulating and toxic (PBT).

12.6 Other adverse effects

**Product:**  
Environmental fate and effects: no data available
pathways

Additional ecological information : If handled correctly it causes no disturbance in treatment plants.

Determined in the undiluted form

The classification was made by the conventional (calculation) method of the CLP Regulation (EC) No 1272/2008.

Components:

Ethanediol:

Environmental fate and pathways : not available

Additional ecological information : Do not allow to enter ground water, waterways or waste water.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : Dispose of in accordance with local regulations.

Contaminated packaging : Uncontaminated packaging may be reused
Packaging that cannot be cleaned should be disposed of as product waste

SECTION 14: Transport information

Section 14.1. to 14.5.

ADR : not restricted
ADN : not restricted
RID : not restricted
IATA : not restricted
IMDG : not restricted

14.6. Special precautions for user

See sections 6 to 8 of this Safety Data Sheet.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code (International Bulk Chemicals Code)

No transport as bulk according IBC - Code.
SECTION 15: Regulatory information

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

Other regulations: Apart from the data/regulations specified in this chapter, no further information is available concerning safety, health and environmental protection.

15.2 Chemical safety assessment

Chemical Safety Assessments (CSAs) are available for one or more of the component substances contained in this product.

SECTION 16: Other information

Full text of H-Statements

H302: Harmful if swallowed.

H373: May cause damage to organs through prolonged or repeated exposure if swallowed.

Full text of other abbreviations

Acute Tox.: Acute toxicity
STOT RE: Specific target organ toxicity - repeated exposure

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxin; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical
Further information

Other information: Observe national and local legal requirements

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