# SAFETY DATA SHEET

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

### 1.1 Product identifier

**Product name** : SIGMAGUARD CSF 650 HARDENER GREEN

**Product code** : 000001011160

**Other means of identification**

00140724; 00141885 ; 00151142 ; 00191154 ; 00204681

### 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.

**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

**National advisory body/Poison Centre**

National Poison Information Centre at Beaumont Hospital. Tel: +353 (0)1 809 2166 (8 am to 10 pm, 7 days a week), Tel: +353 1 809 2566 (Healthcare professionals, 24/7) email: npicdublin@beaumont.ie.

**Supplier**

+31 20 4075210

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Product definition** : Mixture

**Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]**

Flam. Liq. 3, H226
Acute Tox. 4, H302
Acute Tox. 3, H311
Acute Tox. 3, H331
Skin Corr. 1A, H314
Eye Dam. 1, H318
Skin Sens. 1, H317

## SECTION 2: Hazards identification

Aquatic Chronic 2, H411

The product is classified as hazardous according to Regulation (EC) 1272/2008 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

**Hazard statements** : Flammable liquid and vapour.
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.

**Prevention** : Wear protective gloves, protective clothing and eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Avoid release to the environment.

**Response** : Collect spillage. IF INHALED: 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, P210, P273, P391, P304 + P310, P501

**Hazardous ingredients** : 2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine); benzyl alcohol and N-(3-(trimethoxysilyl)propyl)ethylenediamine

**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.

## SECTION 2: Hazards identification

**Product meets the criteria for endocrine disrupting properties according to Regulation (EC) No. 1907/2006.** : Based on available data, the classification criteria are not met.

**Other hazards which do not result in classification** : Prolonged or repeated contact may dry skin and cause irritation.

## SECTION 3: Composition/information on ingredients

**3.2 Mixtures** : Mixture

| Product/ingredient name | Identifiers | % by weight | Classification | Specific Conc. Limits, M-factors and ATEs | Type |
|---|---|---|---|---|---|
| 2,2'-dimethyl-4,4'-methylenebis (cyclohexylamine) | REACH #: 01-2119497829-12<br>EC: 229-962-1<br>CAS: 6864-37-5<br>Index: 612-110-00-1 | ≥50 - ≤75 | Acute Tox. 4, H302<br>Acute Tox. 3, H311<br>Acute Tox. 3, H331<br>Skin Corr. 1A, H314<br>Eye Dam. 1, H318<br>Aquatic Chronic 2, H411 | ATE [Oral] = 500 mg/kg<br>ATE [Dermal] = 300 mg/kg<br>ATE [Inhalation (dusts and mists)] = 0.5 mg/l | [1] |
| benzyl alcohol | REACH #: 01-2119492630-38<br>EC: 202-859-9<br>CAS: 100-51-6<br>Index: 603-057-00-5 | ≥10 - ≤25 | Acute Tox. 4, H302<br>Eye Irrit. 2, H319<br>Skin Sens. 1B, H317 | ATE [Oral] = 1200 mg/kg | [1] |
| butanone | REACH #: 01-2119457290-43<br>EC: 201-159-0<br>CAS: 78-93-3<br>Index: 606-002-00-3 | ≥5.0 - ≤10 | Flam. Liq. 2, H225<br>Eye Irrit. 2, H319<br>STOT SE 3, H336<br>EUH066 | - | [1] [2] |
| 2,4,6-tris (dimethylaminomethyl) phenol | REACH #: 01-2119560597-27<br>EC: 202-013-9<br>CAS: 90-72-2 | ≥1.0 - ≤5.0 | Acute Tox. 4, H302<br>Acute Tox. 4, H312<br>Skin Corr. 1C, H314<br>Eye Dam. 1, H318 | ATE [Oral] = 1200 mg/kg<br>ATE [Dermal] = 1280 mg/kg | [1] |
| N-(3-(trimethoxysilyl)propyl) ethylenediamine | REACH #: 01-2119970215-39<br>EC: 217-164-6<br>CAS: 1760-24-3 | ≥1.0 - ≤5.0 | Eye Dam. 1, H318<br>Skin Sens. 1B, H317<br>STOT SE 3, H335 | - | [1] |
| 4-[(4-aminocyclohexyl) methyl] -2-methylcyclohexylamine | EC: 292-670-8<br>CAS: 90680-42-5 | ≤0.27 | Acute Tox. 4, H302<br>Acute Tox. 3, H311<br>Acute Tox. 2, H330<br>Skin Corr. 1A, H314<br>Eye Dam. 1, H318<br>STOT RE 2, H373 (heart, kidneys, liver, skeletal muscle)<br>Aquatic Chronic 2, H411<br>**See Section 16 for the full text of the H statements declared above.** | ATE [Oral] = 500 mg/kg<br>ATE [Dermal] = 300 mg/kg<br>ATE [Inhalation (dusts and mists)] = 0.05 mg/l | [1] |

## SECTION 3: Composition/information on ingredients

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

[2] Substance with a workplace exposure limit

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. Defatting to the 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.

**Skin contact** : Adverse symptoms may include the following:
pain or irritation
redness
dryness
cracking
blistering may occur

**Ingestion** : Adverse symptoms may include the following:
stomach pains

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

## SECTION 4: First aid measures

**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 dry chemical, $CO_2$, water spray (fog) or foam.

**Unsuitable extinguishing media** : Do not use water jet.

### 5.2 Special hazards arising from the substance or mixture

**Hazards from the substance or mixture** : Flammable liquid and vapour. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. 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 precautions 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. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

**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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

## 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. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour. Put on appropriate personal protective equipment. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate.

**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

## SECTION 6: Accidental release measures

**Small spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. 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. Use spark-proof tools and explosion-proof equipment. 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. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product.

**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. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. 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 a segregated and approved area. 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. Eliminate all ignition sources. Separate from oxidising materials. 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.

## SECTION 8: Exposure controls/personal protection

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).

### 8.1 Control parameters

#### Occupational exposure limits

| Product/ingredient name | Exposure limit values |
|---|---|
| butanone | **NAOSH (Ireland, 4/2024)** Absorbed through skin.<br>OELV 8 hours: 200 ppm.<br>OELV 8 hours: 600 mg/m³.<br>OELV 15 minutes: 300 ppm.<br>OELV 15 minutes: 900 mg/m³. |

#### Biological exposure indices

| Product/ingredient name | Exposure indices |
|---|---|
| butanone | **NAOSH BGVs (Ireland, 1/2011)**<br>BMGV: 70 µmol/l, butan-2- one [in urine]. Sampling time: post shift. |

**Recommended monitoring procedures** : Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

#### DNELs/DMELs

| Product/ingredient name | Exposure | | Value |
|---|---|---|---|
| 2,2'-dimethyl-4,4'-methylenebis (cyclohexylamine) | DNEL - General population - Long term - Oral | *Systemic* | 0.008 mg/kg bw/day |
| | DNEL - Workers - Long term - Dermal | *Systemic* | 0.05 mg/kg bw/day |
| | DNEL - Workers - Long term - Inhalation | *Systemic* | 0.6 mg/m³ |
| | DNEL - Workers - Long term - Inhalation | *Local* | 1 mg/m³ |
| benzyl alcohol | DNEL - General population - Long term - Oral | *Systemic* | 4 mg/kg bw/day |
| | DNEL - General population - Long term - Dermal | *Systemic* | 4 mg/kg bw/day |
| | DNEL - General population - Long term - Inhalation | *Systemic* | 5.4 mg/m³ |
| | DNEL - Workers - Long term - Dermal | *Systemic* | 8 mg/kg bw/day |
| | DNEL - General population - Short term - Oral | *Systemic* | 20 mg/kg bw/day |
| | DNEL - General population - Short term - Dermal | *Systemic* | 20 mg/kg bw/day |
| | DNEL - Workers - Long term - Inhalation | *Systemic* | 22 mg/m³ |
| | DNEL - General population - Short term - Inhalation | *Systemic* | 27 mg/m³ |
| | DNEL - Workers - Short term - Dermal | *Systemic* | 40 mg/kg bw/day |
| | DNEL - Workers - Short term - Inhalation | *Systemic* | 110 mg/m³ |
| butanone | DNEL - General population - Long term - Oral | *Systemic* | 31 mg/kg bw/day |
| | DNEL - General population - Long term - Inhalation | *Systemic* | 106 mg/m³ |
| | DNEL - General population - Long term - Dermal | *Systemic* | 412 mg/kg bw/day |
| | DNEL - General population - Short term - Inhalation | *Systemic* | 450 mg/m³ |
| | DNEL - Workers - Long term - Inhalation | *Systemic* | 600 mg/m³ |

## SECTION 8: Exposure controls/personal protection

| | | | |
|---|---|---|---|
| 2,4,6-tris (dimethylaminomethyl) phenol | DNEL - Workers - Short term - Inhalation | *Systemic* | 900 mg/m³ |
| | DNEL - Workers - Long term - Dermal | *Systemic* | 1161 mg/kg bw/day |
| | DNEL - General population - Long term - Oral | *Systemic* | 0.075 mg/kg bw/day |
| | DNEL - General population - Short term - Dermal | *Systemic* | 0.075 mg/kg bw/day |
| | DNEL - General population - Long term - Dermal | *Systemic* | 0.075 mg/kg bw/day |
| | DNEL - General population - Short term - Inhalation | *Systemic* | 0.13 mg/m³ |
| | DNEL - General population - Long term - Inhalation | *Systemic* | 0.13 mg/m³ |
| | DNEL - Workers - Long term - Dermal | *Systemic* | 0.15 mg/kg bw/day |
| | DNEL - Workers - Long term - Inhalation | *Systemic* | 0.53 mg/m³ |
| | DNEL - Workers - Short term - Dermal | *Systemic* | 0.6 mg/kg bw/day |
| | DNEL - Workers - Short term - Inhalation | *Systemic* | 2.1 mg/m³ |
| N-(3-(trimethoxysilyl) propyl)ethylenediamine | DNEL - General population - Long term - Inhalation | *Local* | 0.1 mg/m³ |
| | DNEL - Workers - Long term - Inhalation | *Local* | 0.6 mg/m³ |
| | DNEL - General population - Long term - Oral | *Systemic* | 4 mg/kg bw/day |
| | DNEL - General population - Short term - Inhalation | *Local* | 4 mg/m³ |
| | DNEL - Workers - Short term - Inhalation | *Local* | 5.36 mg/m³ |
| | DNEL - General population - Long term - Inhalation | *Systemic* | 26 mg/m³ |
| | DNEL - Workers - Long term - Inhalation | *Systemic* | 130 mg/m³ |
| | DNEL - General population - Short term - Inhalation | *Systemic* | 26400 mg/m³ |

**PNECs**

| Product/ingredient name | Compartment Detail - Method | Value |
|---|---|---|
| butanone | Fresh water - Sensitivity Distribution | 55.8 mg/l |
| | Marine water - Sensitivity Distribution | 55.8 mg/l |
| | Sewage Treatment Plant - Sensitivity Distribution | 709 mg/l |
| | Fresh water sediment - Equilibrium Partitioning | 284.74 mg/kg dwt |
| | Marine water sediment - Equilibrium Partitioning | 284.7 mg/kg dwt |
| | Soil - Equilibrium Partitioning | 22.5 mg/kg dwt |

### 8.2 Exposure controls

**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. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

**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. Use eye protection according to EN 166.

**Skin protection**

**Hand protection** :

## SECTION 8: Exposure controls/personal 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.

**Gloves** : 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. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves. Refer to European Standard EN 1149 for further information on material and design requirements and test methods.

**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** : Green.

**Odour** : Aromatic. [Strong]

**Melting point/freezing point** : Not determined.

**Boiling point or initial boiling point and boiling range** : >37.78°C

**Flammability** : Not determined. There are no data available on the mixture itself.

**Lower and upper explosion limit** : Not available.

**Flash point** : Closed cup: 52°C

## SECTION 9: Physical and chemical properties

**Auto-ignition temperature** : 426°C (798.8°F)

**Decomposition temperature** : Stable under recommended storage and handling conditions (see Section 7).

**pH** : Not applicable. insoluble in water.

**Viscosity** : Dynamic (room temperature): Not available.
Kinematic (room temperature): Not available.
Kinematic (40°C): <14 $mm^2/s$

**Solubility** :

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

**Partition coefficient n-octanol/water (log Pow)** : Not applicable.

**Vapour pressure** :

| Ingredient name | Vapour Pressure at 20˚C | | | Vapour pressure at 50˚C | | |
|---|---|---|---|---|---|---|
| | mm Hg | kPa | Method | mm Hg | kPa | Method |
| butanone | 78.7564 | 10.5 | | | | |

**Relative density** : 0.96

**Particle characteristics**

**Median particle size** : Not applicable.

### 9.2 Other information

#### 9.2.1 Information with regard to physical hazard classes

**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.

No additional information.

## 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

# SECTION 11: Toxicological information

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

The mixture has been assessed following the conventional method of the CLP Regulation (EC) No 1272/2008 and is classified for toxicological properties accordingly.

Toxic in contact with skin or if inhaled.
Harmful if swallowed.
Causes severe skin burns and eye damage.
May cause an allergic skin reaction.

### Acute toxicity

| Product/ingredient name | Result | Dose / Exposure |
|---|---|---|
| 2,2'-dimethyl-4,4'-methylenebis (cyclohexylamine) | Rat - Oral - LD50 | >0.32 g/kg |
| | Rabbit - Dermal - LD50 | >0.2 g/kg |
| | Rat - Inhalation - LC50 Dusts and mists | 420 mg/m³ [4 hours] |
| benzyl alcohol | Rabbit - Dermal - LD50 | >2000 mg/kg |
| | Rat - Oral - LD50 | 1200 mg/kg |
| | Rat - Inhalation - LC50 Dusts and mists | >5 mg/l [4 hours] |
| butanone | Rabbit - Dermal - LD50 | 6480 mg/kg |
| | Rat - Oral - LD50 | 2737 mg/kg |
| 2,4,6-tris(dimethylaminomethyl) phenol | Rat - Dermal - LD50 | 1280 mg/kg |
| | Rat - Oral - LD50 | 1200 mg/kg |
| | *Toxic effects*: Peripheral Nerve and Sensation - Flaccid paralysis without anesthesia (usually neuromuscular blockage) Lung, Thorax, or Respiration - Dyspnea | |
| N-(3-(trimethoxysilyl)propyl) ethylenediamine | Rat - Oral - LD50 | 2413 mg/kg |
| | *Toxic effects*: Behavioral - Tremor Gastrointestinal - Hypermotility, diarrhea Gastrointestinal - Other changes | |
| | Rabbit - Dermal - LD50 | >2000 mg/kg |

### Acute toxicity estimates

| Route | ATE value |
|---|---|
| Oral | 635.73 mg/kg |
| Dermal | 414.19 mg/kg |
| Inhalation (dusts and mists) | 0.68 mg/l |

**Conclusion/Summary** : Toxic in contact with skin or if inhaled.
Harmful if swallowed.

### Irritation/Corrosion

**Conclusion/Summary**

**Skin** : Causes severe burns.

**Eyes** : Causes serious eye damage.

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

### Respiratory or skin sensitization

**Conclusion/Summary**

**Skin** : May cause an allergic skin reaction.

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

### Mutagenicity

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

### Carcinogenicity

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

## SECTION 11: Toxicological information

### Reproductive toxicity

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

### Specific target organ toxicity (single exposure)

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

**Conclusion/Summary :**

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

### Specific target organ toxicity (repeated exposure)

| Product/ingredient name | Category | Route of exposure | Target organs |
|---|---|---|---|
| 4-[(4-aminocyclohexyl)methyl]-2-methylcyclohexylamine | Category 2 | - | heart, kidneys, liver, skeletal muscle |

**Conclusion/Summary :**

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

### Aspiration hazard

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

**Information on likely routes of exposure** : Not available.

### Potential acute health effects

**Inhalation** : Toxic if inhaled.

**Ingestion** : Harmful if swallowed.

**Skin contact** : Causes severe burns. Toxic in contact with skin. Defatting to the skin. May cause an allergic skin reaction.

**Eye contact** : Causes serious eye damage.

### Symptoms related to the physical, chemical and toxicological characteristics

**Inhalation** : No specific data.

**Ingestion** : Adverse symptoms may include the following:
stomach pains

**Skin contact** : Adverse symptoms may include the following:
pain or irritation
redness
dryness
cracking
blistering may occur

**Eye contact** : Adverse symptoms may include the following:
pain
watering
redness

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

#### Short term exposure

**Potential immediate effects** : No known significant effects or critical hazards.

**Potential delayed effects** : No known significant effects or critical hazards.

#### Long term exposure

## SECTION 11: Toxicological information

**Potential immediate effects** : No known significant effects or critical hazards.

**Potential delayed effects** : No known significant effects or critical hazards.

**Potential chronic health effects**

**General** : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis. 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** : Prolonged or repeated contact may dry skin and cause irritation. Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapour/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. Trimethoxysilanes are capable of forming methanol if hydrolyzed or ingested. If swallowed, methanol may be harmful or fatal or cause blindness. Contains a substance that may emit formaldehyde if stored beyond its shelf life and/or during cure at curing temperatures greater than 60C/140F. Avoid contact with skin and clothing. Exposure to amine vapor has been reported to cause transient corneal edema described as blue haze, halo effect, foggy or blurred vision for several hours. This condition is typically temporary and does not cause permanent visual effects. When the proper eye protection specified in Section 8 is worn, exposure is significantly reduced and the condition has not been observed.

### 11.2 Information on other hazards

#### 11.2.1 Endocrine disrupting properties

The product does not meet the criteria to be considered as having endocrine disrupting properties according to the criteria set out in either Regulation (EC) No. 1907/2006 or Regulation (EC) No 1272/2008.

#### 11.2.2 Other information

Not available.

## SECTION 12: Ecological information

There are no data available on the mixture itself.
Do not allow to enter drains or watercourses.

The mixture has been assessed following the summation method of the CLP Regulation (EC) No 1272/2008 and is classified for eco-toxicological properties accordingly. See Sections 2 and 3 for details.

### 12.1 Toxicity

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

**Conclusion/Summary** : Toxic to aquatic life with long lasting effects.

### 12.2 Persistence and degradability

## SECTION 12: Ecological information

| Product/ingredient name | Test | Result | Dose / Inoculum |
|---|---|---|---|
| 2,4,6-tris (dimethylaminomethyl)phenol | OECD [ Ready Biodegradability - Closed Bottle Test] | 4% [28 days] - Not readily | |

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|---|---|---|---|
| benzyl alcohol | - | - | Readily |
| 2,4,6-tris (dimethylaminomethyl)phenol | - | - | Not 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 |
| butanone | 0.3 | - | Low |
| 2,4,6-tris(dimethylaminomethyl)phenol | 0.219 | - | Low |

### 12.4 Mobility in soil

**Soil/water partition coefficient**

| Product/ingredient name | logKoc | Koc |
|---|---|---|
| 2,2'-dimethyl-4,4'-methylenebis (cyclohexylamine) | 2.5 | 313.55 |
| benzyl alcohol | 1.1 | 12.6442 |
| butanone | 1.2 | 15.8984 |
| 2,4,6-tris(dimethylaminomethyl)phenol | 2.7 | 525.589 |
| N-(3-(trimethoxysilyl)propyl)ethylenediamine | 1.5 | 34.5002 |

### 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 Endocrine disrupting properties

The product does not meet the criteria to be considered as having endocrine disrupting properties according to the criteria set out in either Regulation (EC) No. 1907/2006 or Regulation (EC) No 1272/2008.

### 12.7 Other adverse effects

No known significant effects or critical hazards.

## 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**

## SECTION 13: Disposal considerations

**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** :

**European waste catalogue (EWC)**

| 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 | European waste catalogue (EWC) |
|---|---|
| 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. Vapour from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

## SECTION 14: Transport information

| | ADR/RID | ADN | IMDG | IATA |
|---|---|---|---|---|
| **14.1 UN number or ID number** | UN3470 | UN3470 | UN3470 | UN3470 |
| **14.2 UN proper shipping name** | PAINT, CORROSIVE, FLAMMABLE | PAINT, CORROSIVE, FLAMMABLE | PAINT, CORROSIVE, FLAMMABLE | Paint, corrosive, flammable |
| **14.3 Transport hazard class(es)** | 8 (3) | 8 (3) | 8 (3) | 8 (3) |
| **14.4 Packing group** | II | II | II | II |
| **14.5 Environmental hazards** | Yes. | Yes. | Yes. | Yes. The environmentally hazardous substance mark is not required. |
| **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.

**Tunnel code** : (D/E)

# SECTION 14: Transport information

**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 Maritime transport in bulk according to IMO instruments** : Not applicable.

# SECTION 15: Regulatory information

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

### EU Regulation (EC) No. 1907/2006 (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.

#### Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

| Product/ingredient name | Entry Number ( REACH ) |
|---|---|
| SIGMAGUARD CSF 650 HARDENER GREEN | 3 |

**Labelling** : Not applicable.

### Other EU regulations

**Explosive precursors** : Not applicable.

#### Ozone depleting substances (EU 2024/590)

Not listed.

#### Persistent Organic Pollutants

Not listed.

### Seveso Directive

This product is controlled under the Seveso Directive.

#### Danger criteria

| Category |
|---|
| H2<br>P5c<br>E2 |

**15.2 Chemical safety assessment** : No Chemical Safety Assessment has been carried out.

## SECTION 16: Other information

Indicates information that has changed from previously issued version.

### Abbreviations and acronyms

ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number
PBT = Persistent, Bioaccumulative and Toxic
vPvB = Very Persistent and Very Bioaccumulative
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
IMDG = International Maritime Dangerous Goods
IATA = International Air Transport Association

### Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

| Classification | Justification |
|---|---|
| Flam. Liq. 3, H226 | On basis of test data |
| 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

| | |
|---|---|
| H225 | Highly flammable liquid and vapour. |
| 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. |
| H330 | Fatal if inhaled. |
| H331 | Toxic if inhaled. |
| H335 | May cause respiratory irritation. |
| 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. |
| EUH066 | Repeated exposure may cause skin dryness or cracking. |

### Full text of classifications [CLP/GHS]

| | |
|---|---|
| Acute Tox. 2 | ACUTE TOXICITY - Category 2 |
| Acute Tox. 3 | ACUTE TOXICITY - Category 3 |
| Acute Tox. 4 | ACUTE TOXICITY - Category 4 |
| 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. 2 | FLAMMABLE LIQUIDS - Category 2 |
| Flam. Liq. 3 | FLAMMABLE LIQUIDS - Category 3 |
| Skin Corr. 1A | SKIN CORROSION/IRRITATION - Category 1A |
| Skin Corr. 1C | SKIN CORROSION/IRRITATION - Category 1C |

## SECTION 16: Other information

| | |
|---|---|
| Skin Sens. 1 | SKIN SENSITISATION - Category 1 |
| Skin Sens. 1B | SKIN SENSITISATION - Category 1B |
| STOT RE 2 | SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2 |
| STOT SE 3 | SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3 |

**History**

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**Prepared by** : EHS

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