# SAFETY DATA SHEET

**Date of issue/Date of revision** 6 November 2026
**Version** 1.06

## Section 1. Identification

**Product code** : 000010022981
**Product name** : SIGMAGUARD CSF 650 BASE OFFWHITE
**Other means of identification**
00243305
**Product type** : Liquid.

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

**Product use** : Coating.
Professional applications, Used by spraying.

**Supplier's details** : PPG Coatings (Singapore) Pte Ltd.
1 Cleantech Loop, CleanTech One, #04-04
Singapore 637141
Tel : +65 6865 3737

**Emergency telephone number (with hours of operation)** : CHEMTREC +(65)-31581349 (CCN 17704)

## Section 2. Hazards identification

**Classification of the substance or mixture** : SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2A
SKIN SENSITISATION - Category 1
REPRODUCTIVE TOXICITY - Category 1B
LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2

**GHS label elements, including precautionary statements**

**Hazard pictograms** :



**Signal word** : Danger

**Hazard statements** : Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye irritation.
May damage fertility or the unborn child.
Toxic to aquatic life with long lasting effects.

**Precautionary statements**

# Section 2. Hazards identification

**Prevention** : Do not handle until all safety precautions have been read and understood. Wear protective gloves, protective clothing and eye or face protection. Avoid release to the environment. Avoid breathing vapour. Wash thoroughly after handling.

**Response** : Collect spillage. IF exposed or concerned: Get medical advice or attention. IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice or attention. Take off contaminated clothing and wash it before reuse. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice or attention.

**Storage** : Not applicable.

**Disposal** : Not applicable.

**Other hazards which do not result in classification** : None known.

# Section 3. Composition/information on ingredients

**Substance/mixture** : Mixture

**CAS number/other identifiers**

**CAS number** : Not applicable.

**EC number** : Mixture.

| Ingredient name | % | CAS number |
|---|---|---|
| reaction product: bisphenol-A-(epichlorohydrin); epoxy resin | 25 - <50 | 25068-38-6 |
| Talc , not containing asbestiform fibres | 5 - <10 | 14807-96-6 |
| 1,6-bis(2,3-epoxypropoxy)hexane | 5 - <10 | 16096-31-4 |
| benzyl alcohol | 5 - <10 | 100-51-6 |
| N,N'-ethane-1,2-diylbis(12-hydroxyoctadecan-1-amide) | 0.3 - <1 | 123-26-2 |

**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 and hence require reporting in this section.**

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

**SUB codes represent substances without registered CAS Numbers.**

# Section 4. First aid measures

**Description of necessary first aid measures**

**Eye contact** : Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10 minutes and seek immediate medical advice.

**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.

# Section 4. First aid measures

## Most important symptoms/effects, acute and delayed

### Potential acute health effects

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

**Inhalation** : No known significant effects or critical hazards.

**Skin contact** : Causes skin irritation. May cause an allergic skin reaction.

**Ingestion** : No known significant effects or critical hazards.

### Over-exposure signs/symptoms

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

**Inhalation** : Adverse symptoms may include the following:
reduced foetal weight
increase in foetal deaths
skeletal malformations

**Skin contact** : Adverse symptoms may include the following:
irritation
redness
reduced foetal weight
increase in foetal deaths
skeletal malformations

**Ingestion** : Adverse symptoms may include the following:
reduced foetal weight
increase in foetal deaths
skeletal malformations

## Indication of immediate medical attention and special treatment needed, if necessary

**Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

**Specific treatments** : No specific treatment.

**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.

**See toxicological information (Section 11)**

# Section 5. Firefighting measures

## Extinguishing media

**Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media** : None known.

# Section 5. Firefighting measures

**Specific hazards arising from the chemical** : 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 thermal decomposition products** : Decomposition products may include the following materials:
carbon oxides
halogenated compounds
metal oxide/oxides

**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

## 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. Avoid breathing vapour. 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".

**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.

## Methods and material for containment and cleaning up

**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.

# Section 7. Handling and storage

## 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. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapour or mist. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. 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.

**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.

# Section 8. Exposure controls/personal protection

## Control parameters

### Occupational exposure limits

| | |
|---|---|
| Talc , not containing asbestiform fibres | **Workplace Safety and Health Act (Singapore, 1/2025)**<br>PEL (long term) 8 hours: 2 mg/m³. |
| N,N'-ethane-1,2-diylbis(12-hydroxyoctadecan-1-amide) | **ACGIH TLV (United States)**<br>TWA: 10 mg/m³. Form: Total dust.<br>TWA: 3 mg/m³. Form: Respirable. |

**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.

### Biological exposure indices

No exposure indices known.

**Appropriate engineering controls** : If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

# Section 8. Exposure controls/personal protection

**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.

## 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.

## 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.

**Gloves** : butyl rubber

**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.

# Section 9. Physical and chemical properties

## Appearance

**Physical state** : Liquid.

**Odour** : Aromatic.

**pH** : insoluble in water.

**Boiling point** : >37.78°C (>100°F)

**Flash point** : Closed cup: 100°C (212°F)

**Evaporation rate** : Not available.

**Flammability (solid, gas)** : liquid

**Vapour pressure** : Not available.

# Section 9. Physical and chemical properties

**Relative density** : 1.43

**Solubility(ies)** :

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

**Auto-ignition temperature** : Not available.

**Viscosity** : Dynamic (room temperature): Not available.
Kinematic (room temperature): Not available.
Kinematic (40°C (104°F)): >21 $mm^2/s$ (>21 cSt)

# Section 10. Stability and reactivity

**Reactivity** : No specific test data related to reactivity available for this product or its ingredients.

**Chemical stability** : The product is stable.

**Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

**Conditions to avoid** : When exposed to high temperatures may produce hazardous decomposition products.

**Incompatible materials** : Keep away from the following materials to prevent strong exothermic reactions: oxidising agents, strong alkalis, strong acids.

**Hazardous decomposition products** : Depending on conditions, decomposition products may include the following materials: carbon oxides halogenated compounds metal oxide/oxides

# Section 11. Toxicological information

## Information on toxicological effects

### Acute toxicity

| Product/ingredient name | Result | Dose / Exposure |
|---|---|---|
| | | |

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

### Irritation/Corrosion

| Product/ingredient name | Result |
|---|---|
| reaction product: bisphenol-A-(epichlorohydrin); epoxy resin | Rabbit - Skin - Moderate irritant |
| - | Rabbit - Eyes - Moderate irritant |
| - | Rabbit - Eyes - Mild irritant<br>Amount/concentration applied: 100 mg |
| - | Rabbit - Skin - Moderate irritant<br>Amount/concentration applied: 500 Ul<br>Duration of treatment/exposure: 24 hours |

# Section 11. Toxicological information

| | |
|---|---|
| - | Rabbit - Skin - Severe irritant<br>Amount/concentration applied: 2 mg<br>Duration of treatment/exposure: 24 hours |

**Conclusion/Summary**

**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**

| Product/ingredient name | Test | Result |
|---|---|---|
| reaction product: bisphenol-A-(epichlorohydrin); epoxy resin | Mouse - skin<br>OECD 429 | Sensitising |

**Conclusion/Summary**

**Skin** : There are no data available on the mixture itself.

**Respiratory** : There are no data available on the mixture itself.

**Germ cell 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.

**Specific target organ toxicity (single exposure)**

| Name | Category | Route of exposure | Target organs |
|---|---|---|---|
| Talc , not containing asbestiform fibres | 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 irritation.

**Inhalation** : No known significant effects or critical hazards.

**Skin contact** : Causes skin irritation. May cause an allergic skin reaction.

**Ingestion** : No known significant effects or critical hazards.

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

# Section 11. Toxicological information

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

**Inhalation** : Adverse symptoms may include the following:
reduced foetal weight
increase in foetal deaths
skeletal malformations

**Skin contact** : Adverse symptoms may include the following:
irritation
redness
reduced foetal weight
increase in foetal deaths
skeletal malformations

**Ingestion** : Adverse symptoms may include the following:
reduced foetal weight
increase in foetal deaths
skeletal malformations

## 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

**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** : May damage fertility or the unborn child.

## Numerical measures of toxicity

### Acute toxicity estimates

| Route | ATE value |
|---|---|
| Oral | 13291.23 mg/kg |

**Other information** :

# Section 11. Toxicological information

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.

# Section 12. Ecological information

## Toxicity

| Product/ingredient name | Result | Species | Dose/ Exposure |
|---|---|---|---|
| Bisphenol A - Epichlorohydrin polymer | Chronic - NOEC | Daphnia | 0.3 mg/l [21 days] |
| 1,6-bis(2,3-epoxypropoxy) hexane | LC50 | Fish | 30 mg/l [96 hours] |
| EcoToAq | EC50 | Daphnia | 47 mg/l [48 hours] |
| EcoToAq | NOEC | Daphnia | 10 mg/l [21 days] |
| AMIDE | Acute - EC50 | Daphnia - *Daphnia magna* | 94 mg/l [48 hours] |
| EcoToAq | Acute - EC50 | Algae - *Pseudokirchneriella subcapitata* | 29 to 43 mg/l [72 hours] |

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

## Persistence/degradability

# Section 12. Ecological information

| Product/ingredient name | Test | Result | Dose / Inoculum |
|---|---|---|---|
| 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane | OECD 301F | 5% [28 days] | |
| 1,6-bis(2,3-epoxypropoxy) hexane | - | 71% [28 days] | |
| N,N'-ethane-1,2-diylbis (12-hydroxyoctadecan-1-amide) | - | 63% [28 days] | |

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

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|---|---|---|---|
| 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane | - | - | Not readily |
| 1,6-bis(2,3-epoxypropoxy) hexane | - | - | Readily |
| benzyl alcohol | - | - | Readily |
| N,N'-ethane-1,2-diylbis (12-hydroxyoctadecan-1-amide) | - | - | Readily |

## Bioaccumulative potential

| Product/ingredient name | $LogP_{ow}$ | BCF | Potential |
|---|---|---|---|
| reaction product: bisphenol-A-(epichlorohydrin); epoxy resin | 2.64 to 3.78 | 31 | Low |
| 1,6-bis(2,3-epoxypropoxy) hexane | 0.822 | 3.57 | Low |
| benzyl alcohol | 0.87 | - | Low |
| N,N'-ethane-1,2-diylbis (12-hydroxyoctadecan-1-amide) | >6 | - | High |

## Mobility in soil

**Soil/water partition coefficient** : Not available.

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

# Section 13. Disposal considerations

**Disposal methods** : 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. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. 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 spilt material and runoff and contact with soil, waterways, drains and sewers.

# Section 14. Transport information

| | UN | IMDG | IATA |
|---|---|---|---|
| **UN number** | UN3082 | UN3082 | UN3082 |
| **UN proper shipping name** | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (PAINT) | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (PAINT) | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (PAINT) |
| **Transport hazard class(es)** | 9 | 9 | 9 |
| **Packing group** | III | III | III |
| **Environmental hazards** | Yes. | Yes. | Yes. |
| **Marine pollutant substances** | Not applicable. | (reaction product: bisphenol-A-(epichlorohydrin); epoxy resin) | Not applicable. |

**Additional information**

**UN** : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.

**IMDG** : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.

**IATA** : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8.

**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.

**Transport in bulk according to IMO instruments** : Not applicable.

# Section 15. Regulatory information

## Singapore - hazardous chemicals under government control

None.

## International regulations

### Montreal Protocol

Not listed.

### Stockholm Convention on Persistent Organic Pollutants

Not listed.

# Section 16. Other information

## History

| | | |
|---|---|---|
| **Date of issue/Date of revision** | : | 6 November 2026 |
| **Date of previous issue** | : | 9/7/2026 |
| **Version** | : | 1.06 |
| **Prepared by** | : | EHS |
| **Key to abbreviations** | : | ATE = Acute Toxicity Estimate<br>BCF = Bioconcentration Factor<br>GHS = Globally Harmonized System of Classification and Labelling of Chemicals<br>IATA = International Air Transport Association<br>IBC = Intermediate Bulk Container<br>IMDG = International Maritime Dangerous Goods<br>LogPow = logarithm of the octanol/water partition coefficient<br>MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)<br>UN = United Nations |

**Indicates information that has changed from previously issued version.**

## Notice to reader

**The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.**