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

1.1. Product identifier

Proguard CN-OC V12 K3  Part A

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

Use of the substance/mixture

Coatings and paints, fillers, putties, thinners

Uses advised against

No data available

1.3. Details of the supplier of the safety data sheet

Company name: Chesterton International GmbH
Street: Am Lenzenfleck 23
Place: DE-85737 Ismaning GERMANY
Telephone: +49 89 99 65 46 - 0
Telex: +49 89 99 65 46 - 50
Fax: eu-sds@chesterton.com
Internet: www.chesterton.com
Responsible Department: eu-sds@chesterton.com

1.4. Emergency telephone number:

+49(0) 551 - 1 92 40 (GiZ-Nord, 24h)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No. 1272/2008

Hazard categories:

- Skin corrosion/irritation: Skin Corr. 1C
- Serious eye damage/eye irritation: Eye Dam. 1
- Respiratory or skin sensitisation: Skin Sens. 1
- Germ cell mutagenicity: Muta. 2
- Reproductive toxicity: Repr. 1B
- Hazardous to the aquatic environment: Aquatic Chronic 2
- Hazard Statements:
  - Causes severe skin burns and eye damage.
  - Causes serious eye damage.
  - May cause an allergic skin reaction.
  - Suspected of causing genetic defects.
  - May damage fertility.
  - Toxic to aquatic life with long lasting effects.

2.2. Label elements

Regulation (EC) No. 1272/2008
Hazard components for labelling
Reaction mass of 1-(2,3-epoxypropoxy)-2,2-bis ((2,3-epoxypropoxy)methyl) butane and 1-(2,3-epoxypropoxy)-2-(2,3-epoxypropoxy)methyl)-2-hydroxy butane
Reaction mass of 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]dioxirane and [2-((2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy) methyl)oxirane and [2,2'-[methylenebis(2,1-phenyleneoxymethylene)]dioxirane
Phenol, polymer with formaldehyde, glycidether

Signal word: Danger

Pictograms:

Hazard statements
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H341 Suspected of causing genetic defects.
H360F May damage fertility.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P264 Wash hands thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/doctor.

2.3. Other hazards
No information available.

SECTION 3: Composition/information on ingredients

3.2. Mixtures
Safety Data Sheet

according to Regulation (EC) No 1907/2006

Hazardous components

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC No</td>
<td>Index No</td>
<td>REACH No</td>
</tr>
<tr>
<td>GHS Classification</td>
<td></td>
<td></td>
</tr>
<tr>
<td>701-135-4</td>
<td>Reaction mass of 1-(2,3-epoxypropoxy)-2,2-bis ((2,3-epoxypropoxy)methyl) butane and 1-(2,3-epoxypropoxy)-2-((2,3-epoxypropoxy)methyl)-2-hydroxy butane</td>
<td>25-30 %</td>
</tr>
<tr>
<td></td>
<td>01-2120078341-60</td>
<td></td>
</tr>
<tr>
<td>701-263-0</td>
<td>Reaction mass of 2,2’-[methylenbis(4,1-phenyleneoxymethylene)]dioxirane and [2-{[(2-[1-(oxiran-2-ylmethoxy)benzyl]phenoxy) methyl]oxirane and [2,2’-methylenebis(2,1-phenyleneoxymethylene)]dioxirane</td>
<td>25 - 30 %</td>
</tr>
<tr>
<td></td>
<td>01-2119454392-40</td>
<td></td>
</tr>
<tr>
<td>28064-14-4</td>
<td>Phenol, polymer with formaldehyde, glycidether</td>
<td>15-20 %</td>
</tr>
<tr>
<td>608-164-0</td>
<td>Skin Irrit. 2, Skin Sens. 1, Aquatic Chronic 2; H315 H317 H411</td>
<td></td>
</tr>
<tr>
<td>78-93-3</td>
<td>butanone; ethyl methyl ketone</td>
<td>1-5 %</td>
</tr>
<tr>
<td>201-159-0</td>
<td>Flam. Liq. 2, Eye Irrit. 2, STOT SE 3; H225 H319 H336 EUH066</td>
<td></td>
</tr>
</tbody>
</table>

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

SECTION 4: First aid measures

4.1. Description of first aid measures

General information
Change contaminated, saturated clothing. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

After inhalation
In case of inhalation of decomposition products, affected person should be moved into fresh air and kept still.

After contact with skin
After contact with skin, wash immediately with plenty of water and soap. Seek medical advice immediately. Do not wash with: Solvents/Thinner

After contact with eyes
After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

After ingestion
If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention. Do NOT induce vomiting.

4.2. Most important symptoms and effects, both acute and delayed
Immediate medical treatment required because corrosive injuries that are not treated are hard to cure.
4.3. Indication of any immediate medical attention and special treatment needed
First Aid, decontamination, treatment of symptoms.
After contact with skin, wash immediately with plenty of Lutrol.

SECTION 5: Firefighting measures

5.1. Extinguishing media
Suitable extinguishing media
Dry extinguishing powder. Carbon dioxide (CO2). alcohol resistant foam. Water spray jet

Unsuitable extinguishing media
Full water jet

5.2. Special hazards arising from the substance or mixture
Carbon monoxide Carbon dioxide (CO2). Nitrogen oxides (NOx)

5.3. Advice for firefighters
Special protective equipment for firefighters Protective clothing. In case of fire: Wear self-contained breathing apparatus.
Co-ordinate fire-fighting measures to the fire surroundings.

Additional information
Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
See protective measures under point 7 and 8.
Provide adequate ventilation.
Personal protection equipment: see section 8
Remove persons to safety.

6.2. Environmental precautions
Do not allow to enter into surface water or drains. Cover drains. Adverse environmental effects

6.3. Methods and material for containment and cleaning up
Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

6.4. Reference to other sections
See protective measures under point 7 and 8.
Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Advice on safe handling
See section 8. Wear personal protection equipment (refer to section 8). Keep container tightly closed.
Advice on protection against fire and explosion
Keep away from sources of heat (e.g. hot surfaces), sparks and open flames.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels
Keep container tightly closed in a cool, well-ventilated place. Keep/Store only in original container.

Hints on joint storage
Keep away from:
Food and feedingstuffs
Oxidising agent

Further information on storage conditions
Keep away from:
Frost
Heat
Humidity

7.3. Specific end use(s)
No information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>Exposure limits (EH40)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS No</td>
</tr>
<tr>
<td>78-93-3</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

Biological Monitoring Guidance Values (EH40)

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Substance</th>
<th>Parameter</th>
<th>Value</th>
<th>Test material</th>
<th>Sampling time</th>
</tr>
</thead>
<tbody>
<tr>
<td>78-93-3</td>
<td>Butan-2-one</td>
<td>butan-2-one</td>
<td>70 µmol/L</td>
<td>urine</td>
<td>Post shift</td>
</tr>
</tbody>
</table>
### DNEL/DMEL values

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Substance</th>
<th>DNEL type</th>
<th>Exposure route</th>
<th>Effect</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Reaction mass of 1-(2,3-epoxypropoxy)-2,2-bis ((2,3-epoxypropoxy)methyl) butane and 1-(2,3-epoxypropoxy)-2-((2,3-epoxypropoxy)methyl)-2-hydroxy butane</td>
<td>Worker DNEL, long-term</td>
<td>inhalation</td>
<td>systemic</td>
<td>1,17 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Worker DNEL, long-term</td>
<td>dermal</td>
<td>systemic</td>
<td>0,67 mg/kg bw/day</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Worker DNEL, long-term</td>
<td>inhalation</td>
<td>local</td>
<td>0,0083 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Consumer DNEL, long-term</td>
<td>inhalation</td>
<td>systemic</td>
<td>8,7 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Consumer DNEL, long-term</td>
<td>dermal</td>
<td>systemic</td>
<td>62,5 mg/kg bw/day</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Consumer DNEL, long-term</td>
<td>oral</td>
<td>systemic</td>
<td>6,25 mg/kg bw/day</td>
</tr>
<tr>
<td>28064-14-4</td>
<td>Phenol, polymer with formaldehyde, glycidether</td>
<td>Worker DNEL,</td>
<td>dermal</td>
<td>systemic</td>
<td>104,15 mg/kg bw/day</td>
</tr>
<tr>
<td>78-93-3</td>
<td>butanone; ethyl methyl ketone</td>
<td>Worker DNEL,</td>
<td>inhalation</td>
<td>systemic</td>
<td>29,39 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Consumer DNEL, long-term</td>
<td>oral</td>
<td>systemic</td>
<td>31 mg/kg bw/day</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Consumer DNEL, long-term</td>
<td>dermal</td>
<td>systemic</td>
<td>412 mg/kg bw/day</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Consumer DNEL, long-term</td>
<td>inhalation</td>
<td>systemic</td>
<td>106 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Worker DNEL, long-term</td>
<td>inhalation</td>
<td>systemic</td>
<td>600 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Worker DNEL, long-term</td>
<td>dermal</td>
<td>systemic</td>
<td>1161 mg/kg bw/day</td>
</tr>
</tbody>
</table>
### PNEC values

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Substance</th>
<th>Environmental compartment</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Reaction mass of 1-(2,3-epoxypropoxy)-2,2-bis ((2,3-epoxypropoxy)methyl) butane and 1-(2,3-epoxypropoxy)-2-((2,3-epoxypropoxy)methyl)-2-hydroxy butane</td>
<td>Freshwater</td>
<td>0.004 mg/l</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Freshwater (intermittent releases)</td>
<td>0.037 mg/l</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Freshwater sediment</td>
<td>0.02 mg/kg</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Marine sediment</td>
<td>0.002 mg/kg</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Soil</td>
<td>0.002 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Reaction mass of 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]dioxirane and [2-[(2,2)-oxiran-2-ylmethoxy)benzyl(phenoxy) methyl]oxirane and [2,2'-[methylenebis(2,1-phenyleneoxymethylene)]dioxirane</td>
<td>Freshwater</td>
<td>0.003 mg/l</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Freshwater sediment</td>
<td>0.294 mg/kg</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Marine sediment</td>
<td>0.029 mg/kg</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Soil</td>
<td>0.237 mg/kg</td>
</tr>
<tr>
<td>78-93-3</td>
<td>butanone; ethyl methyl ketone</td>
<td>Freshwater</td>
<td>55.8 mg/l</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Freshwater (intermittent releases)</td>
<td>55.8 mg/l</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Marine water</td>
<td>55.8 mg/l</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Freshwater sediment</td>
<td>284.74 mg/kg</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Marine sediment</td>
<td>284.7 mg/kg</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Secondary poisoning</td>
<td>1000 mg/kg</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Micro-organisms in sewage treatment plants (STP)</td>
<td>709 mg/l</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Soil</td>
<td>22.5 mg/kg</td>
</tr>
</tbody>
</table>

### 8.2. Exposure controls

**Appropriate engineering controls**
- Provide adequate ventilation as well as local exhaustion at critical locations.

**Protective and hygiene measures**
- Work in well-ventilated zones or use proper respiratory protection. Only wear fitting, comfortable and clean protective clothing. Avoid contact with skin, eyes and clothes. Wash hands and face before breaks and after work and take a shower if necessary.

**Eye/face protection**
- Suitable eye protection:
  - Eye glasses with side protection
  - Goggles

**Hand protection**
- Tested protective gloves must be worn: EN ISO 374
NBR (Nitrile rubber), Butyl caoutchouc (butyl rubber)

Wearing time with permanent contact: Thickness of the glove material: \(\geq 0.4 \text{ mm} \), Breakthrough time (maximum wearing time): \(>480 \text{ min} \)

Wearing time with occasional contact (splashes): Thickness of the glove material: \(\geq 0.1 \text{ mm} \), Breakthrough time (maximum wearing time): \(>30 \text{ min} \)

For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. Breakthrough times and swelling properties of the material must be taken into consideration.

### Skin protection

Protective clothing

### Respiratory protection

If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn.

Combination filtering device (EN 14387) A-P3

Self-contained respirator (breathing apparatus) (DIN EN 133)

## SECTION 9: Physical and chemical properties

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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>black</td>
</tr>
<tr>
<td>Odour</td>
<td>characteristic</td>
</tr>
<tr>
<td>pH-Value</td>
<td>No data available</td>
</tr>
</tbody>
</table>

### Changes in the physical state

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melting point</td>
<td>No data available</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>No data available</td>
</tr>
<tr>
<td>Sublimation point</td>
<td>No data available</td>
</tr>
<tr>
<td>Softening point</td>
<td>No data available</td>
</tr>
<tr>
<td>Pour point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>(&gt;100 \degree \text{ C} )</td>
</tr>
</tbody>
</table>

### Flammability

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solid</td>
<td>No data available</td>
</tr>
<tr>
<td>Gas</td>
<td>No data available</td>
</tr>
</tbody>
</table>

### Explosive properties

No information available.

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower explosion limits</td>
<td>No data available</td>
</tr>
<tr>
<td>Upper explosion limits</td>
<td>No data available</td>
</tr>
<tr>
<td>Ignition temperature</td>
<td>No data available</td>
</tr>
</tbody>
</table>

### Auto-ignition temperature

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solid</td>
<td>No data available</td>
</tr>
<tr>
<td>Gas</td>
<td>No data available</td>
</tr>
</tbody>
</table>
SECTION 10: Stability and reactivity

10.1. Reactivity
The product is stable under storage at normal ambient temperatures.

10.2. Chemical stability
The substance is chemically stable under recommended conditions of storage, use and temperature.

10.3. Possibility of hazardous reactions
Exothermic reaction with: Acid, Oxidising agent

10.4. Conditions to avoid
Keep away from sources of heat (e.g. hot surfaces), sparks and open flames.

10.5. Incompatible materials
Acid, Oxidising agent

10.6. Hazardous decomposition products
Does not decompose when used for intended uses.

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Acute toxicity
Based on available data, the classification criteria are not met.
Safety Data Sheet

according to Regulation (EC) No 1907/2006

Proguard CN-OC V12 K3 Part A

Revision date: 06.12.2019

Table:

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>Chemical name</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Exposure route</td>
</tr>
<tr>
<td>Reaction mass of 1-(2,3-epoxypropoxy)-2,2-bis ((2,3-epoxypropoxy)methyl) butane and 1-(2,3-epoxypropoxy)-2-((2,3-epoxypropoxy)methyl)-2-hydroxy butane</td>
<td>oral</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>28064-14-4</td>
<td>Phenol, polymer with formaldehyde, glycidether</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>78-93-3</td>
<td>butanone; ethyl methyl ketone</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Irritation and corrosivity
Causes severe skin burns and eye damage.
Causes serious eye damage.

Sensitising effects
May cause an allergic skin reaction. (Reaction mass of 1-(2,3-epoxypropoxy)-2,2-bis ((2,3-epoxypropoxy)methyl) butane and 1-(2,3-epoxypropoxy)-2-((2,3-epoxypropoxy)methyl)-2-hydroxy butane; Reaction mass of 2,2’-[methylenebis(4,1-phenyleneoxymethylene)]dioxirane and [2-((2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy) methyl]oxirane and [2,2’- [methylenebis(2,1-phenyleneoxymethylene)]dioxirane; Phenol, polymer with formaldehyde, glycidether)

Carcinogenic/mutagenic/toxic effects for reproduction
Suspected of causing genetic defects. (Reaction mass of 1-(2,3-epoxypropoxy)-2,2-bis ((2,3-epoxypropoxy)methyl) butane and 1-(2,3-epoxypropoxy)-2-((2,3-epoxypropoxy)methyl)-2-hydroxy butane)
May damage fertility. (Reaction mass of 1-(2,3-epoxypropoxy)-2,2-bis ((2,3-epoxypropoxy)methyl) butane and 1-(2,3-epoxypropoxy)-2-((2,3-epoxypropoxy)methyl)-2-hydroxy butane)
Carcinogenicity: Based on available data, the classification criteria are not met.

STOT-single exposure
Based on available data, the classification criteria are not met.

STOT-repeated exposure
Based on available data, the classification criteria are not met.

Aspiration hazard
Based on available data, the classification criteria are not met.

SECTION 12: Ecological information
12.1. Toxicity

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Dose</th>
<th>Species</th>
<th>Method</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Reaction mass of 1-(2,3-epoxypropoxy)-2,2-bis ((2,3-epoxypropoxy)methyl) butane and 1-(2,3-epoxypropoxy)-2-((2,3-epoxypropoxy)methyl)-2-hydroxy butane</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acute fish toxicity</td>
<td>LC50</td>
<td>75 mg/l</td>
<td>96 h</td>
<td>Cyprinus carpio</td>
</tr>
<tr>
<td></td>
<td>Acute algae toxicity</td>
<td>ErC50</td>
<td>9 mg/l</td>
<td>72 h</td>
<td>Pseudokirchneriella subcapitata</td>
</tr>
<tr>
<td></td>
<td>Acute crustacea toxicity</td>
<td>EC50</td>
<td>3,7 mg/l</td>
<td>48 h</td>
<td>Daphnia magna</td>
</tr>
<tr>
<td></td>
<td>Phenol, polymer with formaldehyde, glycidether</td>
<td>LC50</td>
<td>2,54 mg/l</td>
<td>96 h</td>
<td>Leuciscus idus (golden orfe)</td>
</tr>
<tr>
<td></td>
<td>Acute crustacea toxicity</td>
<td>EC50</td>
<td>2,55 mg/l</td>
<td>48 h</td>
<td>Daphnia magna (Big water flea)</td>
</tr>
<tr>
<td></td>
<td>butanone; ethyl methyl ketone</td>
<td>LC50</td>
<td>2993 mg/l</td>
<td>96 h</td>
<td>Pimephales promelas</td>
</tr>
<tr>
<td></td>
<td>Acute algae toxicity</td>
<td>ErC50</td>
<td>2029 mg/l</td>
<td>96 h</td>
<td>Pseudokirchneriella subcapitata</td>
</tr>
<tr>
<td></td>
<td>Acute crustacea toxicity</td>
<td>EC50</td>
<td>308 mg/l</td>
<td>48 h</td>
<td>Daphnia magna</td>
</tr>
<tr>
<td></td>
<td>Acute bacteria toxicity</td>
<td></td>
<td>(1150 mg/l)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability

No information available.

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Method</th>
<th>Value</th>
<th>d</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>butanone; ethyl methyl ketone</td>
<td>OECD 301</td>
<td>98%</td>
<td>28</td>
<td></td>
</tr>
</tbody>
</table>

Readily biodegradable (according to OECD criteria).

12.3. Bioaccumulative potential

No information available.

Partition coefficient n-octanol/water

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Reaction mass of 1-(2,3-epoxypropoxy)-2,2-bis ((2,3-epoxypropoxy)methyl) butane and 1-(2,3-epoxypropoxy)-2-((2,3-epoxypropoxy)methyl)-2-hydroxy butane</td>
<td>2.93 - 2530</td>
</tr>
<tr>
<td>78-93-3</td>
<td>butanone; ethyl methyl ketone</td>
<td>0.3</td>
</tr>
</tbody>
</table>

12.4. Mobility in soil

No information available.
12.5. Results of PBT and vPvB assessment
The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6. Other adverse effects
No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations
Dispose of waste according to applicable legislation.

Contaminated packaging
Non-contaminated packages may be recycled. Dispose of waste according to applicable legislation.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number: UN 1760
14.2. UN proper shipping name: CORROSIVE LIQUID, N.O.S. (Reaction mass of 1-(2,3-epoxypropoxy)-2,2-bis ((2,3-epoxypropoxy)methyl) butane and 1-(2,3-epoxypropoxy)-2-((2,3-epoxypropoxy)methyl)-2-hydroxy butane)
14.3. Transport hazard class(es): 8
14.4. Packing group: III
Hazard label: 8
Classification code: C9
Special Provisions: 274
Limited quantity: 5 L
Excepted quantity: E1
Transport category: 3
Hazard No: 80
Tunnel restriction code: E

Inland waterways transport (ADN)

14.1. UN number: UN 1760
14.2. UN proper shipping name: CORROSIVE LIQUID, N.O.S. (Reaction mass of 1-(2,3-epoxypropoxy)-2,2-bis ((2,3-epoxypropoxy)methyl) butane and 1-(2,3-epoxypropoxy)-2-((2,3-epoxypropoxy)methyl)-2-hydroxy butane)
14.3. Transport hazard class(es): 8
14.4. Packing group: III
Hazard label: 8
Classification code: C9
Special Provisions: 274
Limited quantity: 5 L
Excepted quantity: E1

Marine transport (IMDG)
### 14.1. UN number:
UN 1760

### 14.2. UN proper shipping name:
CORROSIVE LIQUID, N.O.S. (Reaction mass of 1-(2,3-epoxypropoxy)-2,2-bis((2,3-epoxypropoxy)methyl) butane and 1-(2,3-epoxypropoxy)-2-((2,3-epoxypropoxy)methyl)-2-hydroxy butane)

### 14.3. Transport hazard class(es):
8

### 14.4. Packing group:
III

#### Hazard label:
8

#### Marine pollutant:
P

#### Special Provisions:
223, 274

#### Limited quantity:
5 L

#### Excepted quantity:
E1

#### EmS:
F-A, S-B

#### Segregation group:
alkalis

### Air transport (ICAO-TI/IATA-DGR)

#### 14.1. UN number:
UN 1760

#### 14.2. UN proper shipping name:
CORROSIVE LIQUID, N.O.S. (Reaction mass of 1-(2,3-epoxypropoxy)-2,2-bis((2,3-epoxypropoxy)methyl) butane and 1-(2,3-epoxypropoxy)-2-((2,3-epoxypropoxy)methyl)-2-hydroxy butane)

#### 14.3. Transport hazard class(es):
8

#### 14.4. Packing group:
III

#### Hazard label:
8

#### Special Provisions:
A3 A803

#### Limited quantity Passenger:
1 L

#### Passenger LQ:
Y841

#### Excepted quantity:
E1

| IATA-packing instructions - Passenger | 852 |
| IATA-max. quantity - Passenger | 5 L |
| IATA-packing instructions - Cargo | 856 |
| IATA-max. quantity - Cargo | 60 L |

### 14.5. Environmental hazards

| ENVIRONMENTALLY HAZARDOUS | yes |
| Danger releasing substance | epoxy resin |

### 14.6. Special precautions for user
No information available.

### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code
No information available.

### SECTION 15: Regulatory information

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

EU regulatory information
Safety Data Sheet

according to Regulation (EC) No 1907/2006

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Information according to 2012/18/EU (SEVESO III):

National regulatory information

Employment restrictions: Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers. Observe employment restrictions for women of child-bearing age.

Water contaminating class (D): 2 - clearly water contaminating

15.2. Chemical safety assessment

For the following substances of this mixture a chemical safety assessment has been carried out:
- Reaction mass of 1-(2,3-epoxypropoxy)-2,2-bis ((2,3-epoxypropoxy)methyl) butane and 1-(2,3-epoxypropoxy)-2-(2,3-epoxypropoxy)methyl)-2-hydroxy butane
- Reaction mass of 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]dioxirane and [2-[(2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy] methyl]oxirane and [2,2'-[methylenebis(1,2-phenyleneoxymethylene)]dioxirane butanone; ethyl methyl ketone

SECTION 16: Other information

Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organization
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
CLP: Classification, labelling and Packaging
REACH: Registration, Evaluation and Authorization of Chemicals
GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals
UN: United Nations
CAS: Chemical Abstracts Service
DNEL: Derived No Effect Level
DMEL: Derived Minimal Effect Level
PNEC: Predicted No Effect Concentration
ATE: Acute toxicity estimate
LC50: Lethal concentration, 50%
LD50: Lethal dose, 50%
LL50: Lethal loading, 50%
EL50: Effect loading, 50%
EC50: Effective Concentration 50%
ErC50: Effective Concentration 50%, growth rate
NOEC: No Observed Effect Concentration
Safety Data Sheet

according to Regulation (EC) No 1907/2006

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BCF: Bio-concentration factor
PBT: persistent, bioaccumulative, toxic
vPvB: very persistent, very bioaccumulative
MARPOL: International Convention for the Prevention of Marine Pollution from Ships
IBC: Intermediate Bulk Container
SVHC: Substance of Very High Concern

Classification for mixtures and used evaluation method according to Regulation (EC) No. 1272/2008 [CLP]

<table>
<thead>
<tr>
<th>Classification</th>
<th>Classification procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin Corr. 1C; H314</td>
<td>Calculation method</td>
</tr>
<tr>
<td>Eye Dam. 1; H318</td>
<td>Calculation method</td>
</tr>
<tr>
<td>Skin Sens. 1; H317</td>
<td>Calculation method</td>
</tr>
<tr>
<td>Muta. 2; H341</td>
<td>Calculation method</td>
</tr>
<tr>
<td>Repr. 1B; H360F</td>
<td>Calculation method</td>
</tr>
<tr>
<td>Aquatic Chronic 2; H411</td>
<td>Calculation method</td>
</tr>
</tbody>
</table>

Relevant H and EUH statements (number and full text)

H225 Highly flammable liquid and vapour.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
H341 Suspected of causing genetic defects.
H360F May damage fertility.
H411 Toxic to aquatic life with long lasting effects.
EUH066 Repeated exposure may cause skin dryness or cracking.

Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)