

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Proguard CN 200 Part A

Revision date: 06.06.2023

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

1.1. Product identifier

Proguard CN 200 Part A

UFI: 65JU-HPCN-0UK3-WU4P

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: | D-85737 Ismaning GERMANY | |
| Telephone: | +49 89 99 65 46 - 0 | Telefax: +49 89 99 65 46 - 50 |
| e-mail: | eu-sds@chesterton.com | |
| Contact person: | eu-sds@chesterton.com | Telephone: +49 89 99 65 46 - 0 |
| e-mail: | 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

Skin Irrit. 2; H315
Eye Irrit. 2; H319
Skin Sens. 1; H317
Aquatic Chronic 2; H411

Full text of hazard statements: see SECTION 16.

2.2. Label elements

Regulation (EC) No 1272/2008

Hazard components for labelling

2,2'-[(1-Methylethyliden)bis(4,1-phenyleneoxymethylen)]bisoxiran
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
Reaktionsprodukte aus Hexan-1,6-diol und 2-(Chlormethyl)oxiran (1:2)

Signal word: Warning

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Pictograms:



Hazard statements

| | |
|------|--|
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H319 | Causes serious eye irritation. |
| H411 | Toxic to aquatic life with long lasting effects. |

Precautionary statements

| | |
|-----------|---|
| P261 | Avoid breathing dust/fume/gas/mist/vapours/spray. |
| P273 | Avoid release to the environment. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection/hearing protection. |
| P333+P313 | If skin irritation or rash occurs: Get medical advice/attention. |
| P362+P364 | Take off contaminated clothing and wash it before reuse. |
| P391 | Collect spillage. |

Special labelling of certain mixtures

| | |
|--------|--|
| EUH205 | Contains epoxy constituents. May produce an allergic reaction. |
| EUH211 | Warning! Hazardous respirable droplets may be formed when sprayed. Do not breathe spray or mist. |

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

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Hazardous components

| CAS No | Chemical name | | | Quantity |
|-------------|---|--------------|------------------|------------|
| | EC No | Index No | REACH No | |
| | Classification (Regulation (EC) No 1272/2008) | | | |
| 1675-54-3 | 2,2'-[(1-Methylethyliden)bis(4,1-phenyleneoxymethylen)]bisoxiran | | | 25 -< 50 % |
| | 216-823-5 | 603-073-00-2 | 01-2119456619-26 | |
| | Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1, Aquatic Chronic 2; H315 H319 H317 H411 | | | |
| 9003-36-5 | 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 | | | 10 -< 25 % |
| | 701-263-0 | | 01-2119454392-40 | |
| | Skin Irrit. 2, Skin Sens. 1, Aquatic Chronic 2; H315 H317 H411 | | | |
| 933999-84-9 | Reaktionsprodukte aus Hexan-1,6-diol und 2-(Chlormethyl)oxiran (1:2) | | | 1 -< 5 % |
| | 618-939-5 | | 01-2119463471-41 | |
| | Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1, Aquatic Chronic 3; H315 H319 H317 H412 | | | |
| 13463-67-7 | titanium dioxide | | | 0 - 5 % |
| | 236-675-5 | 022-006-00-2 | 01-2119489379-17 | |
| | Carc. 2; H351 | | | |

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

Specific Conc. Limits, M-factors and ATE

| CAS No | EC No | Chemical name | Quantity |
|-------------|--|---|------------|
| | Specific Conc. Limits, M-factors and ATE | | |
| 1675-54-3 | 216-823-5 | 2,2'-[(1-Methylethyliden)bis(4,1-phenyleneoxymethylen)]bisoxiran | 25 -< 50 % |
| | inhalation: LC50 = ca. 24,6 mg/l (vapours); dermal: LD50 = > 2000 mg/kg; oral: LD50 = 19800 mg/kg Skin Irrit. 2; H315: >= 5 - 100 Eye Irrit. 2; H319: >= 5 - 100 | | |
| 9003-36-5 | 701-263-0 | 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 | 10 -< 25 % |
| | dermal: LD50 = > 2000 mg/kg; oral: LD50 = > 5000 mg/kg | | |
| 933999-84-9 | 618-939-5 | Reaktionsprodukte aus Hexan-1,6-diol und 2-(Chlormethyl)oxiran (1:2) | 1 -< 5 % |
| | oral: LD50 = 3010 mg/kg | | |
| 13463-67-7 | 236-675-5 | titanium dioxide | 0 - 5 % |
| | oral: LD50 = > 2000 mg/kg | | |

Further Information

No information available.

SECTION 4: First aid measures

4.1. Description of first aid measures

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General information

Remove affected person from the danger area and lay down. In case of allergic symptoms, especially in the breathing area, seek medical advice immediately. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

After inhalation

Remove casualty to fresh air and keep warm and at rest.

After contact with skin

After contact with skin, wash immediately with plenty of water and soap. Remove contaminated, saturated clothing immediately. In case of skin irritation, consult a physician.

After contact with eyes

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

After ingestion

If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention. Let 1 glass of water be drunken in little sips (dilution effect).

Do NOT induce vomiting.

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

Allergic reactions

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

First Aid, decontamination, treatment of symptoms.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

- alcohol resistant foam
- Water spray jet
- Carbon dioxide (CO₂)
- Dry extinguishing powder

Unsuitable extinguishing media

- Full water jet

5.2. Special hazards arising from the substance or mixture

In case of fire may be liberated:

- Carbon monoxide
- Carbon dioxide
- Nitrogen oxides (NO_x)

5.3. Advice for firefighters

Special protective equipment for firefighters

Protective clothing. In case of fire: Wear self-contained breathing apparatus.

Special protective equipment for firefighters: Protective clothing.

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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

General advice

- Provide adequate ventilation.
- Safe handling: see section 7
- Personal protection equipment: see section 8

6.2. Environmental precautions

Do not allow to enter into surface water or drains. Cover drains. In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

6.3. Methods and material for containment and cleaning up

For containment

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

For cleaning up

Clean contaminated articles and floor according to the environmental legislation.

6.4. Reference to other sections

- Safe handling: see section 7
- Personal protection equipment: see section 8
- Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

- Personal protection equipment: see section 8
- People who suffer from skin sensitization problems, asthma, allergies, chronic or recurring respiratory illnesses should not be deployed in any process using this mixture.
- Avoid contact with skin, eyes and clothes. Avoid breathing dust/fume/gas/mist/vapours/spray. Do not eat, drink or smoke when using this product. Use personal protection equipment. Never use pressure to empty container.
- Keep/Store only in original container. Do not allow to enter into surface water or drains.

Advice on protection against fire and explosion

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Advice on general occupational hygiene

Avoid contact with skin, eyes and clothes. Use protective skin cream before handling the product. Remove contaminated, saturated clothing immediately. When using do not eat, drink, smoke, sniff. Wash hands and face before breaks and after work and take a shower if necessary.

Further information on handling

Wash hands before breaks and after work. Only wear fitting, comfortable and clean protective clothing. Used working clothes should not be worn outside the work area. Street clothing should be stored separately from

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work clothing.

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. Protect from direct sunlight.

Hints on joint storage

Keep away from:

- Food and feedingstuffs

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

Occupational exposure limits

| CAS No | Substance | ppm | mg/m ³ | fib/cm ³ | Category | Origin |
|------------|--|-----|-------------------|---------------------|-----------|--------|
| 13463-67-7 | Titanium dioxide, total inhalable dust | - | 10 | | TWA (8 h) | |

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DNEL/DMEL values

| CAS No | Substance | Exposure route | Effect | Value |
|--------------------------|---|----------------|----------|--------------------------|
| 1675-54-3 | 2,2'-[(1-Methylethyliden)bis(4,1-phenyleneoxymethylen)]bisoxiran | | | |
| Worker DNEL, long-term | | inhalation | local | 310 mg/m ³ |
| Consumer DNEL, long-term | | inhalation | local | 55 mg/m ³ |
| Worker DNEL, long-term | | inhalation | systemic | 4,93 mg/m ³ |
| Worker DNEL, long-term | | dermal | systemic | 0,75 mg/kg bw/day |
| Consumer DNEL, long-term | | inhalation | systemic | 0,87 mg/m ³ |
| Consumer DNEL, long-term | | dermal | systemic | 0,0893 mg/kg bw/day |
| Consumer DNEL, long-term | | oral | systemic | 0,5 mg/kg bw/day |
| 9003-36-5 | 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 | | | |
| Worker DNEL, long-term | | inhalation | systemic | 29,39 mg/m ³ |
| Worker DNEL, long-term | | dermal | systemic | 104,15 mg/kg bw/day |
| Worker DNEL, long-term | | inhalation | local | 0,0083 mg/m ³ |
| Consumer DNEL, long-term | | inhalation | systemic | 8,7 mg/m ³ |
| Consumer DNEL, long-term | | dermal | systemic | 62,5 mg/kg bw/day |
| Consumer DNEL, long-term | | oral | systemic | 6,25 mg/kg bw/day |
| 933999-84-9 | Reaktionsprodukte aus Hexan-1,6-diol und 2-(Chlormethyl)oxiran (1:2) | | | |
| Worker DNEL, long-term | | inhalation | systemic | 10,57 mg/m ³ |
| Worker DNEL, acute | | inhalation | systemic | 10,57 mg/m ³ |
| Worker DNEL, long-term | | inhalation | local | 0,44 mg/m ³ |
| Worker DNEL, long-term | | dermal | systemic | 6 mg/kg bw/day |
| Consumer DNEL, long-term | | inhalation | systemic | 5,29 mg/m ³ |
| Consumer DNEL, acute | | inhalation | systemic | 5,29 mg/m ³ |
| Consumer DNEL, long-term | | inhalation | local | 0,27 mg/m ³ |
| Consumer DNEL, long-term | | dermal | systemic | 3 mg/kg bw/day |
| Consumer DNEL, acute | | dermal | systemic | 1,7 mg/kg bw/day |
| Consumer DNEL, long-term | | oral | systemic | 1,5 mg/kg bw/day |
| Consumer DNEL, acute | | oral | systemic | 1,5 mg/kg bw/day |
| 13463-67-7 | titanium dioxide | | | |

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| | | | |
|--------------------------|------------|----------|------------------------|
| Worker DNEL, long-term | inhalation | local | 1,25 mg/m ³ |
| Consumer DNEL, long-term | oral | systemic | 700 mg/kg bw/day |

PNEC values

| CAS No | Substance | Value |
|-------------|---|-------------|
| 1675-54-3 | 2,2'-[(1-Methylethyliden)bis(4,1-phenyleneoxymethylen)]bisoxiran | |
| | Freshwater | 0,006 mg/l |
| | Freshwater (intermittent releases) | 0,018 mg/l |
| | Marine water | 0,001 mg/l |
| | Freshwater sediment | 0,341 mg/kg |
| | Marine sediment | 0,034 mg/kg |
| | Secondary poisoning | 11 mg/kg |
| | Micro-organisms in sewage treatment plants (STP) | 10 mg/l |
| | Soil | 0,065 mg/kg |
| 9003-36-5 | 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 | |
| | Freshwater | 0,003 mg/l |
| | Freshwater (intermittent releases) | 0,025 mg/l |
| | Marine water | 0 mg/l |
| | Freshwater sediment | 0,294 mg/kg |
| | Marine sediment | 0,029 mg/kg |
| | Micro-organisms in sewage treatment plants (STP) | 10 mg/l |
| | Soil | 0,237 mg/kg |
| 933999-84-9 | Reaktionsprodukte aus Hexan-1,6-diol und 2-(Chlormethyl)oxiran (1:2) | |
| | Freshwater | 0,011 mg/l |
| | Freshwater (intermittent releases) | 0,115 mg/l |
| | Marine water | 0,001 mg/l |
| | Freshwater sediment | 0,283 mg/kg |
| | Marine sediment | 0,028 mg/kg |
| | Micro-organisms in sewage treatment plants (STP) | 1 mg/l |
| | Soil | 0,223 mg/kg |

8.2. Exposure controls

Appropriate engineering controls

Provide adequate ventilation. If handled uncovered, arrangements with local exhaust ventilation should be used if possible.

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Individual protection measures, such as personal protective equipment

Eye/face protection

Suitable eye protection:
Eye glasses with side protection
spray application: 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: $\geq 0,4$ mm, Breakthrough time: >480 min
Wearing time with occasional contact (splashes): Thickness of the glove material: $\geq 0,1$ mm, Breakthrough 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

For the protection against direct skin contact, body protective clothing is essential (in addition to the usual working clothes).
spray application: Chemical protection clothing

Respiratory protection

If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn.
spray application: Use appropriate respiratory protection.

Thermal hazards

No data available

Environmental exposure controls

Do not allow to enter into surface water or drains. In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | | |
|---|----------------|-------------------|
| Physical state: | Liquid | |
| Colour: | various | |
| Odour: | characteristic | |
| Melting point/freezing point: | | No data available |
| Boiling point or initial boiling point and boiling range: | | No data available |
| Flammability | | |
| Solid/liquid: | | No data available |
| Lower explosion limits: | | No data available |
| Upper explosion limits: | | No data available |
| Flash point: | | ~ 65 °C |

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| | |
|--|--------------------------|
| Auto-ignition temperature: | No data available |
| Decomposition temperature: | No data available |
| pH-Value: | No data available |
| Viscosity / kinematic: | No data available |
| Water solubility: | slightly soluble |
| Solubility in other solvents | |
| No information available. | |
| Partition coefficient n-octanol/water: | No data available |
| Vapour pressure: | No data available |
| Density (at 23 °C): | ~ 1,65 g/cm ³ |
| Relative vapour density: | No data available |

9.2. Other information

Information with regard to physical hazard classes

Explosive properties
No information available.

Self-ignition temperature

Solid: No data available
Gas: No data available

Oxidizing properties
No information available.

Other safety characteristics

Evaporation rate: No data available
Solvent content: < 2% (w/w)
Sublimation point: No data available
Softening point: No data available
Pour point: No data available
Viscosity / dynamic: ~ 4500 mPa·s
(at 23 °C)
Flow time: No data available

Further Information

No information available.

SECTION 10: Stability and reactivity

10.1. Reactivity

No hazardous reaction when handled and stored according to provisions.

10.2. Chemical stability

The product is chemically stable under recommended conditions of storage, use and temperature.

10.3. Possibility of hazardous reactions

Reaction with:
- Amines
- Acid

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- Alkalis

10.4. Conditions to avoid

No data available

10.5. Incompatible materials

No data available

10.6. Hazardous decomposition products

No data available

SECTION 11: Toxicological information

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

Acute toxicity

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

| CAS No | Chemical name | | | | |
|-------------|---|---------------|----------|--------|--|
| | Exposure route | Dose | Species | Source | Method |
| 1675-54-3 | 2,2'-[(1-Methylethyliden)bis(4,1-phenyleneoxymethylen)]bisoxiran | | | | |
| | oral | LD50 mg/kg | 19800 | Rabbit | Publication (1958) Rabbits were orally gavigated with test ma |
| | dermal | LD50 mg/kg | > 2000 | Rat | Study report (2007) OECD Guideline 402 |
| | inhalation (4 h) vapour | LC50 mg/l | ca. 24,6 | Rat | AMA Arch. Ind. Hyg. Occ. Med. 10: 61-68 Rats were exposed to 8000 ppm of the tes |
| 9003-36-5 | 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 | | | | |
| | oral | LD50 mg/kg | > 5000 | Rat | Study report (1988) OECD Guideline 401 |
| | dermal | LD50 mg/kg | > 2000 | Rat | Study report (1988) OECD Guideline 402 |
| 933999-84-9 | Reaktionsprodukte aus Hexan-1,6-diol und 2-(Chlormethyl)oxiran (1:2) | | | | |
| | oral | LD50 mg/kg | 3010 | Rat | Study report (1981) OECD Guideline 401 |
| 13463-67-7 | titanium dioxide | | | | |
| | oral | LD50 mg/kg | > 2000 | Rat | Study report (1996) OECD Guideline 401 |

Irritation and corrosivity

Causes skin irritation.

Causes serious eye irritation.

Sensitising effects

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Contains epoxy constituents. May produce an allergic reaction. May cause an allergic skin reaction. (2,2'-[(1-Methylethyliden)bis(4,1-phenyleneoxymethylen)]bisoxiran; 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; Reaktionsprodukte aus Hexan-1,6-diol und 2-(Chlormethyl)oxiran (1:2))

Carcinogenic/mutagenic/toxic effects for reproduction

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.

11.2. Information on other hazards

Endocrine disrupting properties

No data available

SECTION 12: Ecological information

12.1. Toxicity

Toxic to aquatic life with long lasting effects.

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| CAS No | Chemical name | | | | | |
|-------------|---|---------------------|-----------|---------|--------------------------|--|
| | Aquatic toxicity | Dose | [h] [d] | Species | Source | Method |
| 1675-54-3 | 2,2'-[(1-Methylethyliden)bis(4,1-phenyleneoxymethylen)]bisoxiran | | | | | |
| | Acute fish toxicity | LC50 | 3,6 mg/l | 96 h | Oncorhynchus mykiss | Study report (1982) OECD Guideline 203 |
| | Acute algae toxicity | ErC50 mg/l | > 100 | 72 h | Raphidocelis subcapitata | Study report (2007) OECD Guideline 201 |
| | Acute crustacea toxicity | EC50 | 2,8 mg/l | 48 h | Daphnia magna | REACH Registration Dossier OECD Guideline 202 |
| | Crustacea toxicity | NOEC | 0,3 mg/l | 21 d | Daphnia magna | REACH Registration Dossier OECD Guideline 211 |
| 9003-36-5 | 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 | | | | | |
| | Acute fish toxicity | LC50 mg/l | > 1000 | 96 h | Oncorhynchus mykiss | Study report (1998) OECD Guideline 203 |
| | Acute algae toxicity | ErC50 mg/l | > 1,8 | 72 h | Raphidocelis subcapitata | Study report (1993) OECD Guideline 201 |
| | Acute crustacea toxicity | EL50 mg/l | > 1000 | 48 h | Daphnia magna | Study report (1998) OECD Guideline 202 |
| | Crustacea toxicity | NOEC | 0,3 mg/l | 21 d | Daphnia magna | Study report (1984) OECD Guideline 211 |
| 933999-84-9 | Reaktionsprodukte aus Hexan-1,6-diol und 2-(Chlormethyl)oxiran (1:2) | | | | | |
| | Acute fish toxicity | LC50 mg/l | ca. 30 | 96 h | Oncorhynchus mykiss | Study report (1990) OECD Guideline 203 |
| | Acute crustacea toxicity | EC50 ca. 57 mg/l | ca. 39 - | 48 h | Daphnia magna | Study report (1989) OECD Guideline 202 |
| 13463-67-7 | titanium dioxide | | | | | |
| | Acute fish toxicity | LC50 mg/l | > 100 | 96 h | Carassius auratus | REACH Registration Dossier OECD Guideline 203 |
| | Acute algae toxicity | ErC50 mg/l | > 50 | 72 h | Raphidocelis subcapitata | REACH Registration Dossier OECD Guideline 201 |
| | Acute crustacea toxicity | EC50 mg/l | > 100 | 48 h | Artemia salina | REACH Registration Dossier OECD Guideline 202 |
| | Fish toxicity | NOEC mg/l | >= 80 | 6 d | Danio rerio | REACH Registration Dossier OECD TG 210 |

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| | | | | | | | |
|--|-------------------------|----------------|----------|------|---|--|--|
| | Algae toxicity | NOEC mg/l | >= 1 | 32 d | Synedra ulna, Scenedesmus quadricauda, Stigeocloni | Environ. Tox. Chem. 31, 2414-2422 (2012) | In this study, the authors report the re |
| | Crustacea toxicity | NOEC | > 1 mg/l | 10 d | Chironomus riparius | REACH Registration Dossier | other: OECD Guideline 219 |
| | Acute bacteria toxicity | (EC50 mg/l) | > 1000 | 3 h | activated sludge, domestic | REACH Registration Dossier | OECD Guideline 209 |

12.2. Persistence and degradability

| CAS No | Chemical name | | | |
|-----------|--|-------|----|--------|
| | Method | Value | d | Source |
| | Evaluation | | | |
| 1675-54-3 | 2,2'-[(1-Methylethyliden)bis(4,1-phenyleneoxymethylen)]bisoxiran | | | |
| | OECD 302B | 12% | 28 | |
| | Not readily biodegradable (according to OECD criteria) | | | |

12.3. Bioaccumulative potential

Partition coefficient n-octanol/water

| CAS No | Chemical name | Log Pow |
|-------------|---|-----------|
| 1675-54-3 | 2,2'-[(1-Methylethyliden)bis(4,1-phenyleneoxymethylen)]bisoxiran | >= 2,64 |
| 9003-36-5 | 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 | 2,7 |
| 933999-84-9 | Reaktionsprodukte aus Hexan-1,6-diol und 2-(Chlormethyl)oxiran (1:2) | ca. 0,822 |

BCF

| CAS No | Chemical name | BCF | Species | Source |
|-------------|--|--------------------|----------------|----------------------|
| 1675-54-3 | 2,2'- [(1-Methylethyliden)bis(4,1-phenyleneoxy methylen)]bisoxiran | 31 | | Study report (2010) |
| 9003-36-5 | Reaction mass of 2,2'- [methylenebis(4,1-phenyleneoxymethyl ene)]dioxirane and [2-({ 2-[4- (oxiran-2-ylmethoxy)benzyl]phenoxy} methyl)oxirane and [2,2'- [methylenebis(2,1-phenyleneoxymethyl ene)]dioxirane | 150 | | Other company data (|
| 933999-84-9 | Reaktionsprodukte aus Hexan-1,6-diol und 2-(Chlormethyl)oxiran (1:2) | 3,57 | | Publication (2009) |
| 13463-67-7 | titanium dioxide | > 0,47 - < 3,19 | Artemia salina | REACH Registration D |

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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. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

12.7. 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

Dispose of waste according to applicable legislation.

SECTION 14: Transport information

Land transport (ADR/RID)

| | |
|---|--|
| <u>14.1. UN number or ID number:</u> | UN 3082 |
| <u>14.2. UN proper shipping name:</u> | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (epoxy resin) |
| <u>14.3. Transport hazard class(es):</u> | 9 |
| <u>14.4. Packing group:</u> | III |
| Hazard label: | 9 |
| Classification code: | M6 |
| Special Provisions: | 274 335 375 601 |
| Limited quantity: | 5 L |
| Excepted quantity: | E1 |
| Transport category: | 3 |
| Hazard No: | 90 |
| Tunnel restriction code: | - |

Inland waterways transport (ADN)

| | |
|---|--|
| <u>14.1. UN number or ID number:</u> | UN 3082 |
| <u>14.2. UN proper shipping name:</u> | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (epoxy resin) |
| <u>14.3. Transport hazard class(es):</u> | 9 |
| <u>14.4. Packing group:</u> | III |
| Hazard label: | 9 |
| Classification code: | M6 |
| Special Provisions: | 274 335 375 601 |

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Limited quantity: 5 L
 Excepted quantity: E1

Marine transport (IMDG)

14.1. UN number or ID number: UN 3082
14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (epoxy resin)
14.3. Transport hazard class(es): 9
14.4. Packing group: III
 Hazard label: 9
 Special Provisions: 274 335 969
 Limited quantity: 5 L
 Excepted quantity: E1
 EmS: F-A, S-F

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number: UN 3082
14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (epoxy resin)
14.3. Transport hazard class(es): 9
14.4. Packing group: III
 Hazard label: 9
 Special Provisions: A97 A158 A197 A215
 Limited quantity Passenger: 30 kg G
 Passenger LQ: Y964
 Excepted quantity: E1
 IATA-packing instructions - Passenger: 964
 IATA-max. quantity - Passenger: 450 L
 IATA-packing instructions - Cargo: 964
 IATA-max. quantity - Cargo: 450 L

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: Yes
 Danger releasing substance: epoxy resin

14.6. Special precautions for user

No information available.

14.7. Maritime transport in bulk according to IMO instruments

No information available.

SECTION 15: Regulatory information

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

EU regulatory information

Restrictions on use (REACH, annex XVII):
 Entry 3, Entry 75

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| | |
|---|---|
| 2004/42/EC (VOC): | < 500 |
| Subcategory according to Directive 2004/42/EC: | Two-pack reactive performance coatings for specific end use such as floors - Solvent-borne coatings, VOC limit value: 500 g/l |
| Information according to 2012/18/EU (SEVESO III): | E2 Hazardous to the Aquatic Environment |

National regulatory information

| | |
|--------------------------|--|
| Employment restrictions: | Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). |
| Water hazard class (D): | 2 - obviously hazardous to water |

15.2. Chemical safety assessment

For the following substances of this mixture a chemical safety assessment has been carried out:

2,2'-[(1-Methylethyliden)bis(4,1-phenyleneoxymethylen)]bisoxiran

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

Reaktionsprodukte aus Hexan-1,6-diol und 2-(Chlormethyl)oxiran (1:2)
titanium dioxide

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 3,4,5,6,7,8,9,10,11,12,14,15,16.

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 concernat 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 Refulations 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%

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EL50: Effect loading, 50%
 EC50: Effective Concentration 50%
 ErC50: Effective Concentration 50%, growth rate
 NOEC: No Observed Effect Concentration
 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]

| Classification | Classification procedure |
|-------------------------|--------------------------|
| Skin Irrit. 2; H315 | Calculation method |
| Eye Irrit. 2; H319 | Calculation method |
| Skin Sens. 1; H317 | Calculation method |
| Aquatic Chronic 2; H411 | Calculation method |

Relevant H and EUH statements (number and full text)

| | |
|--------|--|
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H319 | Causes serious eye irritation. |
| H351 | Suspected of causing cancer. |
| H411 | Toxic to aquatic life with long lasting effects. |
| H412 | Harmful to aquatic life with long lasting effects. |
| EUH205 | Contains epoxy constituents. May produce an allergic reaction. |
| EUH211 | Warning! Hazardous respirable droplets may be formed when sprayed. Do not breathe spray or mist. |

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.)