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

1.1. Product identifier
    Proguard CN-OC V15 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  Telefax: +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: 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-(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>Quantity</th>
<th>EC No</th>
<th>Index No</th>
<th>REACH No</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>25-30 %</td>
<td>701-135-4</td>
<td>01-2120078341-60</td>
<td></td>
</tr>
<tr>
<td>28064-14-4</td>
<td>Phenol, polymer with formaldehyde, glycidether</td>
<td>15-20 %</td>
<td>28064-14-4</td>
<td>608-164-0</td>
<td></td>
</tr>
<tr>
<td>78-93-3</td>
<td>butanone; ethyl methyl ketone</td>
<td>1-3 %</td>
<td>78-93-3</td>
<td>201-159-0</td>
<td>606-002-00-3</td>
</tr>
<tr>
<td></td>
<td>Flam. Liq. 2, Eye Irrit. 2, STOT SE 3; H225 H319 H336 EUH066</td>
<td></td>
<td></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.
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>899</td>
<td>TWA (8 h)</td>
<td>WEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>300</td>
<td></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>
<tr>
<td>CAS No</td>
<td>Substance</td>
<td>DNEL type</td>
<td>Exposure route</td>
<td>Effect</td>
<td>Value</td>
</tr>
<tr>
<td>--------------</td>
<td>---------------------------------------------------------------------------</td>
<td>--------------------</td>
<td>----------------</td>
<td>--------</td>
<td>---------------------</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>
<td>104.15 mg/kg bw/day</td>
</tr>
<tr>
<td>78-93-3</td>
<td>butanone; ethyl methyl ketone</td>
<td>Worker DNEL, long-term</td>
<td>dermal</td>
<td>systemic</td>
<td>1161 mg/kg bw/day</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Worker DNEL, long-term</td>
<td>inhalation</td>
<td>systemic</td>
<td>29.39 mg/m³</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>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></td>
<td></td>
<td>Consumer DNEL, long-term</td>
<td>inhalation</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>1116 mg/kg bw/day</td>
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</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>
</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-[4-(oxiran-2-ylmethoxy)benzyl]phenoxo) 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>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>
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<tr>
<td>pH-Value</td>
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</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 °C</td>
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</tbody>
</table>

Flammability

<table>
<thead>
<tr>
<th>Type</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>
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</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>Type</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>
Decomposition temperature: No data available

Oxidizing properties
No information available.

Vapour pressure: No data available

Density (at 20 °C): ~1.3 g/cm³

Water solubility: No data available

Solubility in other solvents
No information available.

Partition coefficient: No data available

Viscosity / dynamic: No data available

Vapour density: No data available

Evaporation rate: No data available

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.
Safety Data Sheet

according to Regulation (EC) No 1907/2006

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<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Exposure route</th>
<th>Dose</th>
<th>Species</th>
<th>Source</th>
<th>Method</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-</td>
<td>oral</td>
<td>LD50</td>
<td>Rat</td>
<td>Other company data (1976)</td>
<td>OECD Guideline 401</td>
</tr>
<tr>
<td></td>
<td>((2,3-epoxypropoxy)methyl)-2-hydroxy butane</td>
<td></td>
<td>mg/kg</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>dermal</td>
<td>LD50</td>
<td>&gt; 3170</td>
<td>Study report (1976)</td>
<td>OECD Guideline 402</td>
</tr>
<tr>
<td>28064-14-4</td>
<td>Phenol, polymer with formaldehyde, glycidether</td>
<td>oral</td>
<td>LD50</td>
<td>&gt;2000</td>
<td>Supplier</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>mg/kg</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>dermal</td>
<td>LD50</td>
<td>&gt;2000</td>
<td>Supplier</td>
<td></td>
</tr>
<tr>
<td>78-93-3</td>
<td>butanone; ethyl methyl ketone</td>
<td>oral</td>
<td>LD50</td>
<td>&gt;2000</td>
<td>Supplier</td>
<td>OECD 423</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>mg/kg</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>dermal</td>
<td>LD50</td>
<td>6400 - 8000</td>
<td>Rabbit</td>
<td>Supplier</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<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-((4-oxiran-2-ylmethoxy)benzyl)phenox] 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>Source</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>[h]</td>
<td>[d]</td>
<td>Aquatic toxicity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LC50</td>
<td>75 mg/l</td>
<td>96 h</td>
<td>Cyprinus carpio</td>
<td>Study report (1996)</td>
<td>OECD Guideline 203</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ErC50</td>
<td>9 mg/l</td>
<td>72 h</td>
<td>Pseudokirchneriella subcapitata</td>
<td>Study report (2014)</td>
<td>OECD Guideline 201</td>
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<tr>
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<tr>
<td>EC50</td>
<td>3,7 mg/l</td>
<td>48 h</td>
<td>Daphnia magna</td>
<td>Study report (2015)</td>
<td>OECD Guideline 202</td>
</tr>
<tr>
<td></td>
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<tr>
<td>Phenol, polymer with formaldehyde, glycidether</td>
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<tr>
<td>LC50</td>
<td>2,54 mg/l</td>
<td>96 h</td>
<td>Leuciscus idus (golden orfe)</td>
<td>Supplier</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
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</tr>
<tr>
<td>EC50</td>
<td>2,55 mg/l</td>
<td>48 h</td>
<td>Daphnia magna (Big water flea)</td>
<td>Supplier</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>butanone; ethyl methyl ketone</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LC50</td>
<td>2993 mg/l</td>
<td>96 h</td>
<td>Pimephales promelas</td>
<td>Study report (1998)</td>
<td>OECD Guideline 203</td>
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<td>ErC50</td>
<td>2029 mg/l</td>
<td>96 h</td>
<td>Pseudokirchneriella subcapitata</td>
<td>Study report (1998)</td>
<td>OECD Guideline 201</td>
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<tr>
<td>EC50</td>
<td>308 mg/l</td>
<td>48 h</td>
<td>Daphnia magna</td>
<td>Study report (1998)</td>
<td>OECD Guideline 202</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Acute bacteria toxicity</td>
<td>(1150 mg/l)</td>
<td></td>
<td>Pseudomonas putida</td>
<td>Supplier</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>butanone; ethyl methyl ketone</td>
<td></td>
<td></td>
<td>98%</td>
<td>28</td>
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</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>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>2.93 - 2530</td>
</tr>
<tr>
<td>butanone; ethyl methyl ketone</td>
<td></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

14.5. Environmental hazards: Yes

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

**E2** Hazardous to the Aquatic Environment

**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-ylm ethoxy)benzyl]phenoxy} methyl]oxirane and [2,2'-[methylenebis(2,1-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

### Proguard CN-OC V15 K3 Part A

<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>

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

- **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

### 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.)