

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Proguard CN-1M V12 H3 Part B

Revision date: 06.12.2019

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

1.1. Product identifier

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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:

Acute toxicity: Acute Tox. 4

Skin corrosion/irritation: Skin Corr. 1

Serious eye damage/eye irritation: Eye Dam. 1

Respiratory or skin sensitisation: Skin Sens. 1

Hazardous to the aquatic environment: Aquatic Chronic 2

Hazard Statements:

Harmful if swallowed.

Causes severe skin burns and eye damage.

Causes serious eye damage.

May cause an allergic skin reaction.

Toxic to aquatic life with long lasting effects.

2.2. Label elements

Regulation (EC) No. 1272/2008

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Hazard components for labelling

3-aminomethyl-3,5,5-trimethylcyclohexylamine

m-phenylenebis(methylamine)

Copolymer of benzenamine and formaldehyde, hydrogenated

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with m-phenylenebis(methylamine)

4,4'-methylenebis(cyclohexylamine)

Signal word: Danger

Pictograms:



Hazard statements

- | | |
|------|--|
| H302 | Harmful if swallowed. |
| H314 | Causes severe skin burns and eye damage. |
| H317 | May cause an allergic skin reaction. |
| 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

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Hazardous components

| CAS No | Chemical name | | | Quantity |
|-------------|--|--------------|------------------|-----------|
| | EC No | Index No | REACH No | |
| | GHS Classification | | | |
| 135470-04-1 | 1,3-Benzenedimethanamine, reaction products with epichlorohydrin | | | 38-47 % |
| | | | | |
| | Aquatic Chronic 2; H411 | | | |
| 2855-13-2 | 3-aminomethyl-3,5,5-trimethylcyclohexylamine | | | 15-25 % |
| | 220-666-8 | 612-067-00-9 | 01-2119514687-32 | |
| | Acute Tox. 4, Acute Tox. 4, Skin Corr. 1B, Skin Sens. 1, Aquatic Chronic 3; H312 H302 H314 H317 H412 | | | |
| 1477-55-0 | m-phenylenebis(methylamine) | | | 10-25 % |
| | 216-032-5 | | 01-2119480150-50 | |
| | Acute Tox. 4, Acute Tox. 4, Skin Corr. 1, Skin Sens. 1, Aquatic Chronic 3; H332 H302 H314 H317 H412 EUH071 | | | |
| 100-51-6 | benzyl alcohol | | | 5-10 % |
| | 202-859-9 | 603-057-00-5 | 01-2119492630-38 | |
| | Acute Tox. 4, Acute Tox. 4, Eye Irrit. 2; H332 H302 H319 | | | |
| 135108-88-2 | Copolymer of benzenamine and formaldehyde, hydrogenated | | | 2-7 % |
| | 603-894-6 | | 01-2119983522-33 | |
| | Acute Tox. 4, Skin Corr. 1, Skin Sens. 1, STOT RE 2, Aquatic Chronic 3; H302 H314 H317 H373 H412 | | | |
| 113930-69-1 | 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with m-phenylenebis(methylamine) | | | 2-5 % |
| | 500-302-7 | | 01-2119965162-39 | |
| | Skin Corr. 1B, Eye Dam. 1, Skin Sens. 1, Aquatic Chronic 2; H314 H318 H317 H411 | | | |
| 78-93-3 | butanone; ethyl methyl ketone | | | 1-5 % |
| | 201-159-0 | 606-002-00-3 | 01-2119457290-43 | |
| | Flam. Liq. 2, Eye Irrit. 2, STOT SE 3; H225 H319 H336 EUH066 | | | |
| 919-30-2 | 3-aminopropyltriethoxysilane | | | 0,5 - 2 % |
| | 213-048-4 | 612-108-00-0 | 01-2119480479-24 | |
| | Acute Tox. 4, Skin Corr. 1B; H302 H314 | | | |
| 1761-71-3 | 4,4'-methylenebis(cyclohexylamine) | | | 0,1-1 % |
| | 217-168-8 | | 01-2119541673-38 | |
| | Acute Tox. 4, Skin Corr. 1B, Skin Sens. 1, STOT RE 2; H302 H314 H317 H373 | | | |

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

SECTION 4: First aid measures

4.1. Description of first aid measures

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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 (NO_x)

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.

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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)

| CAS No | Substance | ppm | mg/m ³ | fibres/ml | Category | Origin |
|---------|-----------------------------------|-----|-------------------|-----------|---------------|--------|
| 78-93-3 | Butan-2-one (methyl ethyl ketone) | 200 | 600 | | TWA (8 h) | WEL |
| | | 300 | 899 | | STEL (15 min) | WEL |

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Biological Monitoring Guidance Values (EH40)

| CAS No | Substance | Parameter | Value | Test material | Sampling time |
|---------|-------------|-------------|-----------|---------------|---------------|
| 78-93-3 | Butan-2-one | butan-2-one | 70 µmol/L | urine | Post shift |

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DNEL/DMEL values

| CAS No | Substance | Exposure route | Effect | Value |
|--------------------------|--|----------------|----------|-------------------------|
| 2855-13-2 | 3-aminomethyl-3,5,5-trimethylcyclohexylamine | | | |
| Worker DNEL, long-term | | inhalation | local | 0,073 mg/m ³ |
| Worker DNEL, acute | | inhalation | local | 0,073 mg/m ³ |
| Consumer DNEL, long-term | | oral | systemic | 0,526 mg/kg bw/day |
| 1477-55-0 | m-phenylenebis(methylamine) | | | |
| Worker DNEL, long-term | | dermal | systemic | 0,33 mg/kg bw/day |
| Worker DNEL, long-term | | inhalation | local | 0,2 mg/m ³ |
| Worker DNEL, long-term | | inhalation | systemic | 1,2 mg/m ³ |
| 100-51-6 | benzyl alcohol | | | |
| Worker DNEL, long-term | | inhalation | systemic | 22 mg/m ³ |
| Worker DNEL, acute | | inhalation | systemic | 110 mg/m ³ |
| Worker DNEL, long-term | | dermal | systemic | 8 mg/kg bw/day |
| Worker DNEL, acute | | dermal | systemic | 40 mg/kg bw/day |
| Consumer DNEL, long-term | | inhalation | systemic | 5,4 mg/m ³ |
| Consumer DNEL, acute | | inhalation | systemic | 27 mg/m ³ |
| Consumer DNEL, long-term | | dermal | systemic | 4 mg/kg bw/day |
| Consumer DNEL, acute | | dermal | systemic | 20 mg/kg bw/day |
| Consumer DNEL, long-term | | oral | systemic | 4 mg/kg bw/day |
| Consumer DNEL, acute | | oral | systemic | 20 mg/kg bw/day |
| 135108-88-2 | Copolymer of benzenamine and formaldehyde, hydrogenated | | | |
| Worker DNEL, long-term | | inhalation | systemic | 0,2 mg/m ³ |
| Worker DNEL, acute | | inhalation | systemic | 2 mg/m ³ |
| Worker DNEL, long-term | | dermal | systemic | 2 mg/kg bw/day |
| Worker DNEL, acute | | dermal | systemic | 6 mg/kg bw/day |
| 113930-69-1 | 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with m-phenylenebis(methylamine) | | | |
| Worker DNEL, acute | | inhalation | systemic | 6,99 mg/m ³ |
| Consumer DNEL, acute | | inhalation | systemic | 1,5 mg/m ³ |
| Consumer DNEL, acute | | oral | systemic | 0,99 mg/kg bw/day |
| Worker DNEL, long-term | | inhalation | systemic | 2,33 mg/m ³ |

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| | | | |
|--------------------------|------------------------------------|----------|------------------------|
| Worker DNEL, long-term | dermal | systemic | 1,33 mg/kg bw/day |
| Consumer DNEL, long-term | inhalation | systemic | 0,5 mg/m ³ |
| Consumer DNEL, long-term | dermal | systemic | 0,66 mg/kg bw/day |
| Consumer DNEL, long-term | oral | systemic | 0,33 mg/kg bw/day |
| 78-93-3 | butanone; ethyl methyl ketone | | |
| Consumer DNEL, long-term | oral | systemic | 31 mg/kg bw/day |
| Consumer DNEL, long-term | dermal | systemic | 412 mg/kg bw/day |
| Consumer DNEL, long-term | inhalation | systemic | 106 mg/m ³ |
| Worker DNEL, long-term | inhalation | systemic | 600 mg/m ³ |
| Worker DNEL, long-term | dermal | systemic | 1161 mg/kg bw/day |
| 919-30-2 | 3-aminopropyltriethoxysilane | | |
| Worker DNEL, long-term | inhalation | systemic | 59 mg/m ³ |
| Worker DNEL, acute | inhalation | systemic | 59 mg/m ³ |
| Worker DNEL, long-term | dermal | systemic | 8,3 mg/kg bw/day |
| Worker DNEL, acute | dermal | systemic | 8,3 mg/kg bw/day |
| Consumer DNEL, long-term | inhalation | systemic | 17,4 mg/m ³ |
| Consumer DNEL, acute | inhalation | systemic | 17,4 mg/m ³ |
| Consumer DNEL, long-term | dermal | systemic | 5 mg/kg bw/day |
| Consumer DNEL, acute | dermal | systemic | 5 mg/kg bw/day |
| 1761-71-3 | 4,4'-methylenebis(cyclohexylamine) | | |
| Worker DNEL, long-term | inhalation | systemic | 1 mg/m ³ |
| Worker DNEL, long-term | dermal | systemic | 0,1 mg/kg bw/day |
| Consumer DNEL, long-term | inhalation | systemic | 0,21 mg/m ³ |
| Consumer DNEL, long-term | dermal | systemic | 0,06 mg/kg bw/day |
| Consumer DNEL, long-term | oral | systemic | 0,06 mg/kg bw/day |
| | | | |

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PNEC values

| CAS No | Substance | Value |
|-------------|--|-------------|
| 2855-13-2 | 3-aminomethyl-3,5,5-trimethylcyclohexylamine | |
| | Freshwater | 0,06 mg/l |
| | Freshwater (intermittent releases) | 0,23 mg/l |
| | Marine water | 0,006 mg/l |
| | Freshwater sediment | 5,784 mg/kg |
| | Marine sediment | 0,578 mg/kg |
| | Micro-organisms in sewage treatment plants (STP) | 3,18 mg/l |
| | Soil | 1,121 mg/kg |
| 1477-55-0 | m-phenylenebis(methylamine) | |
| | Freshwater | 0,094 mg/l |
| | Freshwater (intermittent releases) | 0,152 mg/l |
| | Marine water | 0,009 mg/l |
| | Freshwater sediment | 12,4 mg/kg |
| | Marine sediment | 1,24 mg/kg |
| | Micro-organisms in sewage treatment plants (STP) | 10 mg/l |
| | Soil | 2,44 mg/kg |
| 100-51-6 | benzyl alcohol | |
| | Freshwater | 1 mg/l |
| | Freshwater (intermittent releases) | 2,3 mg/l |
| | Marine water | 0,1 mg/l |
| | Freshwater sediment | 5,27 mg/kg |
| | Marine sediment | 0,527 mg/kg |
| | Micro-organisms in sewage treatment plants (STP) | 39 mg/l |
| | Soil | 0,456 mg/kg |
| 135108-88-2 | Copolymer of benzenamine and formaldehyde, hydrogenated | |
| | Freshwater | 0,015 mg/l |
| | Freshwater (intermittent releases) | 0,15 mg/l |
| | Marine water | 0,002 mg/l |
| | Freshwater sediment | 15 mg/kg |
| | Marine sediment | 1,5 mg/kg |
| | Micro-organisms in sewage treatment plants (STP) | 1,9 mg/l |
| | Soil | 1,8 mg/kg |
| 113930-69-1 | 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with m-phenylenebis(methylamine) | |

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| | |
|--|---|
| Freshwater | 0,002 mg/l |
| Freshwater (intermittent releases) | 0,021 mg/l |
| Marine water | 0 mg/l |
| Freshwater sediment | 2,08 mg/kg |
| Marine sediment | 0,208 mg/kg |
| Secondary poisoning | 3,33 mg/kg |
| Micro-organisms in sewage treatment plants (STP) | 3,1 mg/l |
| Soil | 0,41 mg/kg |
| 78-93-3 | butanone; ethyl methyl ketone |
| Freshwater | 55,8 mg/l |
| Freshwater (intermittent releases) | 55,8 mg/l |
| Marine water | 55,8 mg/l |
| Freshwater sediment | 284,74 mg/kg |
| Marine sediment | 284,7 mg/kg |
| Secondary poisoning | 1000 mg/kg |
| Micro-organisms in sewage treatment plants (STP) | 709 mg/l |
| Soil | 22,5 mg/kg |
| 919-30-2 | 3-aminopropyltriethoxysilane |
| Freshwater | 0,33 mg/l |
| Freshwater (intermittent releases) | 3,3 mg/l |
| Marine water | 0,033 mg/l |
| Freshwater sediment | 1,2 mg/kg |
| Marine sediment | 0,12 mg/kg |
| Micro-organisms in sewage treatment plants (STP) | 13 mg/l |
| Soil | 0,05 mg/kg |
| 1761-71-3 | 4,4'-methylenebis(cyclohexylamine) |
| Freshwater | 0,08 mg/l |
| Freshwater (intermittent releases) | 0,08 mg/l |
| Marine water | 0,008 mg/l |
| Freshwater sediment | 137 mg/kg |
| Marine sediment | 13,7 mg/kg |
| Secondary poisoning | 0,556 mg/kg |
| Micro-organisms in sewage treatment plants (STP) | 3,2 mg/l |
| Soil | 27,2 mg/kg |

8.2. Exposure controls

Appropriate engineering controls

Provide adequate ventilation as well as local exhaust at critical locations.

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Protective and hygiene measures

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

Eye/face protection

Suitable eye protection:
 Eye glasses with side protection
 goggles

Hand protection

Tested protective gloves must be worn: EN ISO 374
 NBR (Nitrile rubber), Butyl caoutchouc (butyl rubber)
 Wearing time with permanent contact: Thickness of the glove material: $\geq 0,4$ mm, Breakthrough time (maximum wearing time): >480 min
 Wearing time with occasional contact (splashes):: Thickness of the glove material: $\geq 0,1$ 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

| | |
|-----------------|----------------|
| Physical state: | Liquid |
| Colour: | light yellow |
| Odour: | characteristic |
| pH-Value: | ~11 |

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: | >65 °C |

Flammability

| | |
|--------|-------------------|
| Solid: | No data available |
|--------|-------------------|

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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

Decomposition temperature: No data available

Oxidizing properties

No information available.

Vapour pressure:
(at 25 °C) No data available

Density (at 23 °C): ~1,06 g/cm³

Water solubility: partially soluble

Solubility in other solvents

No information available.

Partition coefficient: No data available

Viscosity / dynamic:
(at 23 °C) ~1500 mPa·s

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

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

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

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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

Harmful if swallowed.

ATEmix calculated

ATE (oral) 1899,7 mg/kg

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| CAS No | Chemical name | | | | |
|-------------|--|-------------------------|---------|---|--|
| | Exposure route | Dose | Species | Source | Method |
| 2855-13-2 | 3-aminomethyl-3,5,5-trimethylcyclohexylamine | | | | |
| | oral | LD50 1030 mg/kg | Rat | Study report (1965) | OECD Guideline 401 |
| | dermal | LD50 > 2000 mg/kg | Rat | Study report (2010) | OECD Guideline 402 |
| 1477-55-0 | m-phenylenebis(methylamine) | | | | |
| | oral | LD50 930 mg/kg | Rat | Study report (1973) | OECD Guideline 401 |
| | dermal | LD50 > 3100 mg/kg | Rat | Study report (1975) | TK 11813 was applied to a shaved area of |
| | inhalation vapour | ATE 11 mg/l | | | |
| | inhalation (4 h) aerosol | LC50 1,34 mg/l | Rat | | |
| 100-51-6 | benzyl alcohol | | | | |
| | oral | LD50 1580 mg/kg | Mouse | Cosmet. Toxicol. 11, 1011-1013 (1973) (1) | OECD Guideline 401 |
| | dermal | LD50 > 2000 mg/kg | Rabbit | Raw Material Data Handbook, Vol.1:(Orga | EPA OTS 798.1100 |
| | inhalation vapour | ATE 11 mg/l | | | |
| | inhalation (4 h) aerosol | LC50 >4,178 mg/l | Rat | ECHA | OECD 403 |
| 135108-88-2 | Copolymer of benzenamine and formaldehyde, hydrogenated | | | | |
| | oral | LD50 > 50 - < 300 mg/kg | Rat | Study report (2005) | OECD Guideline 423 |
| | dermal | LD50 > 1000 mg/kg | Rabbit | Study report (1988) | other: 40CFR Part 158 Series 81-2, EPA P |
| 113930-69-1 | 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with m-phenylenebis(methylamine) | | | | |
| | oral | LD50 1000 mg/kg | Rat | Study report (2007) | OECD Guideline 423 |
| | dermal | LD50 2000 mg/kg | Rat | Study report (2007) | OECD Guideline 402 |
| 78-93-3 | butanone; ethyl methyl ketone | | | | |
| | oral | LD50 >2000 mg/kg | Rat | Supplier | OECD 423 |
| | dermal | LD50 6400 - 8000 mg/kg | Rabbit | Supplier | |
| | inhalation (4 h) aerosol | LC50 34,5 mg/l | Rat | | |
| 919-30-2 | 3-aminopropyltriethoxysilane | | | | |

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| | | | | | | |
|-----------|------------------------------------|---------------|------|--------|---------------------|--|
| | oral | LD50 mg/kg | 530 | Mouse | Study report (1972) | No details of a guideline and only limit |
| 1761-71-3 | 4,4'-methylenebis(cyclohexylamine) | | | | | |
| | oral | LD50 mg/kg | 480 | Rat | Study report (1987) | EPA OPP 81-1 |
| | dermal | LD50 mg/kg | 2110 | Rabbit | Study report (1986) | EPA OPP 81-2 |

Irritation and corrosivity

Causes severe skin burns and eye damage.

Causes serious eye damage.

Sensitising effects

May cause an allergic skin reaction. (3-aminomethyl-3,5,5-trimethylcyclohexylamine; m-phenylenebis(methylamine); Copolymer of benzenamine and formaldehyde, hydrogenated; 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with m-phenylenebis(methylamine); 4,4'-methylenebis(cyclohexylamine))

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.

SECTION 12: Ecological information

12.1. Toxicity

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| CAS No | Chemical name | | | | | |
|-------------|---|------------------|-----------|---|---|-------------------------|
| | Aquatic toxicity | Dose | [h] [d] | Species | Source | Method |
| 2855-13-2 | 3-aminomethyl-3,5,5-trimethylcyclohexylamine | | | | | |
| | Acute fish toxicity | LC50 110 mg/l | 96 h | Leuciscus idus | Study report (1993) | EU Method C.1 |
| | Acute algae toxicity | ErC50 37 mg/l | 72 h | Desmodesmus subspicatus | Study report (1993) | EU Method C.3 |
| | Acute crustacea toxicity | EC50 23 mg/l | 48 h | Daphnia magna | Study report (2002) | OECD Guideline 202 |
| | Crustacea toxicity | NOEC 3 mg/l | 21 d | Daphnia magna | Study report (1993) | other: OECD 202, part 2 |
| 1477-55-0 | m-phenylenebis(methylamine) | | | | | |
| | Acute fish toxicity | LC50 > 100 mg/l | 96 h | Oncorhynchus mykiss | REACH Registration Dossier | OECD Guideline 203 |
| | Acute algae toxicity | ErC50 12 mg/l | 72 h | Desmodesmus subspicatus | REACH Registration Dossier | OECD Guideline 201 |
| | Acute crustacea toxicity | EC50 15,2 mg/l | 48 h | Daphnia magna (Big water flea) | | |
| | Acute bacteria toxicity | (> 1000 mg/l) | 0,5 h | Activated sludge from laboratory wastewater plant | Study report (2004) | OECD Guideline 209 |
| 100-51-6 | benzyl alcohol | | | | | |
| | Acute fish toxicity | LC50 > 100 mg/l | 96 h | Oryzias latipes | Review article or handbook (2009) | OECD Guideline 203 |
| | Acute algae toxicity | ErC50 770 mg/l | 72 h | Pseudokirchneriella subcapitata | Review article or handbook (2009) | OECD Guideline 201 |
| | Acute crustacea toxicity | EC50 230 mg/l | 48 h | Daphnia magna | Review article or handbook (2009) | OECD Guideline 202 |
| | Fish toxicity | NOEC 48,897 mg/l | 30 d | Fish species | http://epa.gov/oppt/exposure/pubs/episui | other: QSAR |
| | Algae toxicity | NOEC 51 mg/l | 3 d | | | |
| | Crustacea toxicity | NOEC 51 mg/l | 21 d | Daphnia magna | Review article or handbook (2009) | OECD Guideline 211 |
| | Acute bacteria toxicity | (1385 mg/l) | 3 h | activated sludge, domestic | Study report (1989) | OECD Guideline 209 |
| 135108-88-2 | Copolymer of benzenamine and formaldehyde, hydrogenated | | | | | |
| | Acute fish toxicity | LC50 63 mg/l | 96 h | Poecilia reticulata | REACH Registration Dossier | OECD Guideline 203 |
| | Acute algae toxicity | ErC50 43,94 mg/l | 72 h | Desmodesmus subspicatus | Study report (2012) | EU Method C.3 |

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| | | | | | | |
|-------------|--|---------------|----------------|-------|---------------------------------|--|
| 113930-69-1 | 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with m-phenylenebis(methylamine) | | | | | |
| | Acute fish toxicity | LC50 mg/l | 8,72 | 96 h | Danio rerio | Study report (2008) EU Method C.1 |
| | Acute algae toxicity | ErC50 | 2,11 mg/l | 72 h | Pseudokirchneriella subcapitata | Study report (2014) OECD Guideline 201 |
| | Acute crustacea toxicity | EC50 mg/l | 3,54 | 48 h | Daphnia magna | Study report (2008) EU Method C.2 |
| | Algae toxicity | NOEC | <30 mg/l | 3 d | | |
| | Acute bacteria toxicity | | (119,5 mg/l) | 3 h | Activated sludge | Study report (2007) EU Method C.11 |
| 78-93-3 | butanone; ethyl methyl ketone | | | | | |
| | Acute fish toxicity | LC50 mg/l | 2993 | 96 h | Pimephales promelas | Study report (1998) OECD Guideline 203 |
| | Acute algae toxicity | ErC50 mg/l | 2029 | 96 h | Pseudokirchneriella subcapitata | Study report (1998) OECD Guideline 201 |
| | Acute crustacea toxicity | EC50 | 308 mg/l | 48 h | Daphnia magna | Study report (1998) OECD Guideline 202 |
| | Acute bacteria toxicity | | (1150 mg/l) | | Pseudomonas putida | Supplier |
| 919-30-2 | 3-aminopropyltriethoxysilane | | | | | |
| | Acute fish toxicity | LC50 mg/l | > 934 | 96 h | Danio rerio | Study report (1994) OECD Guideline 203 |
| | Acute algae toxicity | ErC50 mg/l | > 1000 | 72 h | Desmodesmus subspicatus | Study report (1994) EU Method C.3 |
| | Acute crustacea toxicity | EC50 | 331 mg/l | 48 h | Daphnia magna | Study report (1993) OECD Guideline 202 |
| 1761-71-3 | 4,4'-methylenebis(cyclohexylamine) | | | | | |
| | Acute fish toxicity | LC50 mg/l | > 100 | 96 h | Leuciscus idus | Study report (1988) other: German industrial standard test g |
| | Acute algae toxicity | ErC50 | 140 - 200 mg/l | 72 h | | Study report (1990) other: German Industrial Standard DIN 38 |
| | Acute crustacea toxicity | EC50 mg/l | 7,07 | 48 h | Daphnia magna | Study report (2002) OECD Guideline 202 |
| | Fish toxicity | NOEC | > 1 mg/l | 14 d | freshwater fish | Technical report no. 91, Brussels, Novem Estimation of a chronic NOEC according t |
| | Crustacea toxicity | NOEC | 4 mg/l | 21 d | Daphnia magna | Publication (2002) OECD Guideline 211 |
| | Acute bacteria toxicity | | (ca. 100 mg/l) | 0,5 h | activated sludge, industrial | Study report (1986) OECD Guideline 209 |

12.2. Persistence and degradability

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| CAS No | Chemical name | | | |
|-------------|--|----------|----|--------|
| | Method | Value | d | Source |
| | Evaluation | | | |
| 2855-13-2 | 3-aminomethyl-3,5,5-trimethylcyclohexylamine | | | |
| | OECD 301A/ ISO 7827/ EEC 92/69/V, C.4-A | 8 % | 28 | |
| | Not readily biodegradable (according to OECD criteria) | | | |
| 1477-55-0 | m-phenylenebis(methylamine) | | | |
| | OECD 301B/ ISO 9439/ EEC 92/69/V, C.4-C | 49 % | 28 | |
| | Not readily biodegradable (according to OECD criteria) | | | |
| 100-51-6 | benzyl alcohol | | | |
| | OECD 301A/ ISO 7827/ EEC 92/69/V, C.4-A | 95 - 97% | 21 | |
| | Readily biodegradable (according to OECD criteria). | | | |
| 113930-69-1 | 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with m-phenylenebis(methylamine) | | | |
| | OECD 301F/ ISO 9408/ EEC 92/69/V, C.4-D | 0% | 28 | |
| | Not readily biodegradable (according to OECD criteria) | | | |
| 78-93-3 | butanone; ethyl methyl ketone | | | |
| | OECD 301 | 98% | 28 | |
| | Readily biodegradable (according to OECD criteria). | | | |
| 919-30-2 | 3-aminopropyltriethoxysilane | | | |
| | | 68 | 28 | |
| 1761-71-3 | 4,4'-methylenebis(cyclohexylamine) | | | |
| | OECD 302B/ ISO 9888/ EEC 92/69/V, C.9 | <10% | 28 | |

12.3. Bioaccumulative potential

Partition coefficient n-octanol/water

| CAS No | Chemical name | Log Pow |
|-------------|--|----------|
| 2855-13-2 | 3-aminomethyl-3,5,5-trimethylcyclohexylamine | 0,99 |
| 1477-55-0 | m-phenylenebis(methylamine) | ca. 0,18 |
| 100-51-6 | benzyl alcohol | 1 |
| 135108-88-2 | Copolymer of benzenamine and formaldehyde, hydrogenated | 2,68 |
| 113930-69-1 | 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with m-phenylenebis(methylamine) | 2,3 |
| 78-93-3 | butanone; ethyl methyl ketone | 0,3 |
| 919-30-2 | 3-aminopropyltriethoxysilane | 1,7 |
| 1761-71-3 | 4,4'-methylenebis(cyclohexylamine) | 2,03 |

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BCF

| CAS No | Chemical name | BCF | Species | Source |
|-------------|--|-------------|-----------------|---|
| 2855-13-2 | 3-aminomethyl-3,5,5-trimethylcyclohexylamine | 3,16 | QSAR estimate | Other company data (|
| 1477-55-0 | m-phenylenebis(methylamine) | 3,16 | no data | Validated suite of c |
| 100-51-6 | benzyl alcohol | 1,371 | QSAR model | http://epa.gov/oppt/ |
| 135108-88-2 | Copolymer of benzenamine and formaldehyde, hydrogenated | > 18 - < 22 | Cyprinus carpio | Study report (1997) |
| 113930-69-1 | 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with m-phenylenebis(methylamine) | 4,7 | | |
| 919-30-2 | 3-aminopropyltriethoxysilane | 3,4 | Cyprinus carpio | Other company data (|
| 1761-71-3 | 4,4'-methylenebis(cyclohexylamine) | 10,15 | Cyprinus carpio | Other company data (|

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 2735 |
| 14.2. UN proper shipping name: | AMINES, LIQUID, CORROSIVE, N.O.S. (Isophorondiamine, m-phenylenebis(methylamine)) |
| 14.3. Transport hazard class(es): | 8 |
| 14.4. Packing group: | II |
| Hazard label: | 8 |
| Classification code: | C7 |
| Special Provisions: | 274 |
| Limited quantity: | 1 L |
| Excepted quantity: | E2 |
| Transport category: | 2 |

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Hazard No: 80
 Tunnel restriction code: E

Inland waterways transport (ADN)

14.1. UN number: UN 2735
14.2. UN proper shipping name: AMINES, LIQUID, CORROSIVE, N.O.S. (Isophorondiamine, m-phenylenebis(methylamine))
14.3. Transport hazard class(es): 8
14.4. Packing group: II
 Hazard label: 8
 Classification code: C7
 Special Provisions: 274
 Limited quantity: 1 L
 Excepted quantity: E2

Marine transport (IMDG)

14.1. UN number: UN 2735
14.2. UN proper shipping name: AMINES, LIQUID, CORROSIVE, N.O.S. (Isophorondiamine, m-phenylenebis(methylamine))
14.3. Transport hazard class(es): 8
14.4. Packing group: II
 Hazard label: 8
 Marine pollutant: P
 Special Provisions: 274
 Limited quantity: 1 L
 Excepted quantity: E2
 EmS: F-A, S-B
 Segregation group: alkalis

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number: UN 2735
14.2. UN proper shipping name: AMINES, LIQUID, CORROSIVE, N.O.S. (Isophorondiamine, m-phenylenebis(methylamine))
14.3. Transport hazard class(es): 8
14.4. Packing group: II
 Hazard label: 8
 Special Provisions: A3 A803
 Limited quantity Passenger: 0.5 L
 Passenger LQ: Y840
 Excepted quantity: E2
 IATA-packing instructions - Passenger: 851
 IATA-max. quantity - Passenger: 1 L
 IATA-packing instructions - Cargo: 855
 IATA-max. quantity - Cargo: 30 L

14.5. Environmental hazards

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ENVIRONMENTALLY HAZARDOUS: yes
Danger releasing substance: 1,3-Benzenedimethanamine, reaction products with epichlorohydrin

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

Restrictions on use (REACH, annex XVII):

Entry 3: 3-aminopropyltriethoxysilane

Information according to 2012/18/EU (SEVESO III): E2 Hazardous to the Aquatic Environment

National regulatory information

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:

3-aminomethyl-3,5,5-trimethylcyclohexylamine
m-phenylenebis(methylamine)
benzyl alcohol
Copolymer of benzenamine and formaldehyde, hydrogenated
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with m-phenylenebis(methylamine)
butanone; ethyl methyl ketone
3-aminopropyltriethoxysilane
4,4'-methylenebis(cyclohexylamine)

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 2,3,11,15.

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

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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
 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 |
|-------------------------|--------------------------|
| Acute Tox. 4; H302 | Calculation method |
| Skin Corr. 1; H314 | Calculation method |
| Eye Dam. 1; H318 | Calculation method |
| Skin Sens. 1; H317 | Calculation method |
| Aquatic Chronic 2; H411 | Calculation method |

Relevant H and EUH statements (number and full text)

| | |
|--------|--|
| H225 | Highly flammable liquid and vapour. |
| H302 | Harmful if swallowed. |
| H312 | Harmful in contact with skin. |
| H314 | Causes severe skin burns and eye damage. |
| H317 | May cause an allergic skin reaction. |
| H318 | Causes serious eye damage. |
| H319 | Causes serious eye irritation. |
| H332 | Harmful if inhaled. |
| H336 | May cause drowsiness or dizziness. |
| H373 | May cause damage to organs through prolonged or repeated exposure. |
| H411 | Toxic to aquatic life with long lasting effects. |
| H412 | Harmful to aquatic life with long lasting effects. |
| EUH066 | Repeated exposure may cause skin dryness or cracking. |
| EUH071 | Corrosive to the respiratory tract. |

Further Information

The above information describes exclusively the safety requirements of the product and is based on our

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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.)