

# SAFETY DATA SHEET



Date of issue/Date of revision 28 April 2025

Version 3.07

## Section 1. Identification

**Product code** : 000001099278  
**Product name** : SIGMAGUARD CSF 585 HARDENER  
**CAS number** : Not applicable.  
**EC number** : Mixture.  
**Other means of identification**  
00219189; 00219193 ; 00293059 ; 00295221  
**Product type** : Liquid.

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

**Product use** : Hardener.  
Professional applications, Used by spraying.  
**Uses advised against** : Product is not intended, labelled or packaged for consumer use.

**Supplier's details** : PPG Yung Chi Coatings Co. Ltd  
Lot 219, Amata Street, Long Binh IZ  
Bien Hoa City, Dong Nai Province  
Vietnam  
Tel : +84 61 3936121/22

**Emergency telephone number (with hours of operation)** : CHEMTREC +(84)-444581938 (CCN 17704)

## Section 2. Hazards identification

**Classification of the substance or mixture** : FLAMMABLE LIQUIDS - Category 4  
ACUTE TOXICITY (oral) - Category 5  
ACUTE TOXICITY (dermal) - Category 5  
SKIN CORROSION - Category 1C  
SERIOUS EYE DAMAGE - Category 1  
AQUATIC TOXICITY (ACUTE) - Category 3  
AQUATIC TOXICITY (CHRONIC) - Category 3  
Percentage of the mixture consisting of ingredient(s) of unknown acute oral toxicity: 34.8%  
Percentage of the mixture consisting of ingredient(s) of unknown acute dermal toxicity: 34.8%  
Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 34.8%

### GHS label elements

**Hazard pictograms** :



**Signal word** : Danger

## Section 2. Hazards identification

- Hazard statements** : Combustible liquid.  
May be harmful if swallowed or in contact with skin.  
Causes severe skin burns and eye damage.  
Harmful to aquatic life with long lasting effects.
- Precautionary statements**
- 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. Wash thoroughly after handling.
- Response** : IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor. IF SWALLOWED: Immediately call a POISON CENTER or doctor. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or doctor. Wash contaminated clothing before reuse. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.
- Storage** : Store locked up.
- Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Routes of entry** : Not available.
- 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	Chemical formula	%
Poly[oxy(methyl-1,2-ethanediyl)], $\alpha$ -(2-aminomethylethyl)- $\omega$ -(2-aminomethylethoxy)-2,4,6-tris(dimethylaminomethyl)phenol	9046-10-0 (n = 2-6)	(C3-H6-O) <sub>n</sub> - C6-H16-N2-O	≥50 - ≤75
	90-72-2	C15H27N3O	≤3

There are no 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.

SUB codes represent substances without registered CAS Numbers.

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

## Section 4. First aid measures

### Description of necessary 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 recognized skin cleanser. Do NOT use solvents or thinners.

## Section 4. First aid measures

**Ingestion** : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

**Eye contact** : Causes serious eye damage.  
**Inhalation** : No known significant effects or critical hazards.  
**Skin contact** : Causes severe burns. May be harmful in contact with skin.  
**Ingestion** : May be 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  
blistering may occur

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

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

**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.

**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. Fire-fighting measures

### Extinguishing media

**Suitable extinguishing media** : Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.

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

**Specific hazards arising from the chemical** : Combustible liquid. 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 harmful 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  
nitrogen oxides

## Section 5. Fire-fighting measures

**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. 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.

## 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 spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**For emergency responders** : If specialized 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 spilled 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.

### Methods and materials for containment and cleaning up

**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 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 spilled 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). Do not get in eyes or on skin or clothing. Do not breathe vapor 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. Empty containers retain product residue and can be

## Section 7. Handling and storage

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 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 oxidizing 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 unlabeled 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

None.

### 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.

### 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, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

### 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. 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.

##### Gloves

: nitrile neoprene

## Section 8. Exposure controls/personal protection

- 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.
- Color** : Colorless.
- Odor** : Amine-like.
- Odor threshold** : Not available.
- pH** : Not applicable.
- Melting point** : Not available.
- Boiling point** : >37.78°C (>100°F)
- Flash point** : Closed cup: 80°C (176°F)
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Not available.
- Lower and upper explosive (flammable) limits** : Not available.
- Vapor pressure** : Not available.
- Vapor density** : Not available.
- Relative density** : 0.98

	Media	Result
<b>Solubility(ies)</b>	cold water	Not soluble

- Partition coefficient: n-octanol/water** : Not applicable.
- Auto-ignition temperature** : 426°C (798.8°F)
- Decomposition temperature** : Not available.
- Viscosity** : Dynamic (room temperature): Not available.  
Kinematic (room temperature): Not available.  
Kinematic (40°C): <14 mm<sup>2</sup>/s

## 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.

## Section 10. Stability and reactivity

**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: oxidizing agents, strong alkalis, strong acids.

**Hazardous decomposition products** : Depending on conditions, decomposition products may include the following materials: carbon oxides nitrogen oxides

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Poly[oxy(methyl-1,2-ethanediyl)], $\alpha$ -(2-aminomethylethyl)- $\omega$ -(2-aminomethylethoxy)-2,4,6-tris(dimethylaminomethyl)phenol	LD50 Dermal	Rat	2980 mg/kg	-
	LD50 Oral	Rat	2885 mg/kg	-
	LD50 Dermal	Rat	1280 mg/kg	-
	LD50 Oral	Rat	1200 mg/kg	-

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

#### Irritation/Corrosion

##### 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.

#### Sensitization

**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)

Not available.

#### Specific target organ toxicity (repeated exposure)

Not available.

#### Aspiration hazard

Not available.

## Section 11. Toxicological information

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

### Potential acute health effects

**Eye contact** : Causes serious eye damage.  
**Inhalation** : No known significant effects or critical hazards.  
**Skin contact** : Causes severe burns. May be harmful in contact with skin.  
**Ingestion** : May be 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 and also chronic effects from short and long term exposure

#### Short term exposure

**Potential immediate effects** : There are no data available on the mixture itself.  
**Potential delayed effects** : There are no data available on the mixture itself.

#### Long term exposure

**Potential immediate effects** : There are no data available on the mixture itself.  
**Potential delayed effects** : There are no data available on the mixture itself.

#### Potential chronic health effects

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

### Numerical measures of toxicity

#### Acute toxicity estimates

Route	ATE value
Oral	2766.76 mg/kg
Dermal	2865.4 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 vapor/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	Exposure
Poly[oxy(methyl-1,2-ethanediyl)], $\alpha$ -(2-aminomethylethyl)- $\omega$ -(2-aminomethylethoxy)-2,4,6-tris(dimethylaminomethyl)phenol	EC50 15 mg/l	Algae	72 hours
	Acute LC50 >100 mg/l	Daphnia	48 hours
	Acute LC50 >100 mg/l	Fish	96 hours

### Persistence and degradability

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

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Poly[oxy(methyl-1,2-ethanediyl)], $\alpha$ -(2-aminomethylethyl)- $\omega$ -(2-aminomethylethoxy)-2,4,6-tris(dimethylaminomethyl)phenol	-	-	Not readily
	-	-	Not readily

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
2,4,6-tris(dimethylaminomethyl)phenol	0.219	-	Low

### 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 minimized 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

## Section 13. Disposal considerations

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. Vapor 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 spilled material and runoff and contact with soil, waterways, drains and sewers.

## Section 14. Transport information

	UN	IMDG	IATA
UN number	UN3066	UN3066	UN3066
UN proper shipping name	PAINT	PAINT	PAINT
Transport hazard class(es)	8	8	8
Packing group	III	III	III
Environmental hazards	No.	No.	No.
Marine pollutant substances	Not applicable.	Not applicable.	Not applicable.

### Additional information

UN : None identified.

IMDG : None identified.

IATA : None identified.

**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

### Safety, health and environmental regulations specific for the product

- Law on Chemicals - Law No. 06/2007/QH12
- Decree No. 113/2017/ND-CP Specifying and guiding the implementation of a number of articles of the Law on Chemicals
- Decree No. 82/2022/ND-CP Amending and supplementing a number of articles of Decree 113/2017/ND-CP dated October 9, 2017 of the Government detailing and guiding the implementation of a number of articles of the Law on Chemicals
- Decree 33/2024/ND-CP Stipulating the implementation of the convention prohibiting the development, production, stockpiling, use and destruction of chemical weapons
- Decree 34/2024/ND-CP Stipulating the list of dangerous goods, transport of dangerous goods by road motor vehicles and inland waterway vehicles
- Decree 43/2017/ND-CP Decree on Goods Labeling
- Decree 111/2021/ND-CP Amending and supplementing a number of articles of Decree 43/2017/ND-CP dated April 14, 2017
- Circular 32/2017/TT-BCT Specifying and guiding the implementation of a number

## Section 15. Regulatory information

of articles of the Law on Chemicals and Decree No. 113/2017/ND-CP dated October 9, 2017 of the Government detailing and guiding the implementation of a number of articles of the Law on Chemicals  
- Circular 17/2022 Amending and supplementing a number of articles of Circular No. 32/2017/TT-BCT dated December 28, 2017 of the Minister of Industry and Trade specifying and guiding the implementation of a number of articles of the Law on Chemicals and Decree No. 113/2017/ND-CP dated October 9, 2017 of the Government detailing and guiding the implementation of a number of articles of the Law on Chemicals and implementing a number of articles of the Law on Chemicals

### 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** : 28 April 2025

**Date of previous issue** : 10/17/2024

**Version** : 3.07

**Prepared by** : EHS

**Key to abbreviations** : ATE = Acute Toxicity Estimate  
BCF = Bioconcentration Factor  
GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
IATA = International Air Transport Association  
IBC = Intermediate Bulk Container  
IMDG = International Maritime Dangerous Goods  
LogPow = logarithm of the octanol/water partition coefficient  
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
UN = United Nations

**References** : Not available.

📌 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.