

SAFETY DATA SHEET



Date of issue/Date of revision : 3 September 2024 Version : 1.02

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

1.1 Product identifier

Product name : SIGMASHIELD 1200 LT HARDENER BLACK
Product code : 000001087813
Product type : Liquid.
Other means of identification : 00271467

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

Product use : Professional applications, Used by spraying.
Use of the substance/mixture : Hardener.; Coating.
Uses advised against : Product is not intended, labelled or packaged for consumer use.

1.3 Details of the supplier of the safety data sheet

PPG Coatings Belgium BV/SRL
Tweemontstraat 104
B-2100 Deurne
Belgium
Telephone +32-33606311
Fax +32-33606435

e-mail address of person responsible for this SDS : Product.Stewardship.EMEA@ppg.com

1.4 Emergency telephone number

Supplier
+31 20 4075210

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture
Classification according to UK CLP/GHS

Acute Tox. 4, H302
Acute Tox. 3, H311
Acute Tox. 3, H331
Skin Corr. 1A, H314
Eye Dam. 1, H318
Skin Sens. 1, H317
Aquatic Chronic 2, H411

The product is classified as hazardous according to UK CLP Regulation SI 2019/720 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms :



Signal word : Danger

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SECTION 2: Hazards identification

- Hazard statements** : Harmful if swallowed.
 Toxic in contact with skin or if inhaled.
 Causes severe skin burns and eye damage.
 May cause an allergic skin reaction.
 Toxic to aquatic life with long lasting effects.
- Precautionary statements**
- Prevention** : Wear protective gloves, protective clothing and eye or face protection. Avoid release to the environment.
- Response** : Collect spillage. IF INHALED: Immediately call a POISON CENTER or doctor. IF SWALLOWED: Immediately call a POISON CENTER or doctor.
- Storage** : Not applicable.
- Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.
 P280, P273, P391, P304 + P310, P301 + P310, P501
- Supplemental label elements** : Not applicable.
- Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : Not applicable.
- Special packaging requirements**
- Containers to be fitted with child-resistant fastenings** : Not applicable.
- Tactile warning of danger** : Not applicable.

2.3 Other hazards

- Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII** : This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
- Other hazards which do not result in classification** : None known.

SECTION 3: Composition/information on ingredients

3.2 Mixtures : Mixture

| Product/ingredient name | Identifiers | % | Classification | Type |
|---|--|-------------|--|------|
| 2,2'-dimethyl-4,4'-methylenebis (cyclohexylamine) | REACH #: 01-2119497829-12 EC: 229-962-1 CAS: 6864-37-5 Index: 612-110-00-1 | ≥50 - ≤75 | Acute Tox. 4, H302 Acute Tox. 3, H311 Acute Tox. 3, H331 Skin Corr. 1A, H314 Eye Dam. 1, H318 Aquatic Chronic 2, H411 | [1] |
| benzyl alcohol | REACH #: 01-2119492630-38 EC: 202-859-9 CAS: 100-51-6 Index: 603-057-00-5 | ≥5.0 - ≤10 | Acute Tox. 4, H302 Acute Tox. 4, H332 Eye Irrit. 2, H319 | [1] |
| Formaldehyde, polymer with N,N-dimethyl-1,3-propanediamine and phenol | CAS: 445498-00-0 | ≥5.0 - ≤10 | Acute Tox. 4, H302 Aquatic Acute 1, H400 (M=1) Aquatic Chronic 1, H410 (M=1) | [1] |
| N-(3-(trimethoxysilyl)propyl) | EC: 217-164-6 | ≥1.0 - ≤5.0 | Eye Dam. 1, H318 | [1] |

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SECTION 3: Composition/information on ingredients

| | | | | |
|--|---|-------------|---|-----|
| ethylenediamine | CAS: 1760-24-3 | | Skin Sens. 1B, H317 STOT SE 3, H335 | |
| 2,4,6-tris(dimethylaminomethyl) phenol | REACH #: 01-2119560597-27 EC: 202-013-9 CAS: 90-72-2 | ≥1.0 - ≤5.0 | Acute Tox. 4, H302 Acute Tox. 4, H312 Skin Corr. 1C, H314 Eye Dam. 1, H318 | [1] |
| 3-aminopropyldimethylamine | REACH #: 01-2119486842-27 EC: 203-680-9 CAS: 109-55-7 Index: 612-061-00-6 | ≤0.30 | Flam. Liq. 3, H226 Acute Tox. 4, H302 Acute Tox. 4, H312 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 | [1] |

See Section 16 for the full text of the H statements declared above.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

[1] Substance classified with a health or environmental hazard

Occupational exposure limits, if available, are listed in Section 8.

SUB codes represent substances without registered CAS Numbers.

SECTION 4: First aid measures

4.1 Description of first aid measures

- Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.
- Inhalation** : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.
- Skin contact** : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognised skin cleanser. Do NOT use solvents or thinners.
- Ingestion** : If swallowed, seek medical advice immediately and show the container or label. Keep person warm and at rest. Do NOT induce vomiting.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : Toxic if inhaled.
- Skin contact** : Causes severe burns. Toxic in contact with skin. May cause an allergic skin reaction.
- Ingestion** : Harmful if swallowed.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
pain
watering
redness
- Inhalation** : No specific data.

| | |
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SECTION 4: First aid measures

- Skin contact** : Adverse symptoms may include the following:
 pain or irritation
 redness
 blistering may occur
- Ingestion** : Adverse symptoms may include the following:
 stomach pains

4.3 Indication of any immediate medical attention and special treatment needed

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

5.2 Special hazards arising from the substance or mixture

- Hazards from the substance or mixture** : In a fire or if heated, a pressure increase will occur and the container may burst. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
- Hazardous combustion products** : Decomposition products may include the following materials:
 carbon oxides
 nitrogen oxides
 metal oxide/oxides
 Formaldehyde.

5.3 Advice for firefighters

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions

- : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

6.3 Methods and material for containment and cleaning up

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SECTION 6: Accidental release measures

- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.
- 6.4 Reference to other sections** : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

Store between the following temperatures: 0 to 35°C (32 to 95°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

7.3 Specific end use(s)

See Section 1.2 for Identified uses.

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SECTION 8: Exposure controls/personal protection

8.1 Control parameters

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

Occupational exposure limits

No exposure limit value known.

Recommended monitoring procedures : Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

| Product/ingredient name | Type | Exposure | Value | Population | Effects | |
|---|--|-----------------------|-------------------------|-----------------------|--------------------|----------|
| 2,2'-dimethyl-4,4'-methylenebis (cyclohexylamine) | DNEL | Long term Oral | 0.008 mg/kg bw/day | General population | Systemic | |
| | DNEL | Long term Dermal | 0.05 mg/kg bw/day | Workers | Systemic | |
| | DNEL | Long term Inhalation | 0.6 mg/m ³ | Workers | Systemic | |
| benzyl alcohol | DNEL | Long term Inhalation | 1 mg/m ³ | Workers | Local | |
| | DNEL | Long term Oral | 4 mg/kg bw/day | General population | Systemic | |
| | DNEL | Long term Dermal | 4 mg/kg bw/day | General population | Systemic | |
| | DNEL | Long term Inhalation | 5.4 mg/m ³ | General population | Systemic | |
| | DNEL | Long term Dermal | 8 mg/kg bw/day | Workers | Systemic | |
| | DNEL | Short term Oral | 20 mg/kg bw/day | General population | Systemic | |
| | DNEL | Short term Dermal | 20 mg/kg bw/day | General population | Systemic | |
| | DNEL | Long term Inhalation | 22 mg/m ³ | Workers | Systemic | |
| | DNEL | Short term Inhalation | 27 mg/m ³ | General population | Systemic | |
| | DNEL | Short term Dermal | 40 mg/kg bw/day | Workers | Systemic | |
| | DNEL | Short term Inhalation | 110 mg/m ³ | Workers | Systemic | |
| N-(3-(trimethoxysilyl)propyl) ethylenediamine | DNEL | Long term Inhalation | 0.1 mg/m ³ | General population | Local | |
| | DNEL | Long term Inhalation | 0.6 mg/m ³ | Workers | Local | |
| | DNEL | Long term Oral | 4 mg/kg bw/day | General population | Systemic | |
| | DNEL | Short term Inhalation | 4 mg/m ³ | General population | Local | |
| | DNEL | Short term Inhalation | 5.36 mg/m ³ | Workers | Local | |
| | DNEL | Long term Inhalation | 26 mg/m ³ | General population | Systemic | |
| | DNEL | Long term Inhalation | 130 mg/m ³ | Workers | Systemic | |
| | DNEL | Short term Inhalation | 26400 mg/m ³ | General population | Systemic | |
| | DNEL | Long term Oral | 0.075 mg/kg bw/day | General population | Systemic | |
| | 2,4,6-tris (dimethylaminomethyl)phenol | DNEL | Short term Dermal | 0.075 mg/kg bw/day | General population | Systemic |
| DNEL | | Long term Dermal | 0.075 mg/kg bw/day | General population | Systemic | |
| DNEL | | Short term Inhalation | 0.13 mg/m ³ | General population | Systemic | |
| DNEL | | Long term Inhalation | 0.13 mg/m ³ | General population | Systemic | |
| DNEL | | Long term Dermal | 0.15 mg/kg bw/day | Workers | Systemic | |
| DNEL | | Long term Inhalation | 0.53 mg/m ³ | Workers | Systemic | |
| DNEL | | Short term Dermal | 0.6 mg/kg bw/day | Workers | Systemic | |
| DNEL | | Short term Inhalation | 2.1 mg/m ³ | Workers | Systemic | |
| 3-aminopropyldimethylamine | | DNEL | Short term Inhalation | 2.1 mg/m ³ | Workers | Systemic |
| | | DNEL | Long term Inhalation | 1.2 mg/m ³ | Workers | Systemic |

PNECs

| Product/ingredient name | Compartment Detail | Value | Method Detail |
|----------------------------|------------------------|-----------------|--------------------------|
| 3-aminopropyldimethylamine | Fresh water | 0.034 mg/l | Assessment Factors |
| | Marine water | 0.003 mg/l | Assessment Factors |
| | Sewage Treatment Plant | 69.5 mg/l | Assessment Factors |
| | Fresh water sediment | 0.221 mg/kg dwt | Equilibrium Partitioning |
| | Marine water sediment | 0.022 mg/kg dwt | Equilibrium Partitioning |
| | Soil | 0.024 mg/kg dwt | Equilibrium Partitioning |

8.2 Exposure controls

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SECTION 8: Exposure controls/personal protection

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Chemical splash goggles and face shield.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. When prolonged or frequently repeated contact may occur, a glove with a protection class of 6 (breakthrough time greater than 480 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class of 2 or higher (breakthrough time greater than 30 minutes according to EN 374) is recommended. The user must check that the final choice of type of glove selected for handling this product is the most appropriate and takes into account the particular conditions of use, as included in the user's risk assessment.
nitrile neoprene

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Wear a respirator conforming to EN140. Filter type: organic vapour (Type A) and particulate filter P3

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

9.1 Information on basic physical and chemical properties

Appearance

Physical state : Liquid.
Colour : Black.
Odour : Amine-like.
Odour threshold : Not available.
Melting point/freezing point : May start to solidify at the following temperature: -7.1°C (19.2°F) This is based on data for the following ingredient: 2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine). Weighted average: -8.57°C (16.6°F)

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SECTION 9: Physical and chemical properties

Initial boiling point and boiling range : >37.78°C (>100°F)
Flammability (solid, gas) : liquid
Upper/lower flammability or explosive limits : Greatest known range: Lower: 1.3% Upper: 13% (benzyl alcohol)
Flash point : Closed cup: 105°C (221°F)
Auto-ignition temperature :

| Ingredient name | °C | °F | Method |
|--|-----|-----|--------|
| 2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine) | 275 | 527 | |

pH : Not applicable.
 Not applicable. insoluble in water.
Viscosity : Kinematic (40°C): >21 mm²/s
Solubility(ies) :

| Media | Result |
|------------|-------------|
| cold water | Not soluble |

Miscible with water : No.
Partition coefficient: n-octanol/ water : Not applicable.
Vapour pressure :

| Ingredient name | Vapour Pressure at 20°C | | | Vapour pressure at 50°C | | |
|--|-------------------------|--------|--------|-------------------------|-----|--------|
| | mm Hg | kPa | Method | mm Hg | kPa | Method |
| 2,4,6-tris(dimethylaminomethyl) phenol | 0.056 | 0.0075 | EU A.4 | | | |

Relative density : 0.97
Vapour density : Highest known value: 3.7 (Air = 1) (benzyl alcohol).
Explosive properties : The product itself is not explosive, but the formation of an explosible mixture of vapour or dust with air is possible.
Oxidising properties : Product does not present an oxidizing hazard.
Particle characteristics
Median particle size : Not applicable.

SECTION 10: Stability and reactivity

- 10.1 Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
- 10.2 Chemical stability** : The product is stable.
- 10.3 Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- 10.4 Conditions to avoid** : When exposed to high temperatures may produce hazardous decomposition products. Refer to protective measures listed in sections 7 and 8.
- 10.5 Incompatible materials** : Keep away from the following materials to prevent strong exothermic reactions: oxidising agents, strong alkalis, strong acids.
- 10.6 Hazardous decomposition products** : Depending on conditions, decomposition products may include the following materials: carbon oxides nitrogen oxides Formaldehyde. metal oxide/oxides

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SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

| Product/ingredient name | Result | Species | Dose | Exposure |
|---|---------------------------------|---------|-------------------------|----------|
| 2,2'-dimethyl-4,4'-methylenebis (cyclohexylamine) | LC50 Inhalation Dusts and mists | Rat | 420 mg/m ³ | 4 hours |
| benzyl alcohol | LD50 Dermal | Rabbit | >0.2 g/kg | - |
| | LD50 Oral | Rat | >0.32 g/kg | - |
| | LC50 Inhalation Dusts and mists | Rat | >4178 mg/m ³ | 4 hours |
| N-(3-(trimethoxysilyl)propyl) ethylenediamine | LD50 Dermal | Rabbit | 2000 mg/kg | - |
| | LD50 Oral | Rat | 1.23 g/kg | - |
| | LD50 Dermal | Rabbit | >2000 mg/kg | - |
| 2,4,6-tris (dimethylaminomethyl) phenol | LD50 Oral | Rat | 2413 mg/kg | - |
| | LD50 Dermal | Rat | 1280 mg/kg | - |
| 3-aminopropyldimethylamine | LD50 Oral | Rat | 1200 mg/kg | - |
| | LD50 Dermal | Rabbit | >1000 mg/kg | - |
| | LD50 Oral | Rat | 410 mg/kg | - |

Conclusion/Summary : There are no data available on the mixture itself.

Acute toxicity estimates

| Product/ingredient name | Oral (mg/kg) | Dermal (mg/kg) | Inhalation (gases) (ppm) | Inhalation (vapours) (mg/l) | Inhalation (dusts and mists) (mg/l) |
|---|--------------|----------------|--------------------------|-----------------------------|-------------------------------------|
| SIGMASHIELD 1200 LT HARDENER BLACK | 574.4 | 407.6 | N/A | N/A | 0.66 |
| 2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine) | 500 | 300 | N/A | N/A | 0.5 |
| benzyl alcohol | 1230 | N/A | N/A | N/A | 1.5 |
| Formaldehyde, polymer with N,N-dimethyl-1,3-propanediamine and phenol | 500 | N/A | N/A | N/A | N/A |
| N-(3-(trimethoxysilyl)propyl)ethylenediamine | 2413 | N/A | N/A | N/A | N/A |
| 2,4,6-tris(dimethylaminomethyl)phenol | 1200 | 1280 | N/A | N/A | N/A |
| 3-aminopropyldimethylamine | 410 | 1100 | N/A | N/A | N/A |

Irritation/Corrosion

Conclusion/Summary : Not available.
Skin : There are no data available on the mixture itself.
Eyes : There are no data available on the mixture itself.
Respiratory : There are no data available on the mixture itself.

Sensitisation

Conclusion/Summary : There are no data available on the mixture itself.
Skin : There are no data available on the mixture itself.
Respiratory : There are no data available on the mixture itself.

Mutagenicity

Conclusion/Summary : There are no data available on the mixture itself.

Carcinogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Reproductive toxicity

Conclusion/Summary : There are no data available on the mixture itself.

Teratogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Specific target organ toxicity (single exposure)

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SECTION 11: Toxicological information

| Product/ingredient name | Category | Route of exposure | Target organs |
|--|------------|-------------------|------------------------------|
| N-(3-(trimethoxysilyl)propyl)ethylenediamine | Category 3 | - | Respiratory tract irritation |

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on likely routes of exposure : Not available.

Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : Toxic if inhaled.
- Skin contact** : Causes severe burns. Toxic in contact with skin. May cause an allergic skin reaction.
- Ingestion** : Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:
pain
watering
redness
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur
- Ingestion** : Adverse symptoms may include the following:
stomach pains

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Short term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

Long term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

Potential chronic health effects

Not available.

- Conclusion/Summary** : Not available.
- General** : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Reproductive toxicity** : No known significant effects or critical hazards.

Other information : Not available.

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SECTION 12: Ecological information

12.1 Toxicity

| Product/ingredient name | Result | Species | Exposure |
|---|----------------------|---------|----------|
| N-(3-(trimethoxysilyl)propyl) ethylenediamine | EC50 597 mg/l | Fish | 96 hours |
| 2,4,6-tris (dimethylaminomethyl) phenol | Acute LC50 >100 mg/l | Daphnia | 48 hours |
| 3-aminopropyldimethylamine | Acute LC50 >100 mg/l | Fish | 96 hours |
| | Acute LC50 122 mg/l | Fish | 96 hours |

Conclusion/Summary : Not available.

12.2 Persistence and degradability

| Product/ingredient name | Test | Result | Dose | Inoculum |
|---|---|-----------------------------|------|----------|
| 2,4,6-tris (dimethylaminomethyl) phenol | OECD 301D Ready Biodegradability - Closed Bottle Test | 4 % - Not readily - 28 days | - | - |
| 3-aminopropyldimethylamine | OECD 301D | 69 % - Readily - 20 days | - | - |

Conclusion/Summary : Not available.

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|---|-------------------|------------|------------------|
| benzyl alcohol | - | - | Readily |
| 2,4,6-tris (dimethylaminomethyl) phenol | - | - | Not readily |
| 3-aminopropyldimethylamine | - | - | Readily |

12.3 Bioaccumulative potential

| Product/ingredient name | LogP _{ow} | BCF | Potential |
|---|--------------------|-----|-----------|
| 2,2'-dimethyl-4,4'-methylenebis (cyclohexylamine) | 1.8 | - | Low |
| benzyl alcohol | 0.87 | - | Low |
| 2,4,6-tris (dimethylaminomethyl) phenol | 0.219 | - | Low |
| 3-aminopropyldimethylamine | -0.352 | - | Low |

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

12.6 Other adverse effects : No known significant effects or critical hazards.

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SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste : Yes.

Waste catalogue

| Waste code | Waste designation |
|------------|---|
| 08 01 11* | waste paint and varnish containing organic solvents or other hazardous substances |

Packaging

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

| Type of packaging | Waste catalogue |
|-------------------|--------------------------|
| Container | 15 01 06 mixed packaging |

Special precautions : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spill material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

| | ADR/RID | ADN | IMDG | IATA |
|--|--|--|--|--|
| 14.1 UN number | UN2922 | UN2922 | UN2922 | UN2922 |
| 14.2 UN proper shipping name | CORROSIVE LIQUID, TOXIC, N.O.S. (2,2'-dimethyl-4,4'-methylenebis (cyclohexylamine), 2,4,6-tris (dimethylaminomethyl) phenol) (2,2'-dimethyl-4,4'-methylenebis (cyclohexylamine), 2,4,6-tris (dimethylaminomethyl) phenol) | CORROSIVE LIQUID, TOXIC, N.O.S. (2,2'-dimethyl-4,4'-methylenebis (cyclohexylamine), 2,4,6-tris (dimethylaminomethyl) phenol) (2,2'-dimethyl-4,4'-methylenebis (cyclohexylamine), 2,4,6-tris (dimethylaminomethyl) phenol) | CORROSIVE LIQUID, TOXIC, N.O.S. (2,2'-dimethyl-4,4'-methylenebis (cyclohexylamine), 2,4,6-tris (dimethylaminomethyl) phenol) (2,2'-dimethyl-4,4'-methylenebis (cyclohexylamine), 2,4,6-tris (dimethylaminomethyl) phenol) | CORROSIVE LIQUID, TOXIC, N.O.S. (2,2'-dimethyl-4,4'-methylenebis (cyclohexylamine), 2,4,6-tris (dimethylaminomethyl) phenol) (2,2'-dimethyl-4,4'-methylenebis (cyclohexylamine), 2,4,6-tris (dimethylaminomethyl) phenol) |
| 14.3 Transport hazard class(es) | 8 (6.1) | 8 (6.1) | 8 (6.1) | 8 (6.1) |
| 14.4 Packing group | II | II | II | II |
| 14.5 Environmental hazards | Yes. | Yes. | Yes. | Yes. The environmentally hazardous substance mark is not required. |

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SECTION 14: Transport information

| | | | | |
|------------------------------------|-----------------|-----------------|--|-----------------|
| Marine pollutant substances | Not applicable. | Not applicable. | (2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)) | Not applicable. |
|------------------------------------|-----------------|-----------------|--|-----------------|

Additional information

- ADR/RID** : The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.
- ADN** : The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.
- IMDG** : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.
- IATA** : The environmentally hazardous substance mark may appear if required by other transportation regulations.

14.6 Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Transport in bulk according to IMO instruments : Not available.

SECTION 15: Regulatory information

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

UK (GB)/REACH

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Ozone depleting substances

Not listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Seveso Directive

This product is controlled under the Seveso Directive.

Danger criteria

Category

H2
E2

SECTION 16: Other information

✔ Indicates information that has changed from previously issued version.

Abbreviations and acronyms : ATE = Acute Toxicity Estimate
 GB CLP = UK CLP (EC No 1272/2008) on the Classification, Labelling and Packaging of Substances and Mixtures as amended by (EU Exit) Regulations 2019 No. 720 and amendments
 DMEL = Derived Minimal Effect Level
 DNEL = Derived No Effect Level
 EUH statement = GB CLP-specific Hazard statement
 N/A = Not available

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SECTION 16: Other information

PBT = Persistent, Bioaccumulative and Toxic
 PNEC = Predicted No Effect Concentration
 RRN = REACH Registration Number
 SGG = Segregation Group
 vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification

| Classification | Justification |
|-------------------------|--------------------|
| Acute Tox. 4, H302 | Calculation method |
| Acute Tox. 3, H311 | Calculation method |
| Acute Tox. 3, H331 | Calculation method |
| Skin Corr. 1A, H314 | Calculation method |
| Eye Dam. 1, H318 | Calculation method |
| Skin Sens. 1, H317 | Calculation method |
| Aquatic Chronic 2, H411 | Calculation method |

Full text of abbreviated H statements

| | |
|------|---|
| H226 | Flammable liquid and vapour. |
| H302 | Harmful if swallowed. |
| H311 | Toxic in contact with skin. |
| 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. |
| H331 | Toxic if inhaled. |
| H332 | Harmful if inhaled. |
| H335 | May cause respiratory irritation. |
| H400 | Very toxic to aquatic life. |
| H410 | Very toxic to aquatic life with long lasting effects. |
| H411 | Toxic to aquatic life with long lasting effects. |

Full text of classifications

| | |
|-------------------|---|
| Acute Tox. 3 | ACUTE TOXICITY - Category 3 |
| Acute Tox. 4 | ACUTE TOXICITY - Category 4 |
| Aquatic Acute 1 | SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1 |
| Aquatic Chronic 1 | LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1 |
| Aquatic Chronic 2 | LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2 |
| Eye Dam. 1 | SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1 |
| Eye Irrit. 2 | SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2 |
| Flam. Liq. 3 | FLAMMABLE LIQUIDS - Category 3 |
| Skin Corr. 1A | SKIN CORROSION/IRRITATION - Category 1A |
| Skin Corr. 1B | SKIN CORROSION/IRRITATION - Category 1B |
| Skin Corr. 1C | SKIN CORROSION/IRRITATION - Category 1C |
| Skin Sens. 1 | SKIN SENSITISATION - Category 1 |
| Skin Sens. 1B | SKIN SENSITISATION - Category 1B |
| STOT SE 3 | SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3 |

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Disclaimer

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