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

1. **Product identifier**
   - Proguard CN-1M V15 K3 Part A

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

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
   - **e-mail:** eu-sds@chesterton.com
   - **e-mail (Contact person):** eu-sds@chesterton.com
   - **Internet:** www.chesterton.com
   - **Responsible Department:** +49(0) 551 - 1 92 40 (GIZ-Nord, 24h)

4. **Emergency telephone number:** +49(0) 551 - 1 92 40 (GIZ-Nord, 24h)

### SECTION 2: Hazards identification

1. **Classification of the substance or mixture**
     - **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. **Label elements**
Safety Data Sheet

according to Regulation (EC) No 1907/2006

Proguard CN-1M V15 K3 Part A

Revision date: 06.12.2019

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
### Hazardous components

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>EC No</th>
<th>Index No</th>
<th>REACH No</th>
<th>GHS Classification</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<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>01-2120078341-60</td>
<td>25-30 %</td>
<td>Muta. 2, Repr. 1B, Skin Corr. 1C, Eye Dam. 1, Skin Sens. 1B, Aquatic Chronic 2; H341 H360F H314 H318 H317 H411</td>
<td></td>
<td></td>
</tr>
<tr>
<td>701-263-0</td>
<td>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</td>
<td>01-211945392-40</td>
<td>25 -&lt; 30 %</td>
<td>Skin Irrit. 2, Skin Sens. 1, Aquatic Chronic 2; H315 H317 H411</td>
<td></td>
<td></td>
</tr>
<tr>
<td>28064-14-4</td>
<td>Phenol, polymer with formaldehyde, glycidether</td>
<td>608-164-0</td>
<td>15-20 %</td>
<td>Skin Irrit. 2, Skin Sens. 1, Aquatic Chronic 2; H315 H317 H411</td>
<td></td>
<td></td>
</tr>
<tr>
<td>78-93-3</td>
<td>butanone; ethyl methyl ketone</td>
<td>201-159-0</td>
<td>1-3 %</td>
<td>Flam. Liq. 2, Eye Irrit. 2, STOT SE 3; H225 H319 H336 EUH066</td>
<td></td>
<td></td>
</tr>
<tr>
<td>606-002-00-3</td>
<td>Flam. Liq. 2, Eye Irrit. 2, STOT SE 3; H225 H319 H336 EUH066</td>
<td>01-2119457290-43</td>
<td>1-3 %</td>
<td>Flam. Liq. 2, Eye Irrit. 2, STOT SE 3; H225 H319 H336 EUH066</td>
<td></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.
Symptoms may develop several hours following exposure; medical observation therefore necessary for at least 48 hours.

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

##### Exposure limits (EH40)

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Substance</th>
<th>ppm</th>
<th>mg/m³</th>
<th>fibres/ml</th>
<th>Category</th>
<th>Origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>78-93-3</td>
<td>Butan-2-one (methyl ethyl ketone)</td>
<td>200</td>
<td>600</td>
<td></td>
<td>TWA (8 h)</td>
<td>WEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>300</td>
<td>899</td>
<td></td>
<td>STEL (15 min)</td>
<td>WEL</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>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>
</tr>
<tr>
<td></td>
<td></td>
<td>Worker DNEL, long-term</td>
<td>dermal</td>
<td>systemic</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Consumer DNEL, long-term</td>
<td>inhalation</td>
<td>local</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Consumer DNEL, long-term</td>
<td>dermal</td>
<td>systemic</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Consumer DNEL, long-term</td>
<td>oral</td>
<td>systemic</td>
</tr>
<tr>
<td></td>
<td>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</td>
<td>Worker DNEL, long-term</td>
<td>inhalation</td>
<td>systemic</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Worker DNEL, long-term</td>
<td>dermal</td>
<td>systemic</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Worker DNEL, long-term</td>
<td>inhalation</td>
<td>local</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Consumer DNEL, long-term</td>
<td>dermal</td>
<td>systemic</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Consumer DNEL, long-term</td>
<td>oral</td>
<td>systemic</td>
</tr>
<tr>
<td>28064-14-4</td>
<td>Phenol, polymer with formaldehyde, glycidether</td>
<td>Worker DNEL, long-term</td>
<td>dermal</td>
<td>systemic</td>
</tr>
<tr>
<td>78-93-3</td>
<td>butanone; ethyl methyl ketone</td>
<td>Worker DNEL, long-term</td>
<td>inhalation</td>
<td>systemic</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Consumer DNEL, long-term</td>
<td>oral</td>
<td>systemic</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Consumer DNEL, long-term</td>
<td>dermal</td>
<td>systemic</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Consumer DNEL, long-term</td>
<td>inhalation</td>
<td>systemic</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Worker DNEL, long-term</td>
<td>inhalation</td>
<td>systemic</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Worker DNEL, long-term</td>
<td>dermal</td>
<td>systemic</td>
</tr>
</tbody>
</table>
PNEC values

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Substance</th>
<th>Environmental compartment</th>
<th>Value</th>
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<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>
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<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-[4-(oxiran-2-ylmethoxy)benzyl(phenox) 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: >= 0.4 mm, Breakthrough time (maximum wearing time): >480 min
Wearing time with occasional contact (splashes): Thickness of the glove material: >= 0.1 mm, Breakthrough time (maximum wearing time) > 30 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>Physical state:</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<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
Melting point: No data available
Initial boiling point and boiling range: No data available
Sublimation point: No data available
Softening point: No data available
Pour point: No data available
Flash point: > 100 °C

Flammability
Solid: No data available
Gas: No data available

Explosive properties
No information available.
Lower explosion limits: No data available
Upper explosion limits: No data available
Ignition temperature: No data available

Auto-ignition temperature
Solid: No data available
Gas: No data available
<table>
<thead>
<tr>
<th>Decomposition temperature:</th>
<th>No data available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxidizing properties</td>
<td>No information available.</td>
</tr>
<tr>
<td>Vapour pressure:</td>
<td>No data available</td>
</tr>
<tr>
<td>Density (at 20 °C):</td>
<td>~1.3 g/cm³</td>
</tr>
<tr>
<td>Water solubility:</td>
<td>No data available</td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>No information available.</td>
</tr>
<tr>
<td>Partition coefficient:</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity / dynamic:</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapour density:</td>
<td>No data available</td>
</tr>
<tr>
<td>Evaporation rate:</td>
<td>No data available</td>
</tr>
</tbody>
</table>

### 9.2. Other information

No information available.

### 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

Reacts 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. No known hazardous decomposition products.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

**Acute toxicity**

Based on available data, the classification criteria are not met.
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-(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>h</th>
<th>Species</th>
<th>Source</th>
<th>Method</th>
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<tbody>
<tr>
<td></td>
<td>Aquatic toxicity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<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>
<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>
<td>Study report (1996)</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>
<td>Study report (2014)</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>
<td>Study report (2015)</td>
</tr>
<tr>
<td>28064-14-4</td>
<td>Phenol, polymer with formaldehyde, glycidether</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acute fish toxicity</td>
<td>LC50</td>
<td>2.54 mg/l</td>
<td>96 h</td>
<td>Leuciscus idus (golden orfe)</td>
<td>Supplier</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>
<td>Supplier</td>
</tr>
<tr>
<td>78-93-3</td>
<td>butanone; ethyl methyl ketone</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acute fish toxicity</td>
<td>LC50</td>
<td>2993 mg/l</td>
<td>96 h</td>
<td>Pimephales promelas</td>
<td>Study report (1998)</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>
<td>Study report (1998)</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>
<td>Study report (1998)</td>
</tr>
<tr>
<td></td>
<td>Acute bacteria toxicity</td>
<td></td>
<td>(1150 mg/l)</td>
<td></td>
<td>Pseudomonas putida</td>
<td>Supplier</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>78-93-3 butanone; ethyl methyl ketone</td>
<td>Evaluation</td>
<td></td>
<td>98%</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

<table>
<thead>
<tr>
<th>Hazard label</th>
<th>Special Provisions</th>
<th>Limited quantity</th>
<th>Excepted quantity</th>
<th>EmS</th>
<th>Segregation group</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>223, 274</td>
<td>5 L</td>
<td>E1</td>
<td>F-A, S-B</td>
<td>alkalis</td>
</tr>
</tbody>
</table>

**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

<table>
<thead>
<tr>
<th>Hazard label</th>
<th>Special Provisions</th>
<th>Limited quantity Passenger</th>
<th>Passenger LQ</th>
<th>Excepted quantity</th>
<th>IATA-packing instructions - Passenger</th>
<th>IATA-max. quantity - Passenger</th>
<th>IATA-packing instructions - Cargo</th>
<th>IATA-max. quantity - Cargo</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>A3 A803</td>
<td>1 L</td>
<td>Y841</td>
<td>E1</td>
<td>852</td>
<td>5 L</td>
<td>856</td>
<td>60 L</td>
</tr>
</tbody>
</table>

**14.5. Environmental hazards**

<table>
<thead>
<tr>
<th>ENVIRONMENTALLY HAZARDOUS</th>
<th>Danger releasing substance</th>
</tr>
</thead>
<tbody>
<tr>
<td>yes</td>
<td>epoxy resin</td>
</tr>
</tbody>
</table>

**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.

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**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

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(2,1-phenyleneoxymethylene)]dioxirane
- Butananone; ethyl methyl ketone

SECTION 16: Other information

Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route
(REuropean 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

Proguard CN-1M V15 K3  Part A

Revision date: 06.12.2019

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>Mut. 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.)*