

SAFETY DATA SHEET

SIGMAGUARD CSF 650 BASE GREY



Date of issue 24 June 2025

Version 14

1. Product and company identification

Product name : SIGMAGUARD CSF 650 BASE GREY
Product code : 00243308
Product type : Liquid.

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

Product use : Professional applications, Used by spraying.


**Use of the substance/
mixture** : Coating.

Uses advised against : Not applicable.

Supplier's details : PPG PMC Japan Co., Ltd., 8F, Shintetsu Bldg., 1-1, Daikaidori 1-chome, Kobe
652-0803 Japan; Tel: +81-78-574-2777

**Emergency telephone
number** : 078 574 2777

2. Hazards identification


GHS Classification :  FLAMMABLE LIQUIDS - Category 4
SKIN IRRITATION - Category 2
EYE IRRITATION - Category 2A
SKIN SENSITIZATION - Category 1
CARCINOGENICITY - Category 1A
TOXIC TO REPRODUCTION - Category 1B
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 2
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
HAZARDOUS TO THE AQUATIC ENVIRONMENT - ACUTE HAZARD - Category 1
HAZARDOUS TO THE AQUATIC ENVIRONMENT - CHRONIC HAZARD -
Category 1

GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements :  Combustible liquid.
Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye irritation.
May cause cancer.
May damage fertility or the unborn child.
May cause damage to organs. (central nervous system (CNS), kidneys, liver, respiratory organs)
May cause damage to organs through prolonged or repeated exposure. (central

2. Hazards identification

nervous system (CNS), nervous system, respiratory organs)
Very toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention

: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. 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. Do not breathe vapor. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.

Response

: Collect spillage. IF exposed or concerned: Call a POISON CENTER or doctor. 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

: Store locked up.

Disposal

: Dispose of contents and container in accordance with all local, regional, national and international regulations.

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

3. Composition/information on ingredients

Substance/mixture : Mixture

CAS number/other identifiers

CAS number : Not applicable.

CSCL number : Not available.

Ingredient name	%	CAS number	CSCL
Polycondensate of 4,4'-isopropylidenediphenol and 1-chloro-2,3-epoxypropane (liquid only)	25 - <50	25068-38-6	7-1283
1,6-Hexanediol, reaction products with epichlorohydrin	7 - <10	933999-84-9	Not available.
benzyl alcohol	7 - <10	100-51-6	3-1011
Titanium dioxide (excluding nanoparticle)	3 - <5	13463-67-7	1-558; 5-5225
Talc (containing no asbestos or quartz)	3 - <5	14807-96-6	Not available.
Xylene	1 - <2	1330-20-7	3-3; 3-60
Octadecanoic acid, 12-hydroxy-, reaction products with ethylenediamine	0.2 - <0.5	100545-48-0	Not available.
Octadecanamide, N,N'-1,6-hexanediylbis [12-hydroxy-	0.2 - <0.5	55349-01-4	2-3055
Ethyl Benzene	0.2 - <0.5	100-41-4	3-28; 3-60
Ethanol	0.1 - <0.2	64-17-5	2-202
carbon black	0.1 - <0.2	1333-86-4	5-3328; 5-5222
crystalline silica, non-respirable powder (>10 microns)	0.1 - <0.2	14808-60-7	1-548
Methanol	0.1 - <0.2	67-56-1	2-201

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.

3. Composition/information on ingredients

SUB codes represent substances without registered CAS Numbers.

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 recognized skin cleanser. Do NOT use solvents or thinners.
- 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 irritation.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : May cause damage to organs following a single exposure in contact with skin. Causes skin irritation. May cause an allergic skin reaction.
- Ingestion** : May cause damage to organs following a single exposure if swallowed.

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 fetal weight
increase in fetal deaths
skeletal malformations
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
reduced fetal weight
increase in fetal deaths
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal 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)

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use dry chemical, CO₂, 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 very 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. 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.

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. Avoid breathing 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. Collect spillage.

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

6. Accidental release measures

material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

7. Handling and storage

Precautions for safe handling

: 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 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 hazardous. Do not reuse container.

Conditions for safe storage : 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.

8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
benzyl alcohol	Japan Society for Occupational Health (Japan, 5/2023) Skin sensitizer. OEL-C: 25 mg/m ³ .
titanium dioxide	Japan Society for Occupational Health (Japan, 5/2023) [titanium dioxide] OEL-M 8 hours: 1.5 mg/m ³ (as Ti). Form: Respirable particulate matter. OEL-M 8 hours: 2 mg/m ³ (as Ti). Form: Total particulate matter. Japan Society for Occupational Health (Japan, 5/2023) [titanium dioxide (nanoparticle)] OEL-M 8 hours: 0.3 mg/m ³ . Form: nanoparticle.
Talc , not containing asbestiform fibres	Japan Society for Occupational Health (Japan, 5/2023) [Class 1 dusts (Activated charcoal, Alumina, Aluminium, Bentonite, Diatomite, Graphite, Kaolinite, Pagodite, Pyrites, Pyrite cinder)] OEL-M 8 hours: 2 mg/m ³ . Form: Total dust (Class 1 Dust).

8. Exposure controls/personal protection

<p>xylylene</p> <p>ethylbenzene</p> <p>carbon black</p> <p>crystalline silica, non-respirable powder (>10 microns)</p> <p>methanol</p>	<p>OEL-M 8 hours: 0.5 mg/m³. Form: Respirable dust (Class 1 Dust). Japan Society for Occupational Health (Japan, 5/2023) OEL-M 8 hours: 50 ppm. OEL-M 8 hours: 217 mg/m³. Industrial Safety and Health Act (Japan, 6/2020) [xylylene] TWA 8 hours: 50 ppm. Japan Society for Occupational Health (Japan, 5/2023) Absorbed through skin. OEL-M 8 hours: 20 ppm. OEL-M 8 hours: 87 mg/m³. Industrial Safety and Health Act (Japan, 6/2020) TWA 8 hours: 20 ppm. Technical Guideline Concerning the Applications, etc. of Concentration Standard for Preventing Health Hazards (Japan, 6/2024) TWA 8 hours: 0.3 mg/m³. Form: as respirable aerosol fraction. Japan Society for Occupational Health (Japan, 5/2023) [Respirable crystalline silica] OEL-C: 0.03 mg/m³. Form: Respirable dust. Japan Society for Occupational Health (Japan, 5/2023) Absorbed through skin. OEL-M 8 hours: 200 ppm. OEL-M 8 hours: 260 mg/m³. Industrial Safety and Health Act (Japan, 6/2020) TWA 8 hours: 200 ppm.</p>
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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. 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 protection : Chemical splash goggles.

Skin protection

8. Exposure controls/personal 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.

9. Physical and chemical properties

Appearance

- Physical state** : Liquid.
- Color** : Gray.
- Odor** : Aromatic.
- Boiling point** : >37.78°C (>100°F)
- Flash point** : Closed cup: 73°C (163.4°F)
- Relative density** : 1.38

Solubility(ies) :

Media	Result
 Cold water	Not soluble

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: oxidizing 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

10. Stability and reactivity

11. Toxicological information

Information on toxicological effects

Acute toxicity


Product/ingredient name	Result	Species	Dose	Exposure
Polycondensate of 4,4'-isopropylidenediphenol and 1-chloro-2,3-epoxypropane (liquid only)	LD50 Dermal	Rabbit	>2 g/kg	-
1,6-Hexanediol, reaction products with epichlorohydrin	LD50 Oral	Rat	>2 g/kg	-
	LD50 Dermal	Rat - Male, Female	>2000 mg/kg	-
	LD50 Oral	Rat - Male, Female	2189 mg/kg	-
benzyl alcohol	LC50 Inhalation Dusts and mists	Rat	>5 mg/l	4 hours
	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat	1200 mg/kg	-
Titanium dioxide (excluding nanoparticle)	LC50 Inhalation Dusts and mists	Rat	>6.82 mg/l	4 hours
	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
Xylene	LD50 Dermal	Rabbit	1.7 g/kg	-
	LD50 Oral	Rat	4.3 g/kg	-
	LC50 Inhalation Dusts and mists	Rat	5.05 mg/l	4 hours
Octadecanoic acid, 12-hydroxy-, reaction products with ethylenediamine	LD50 Oral	Rat	>2000 mg/kg	-
Ethyl Benzene	LC50 Inhalation Vapor	Rat	17.8 mg/l	4 hours
	LD50 Dermal	Rabbit	17.8 g/kg	-
	LD50 Oral	Rat	3.5 g/kg	-
Ethanol	LC50 Inhalation Vapor	Rat	124700 mg/m ³	4 hours
	LD50 Dermal	Rat	17100 mg/kg	-
	LD50 Oral	Rat	7 g/kg	-
carbon black	LD50 Oral	Rat	>10 g/kg	-
	LC50 Inhalation Vapor	Rat	64000 ppm	4 hours
	LD50 Dermal	Rabbit	15800 mg/kg	-
Methanol	LD50 Oral	Rat	5600 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Polycondensate of 4,4'-isopropylidenediphenol and 1-chloro-2,3-epoxypropane (liquid only)	Eyes - Mild irritant	Rabbit	-	100 mg	-
	Eyes - Moderate irritant	Rabbit	-	-	-
	Skin - Moderate irritant	Rabbit	-	-	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 UI	-
	Skin - Severe irritant	Rabbit	-	24 hours 2 mg	-
Xylene	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-

Sensitization

11. Toxicological information

Product/ingredient name	Route of exposure	Species	Result
 Polycondensate of 4,4'-isopropylidenediphenol and 1-chloro-2,3-epoxypropane (liquid only) Octadecanoic acid, 12-hydroxy-, reaction products with ethylenediamine	skin	Mouse	Sensitizing
	skin	Guinea pig	Sensitizing

Mutagenicity

Not available.

Carcinogenicity

Not available.


Reproductive toxicity

Not available.


Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
 Benzyl alcohol - Talc (containing no asbestos or quartz) Xylene - Ethyl Benzene - Ethanol - Methanol -	Category 1 Category 3 Category 1 Category 1 Category 3 Category 3 Category 3 Category 3 Category 1 Category 3	- - - - - - - - -	central nervous system (CNS), kidneys Narcotic effects respiratory organs central nervous system (CNS), kidneys, liver, respiratory organs Narcotic effects Respiratory tract irritation Narcotic effects Respiratory tract irritation Narcotic effects central nervous system (CNS), systemic toxicity, visual organ Narcotic effects

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
 Benzyl alcohol Titanium dioxide (excluding nanoparticle) Talc (containing no asbestos or quartz) Xylene Ethyl Benzene	Category 1 Category 1 Category 1 Category 1 Category 1	- - - - -	central nervous system (CNS) respiratory organs respiratory organs nervous system, respiratory organs hearing organs,

11. Toxicological information

Ethanol	Category 1	-	nervous system
-	Category 2	-	liver
carbon black	Category 1	-	central nervous system (CNS)
Methanol	Category 1	-	respiratory organs
			central nervous system (CNS),
			visual organ

Aspiration hazard

Name	Result
Xylene	ASPIRATION HAZARD - Category 1
Ethyl Benzene	ASPIRATION HAZARD - Category 1

Information on the 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** : May cause damage to organs following a single exposure in contact with skin.
Causes skin irritation. May cause an allergic skin reaction.
- Ingestion** : May cause damage to organs following a single exposure if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness
- Inhalation** : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
reduced fetal weight
increase in fetal deaths
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

Delayed and immediate effects and also 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

11. Toxicological information

- General** : May cause damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
- Carcinogenicity** : May cause cancer. Risk of cancer depends on duration and level of exposure.
- Mutagenicity** : No known significant effects or critical hazards.
- Reproductive toxicity** : May damage fertility or the unborn child.

Numerical measures of toxicity

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
SIGMAGUARD CSF 650 BASE GREY	8818.1	2937.4	N/A	818.2	N/A
Polycondensate of 4,4'-isopropylidenediphenol and 1-chloro-2,3-epoxypropane (liquid only)	2500	2500	N/A	N/A	N/A
1,6-Hexanediol, reaction products with epichlorohydrin	2189	2500	N/A	N/A	N/A
benzyl alcohol	1200	1100	N/A	N/A	N/A
Xylene	4300	1700	N/A	11	N/A
Octadecanoic acid, 12-hydroxy-, reaction products with ethylenediamine	2500	N/A	N/A	N/A	5.05
Ethyl Benzene	3500	17800	N/A	17.8	N/A
Ethanol	7000	17100	N/A	124.7	N/A
Methanol	500	15800	64000	N/A	N/A

Other information :

Sanding and grinding dusts may be harmful if inhaled. 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.

12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Polycondensate of 4,4'-isopropylidenediphenol and 1-chloro-2,3-epoxypropane (liquid only)	Chronic NOEC 0.3 mg/l	Daphnia	21 days
1,6-Hexanediol, reaction products with epichlorohydrin	NOEC 15 mg/l	Daphnia	21 days
Titanium dioxide (excluding nanoparticle)	Acute EC50 47 mg/l Fresh water	Daphnia	48 hours
	Acute LC50 30 mg/l Fresh water	Fish	96 hours
	Acute LC50 >100 mg/l Fresh water	Daphnia - <i>Daphnia magna</i>	48 hours
	Acute EC50 >100 mg/l	Algae - <i>Pseudokirchneriella subcapitata</i>	72 hours
Octadecanoic acid, 12-hydroxy-, reaction products with ethylenediamine	Acute EC50 >10 mg/l	Daphnia - <i>Daphnia magna</i>	48 hours
Ethyl Benzene	Acute LC50 >10 mg/l	Fish - <i>Oncorhynchus mykiss</i>	96 hours
	Acute EC50 1.8 mg/l Fresh water	Daphnia	48 hours
Ethanol	Chronic NOEC 1 mg/l Fresh water	Daphnia - <i>Ceriodaphnia dubia</i>	-
	Acute EC50 7640 mg/l Fresh water	Daphnia - <i>Daphnia magna</i>	48 hours

12. Ecological information

Methanol	Acute LC50 13 mg/l Fresh water	Fish	96 hours
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Persistence/degradability

Product/ingredient name	Test	Result	Dose	Inoculum
Polycondensate of 4,4'-isopropylidenediphenol and 1-chloro-2,3-epoxypropane (liquid only)	OECD 301F	5 % - 28 days	-	-
1,6-Hexanediol, reaction products with epichlorohydrin	OECD Ready Biodegradability - Closed Bottle Test	47 % - Not readily - 28 days	-	-
Octadecanoic acid, 12-hydroxy-, reaction products with ethylenediamine	Ready Biodegradability - Closed Bottle Test	22 % - 28 days	-	-
Ethyl Benzene	-	79 % - Readily - 10 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Polycondensate of 4,4'-isopropylidenediphenol and 1-chloro-2,3-epoxypropane (liquid only)	-	-	Not readily
1,6-Hexanediol, reaction products with epichlorohydrin	-	-	Not readily
benzyl alcohol	-	-	Readily
Xylene	-	-	Readily
Octadecanoic acid, 12-hydroxy-, reaction products with ethylenediamine	-	-	Inherent
Ethyl Benzene	-	-	Readily
Ethanol	-	-	Readily

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Polycondensate of 4,4'-isopropylidenediphenol and 1-chloro-2,3-epoxypropane (liquid only)	2.64 to 3.78	31	Low
1,6-Hexanediol, reaction products with epichlorohydrin	0.822	-	Low
benzyl alcohol	0.87	-	Low
Xylene	3.12	7.4 to 18.5	Low
Octadecanoic acid, 12-hydroxy-, reaction products with ethylenediamine	>5.86	-	High
Ethyl Benzene	3.6	79.43	Low
Ethanol	-0.35	-	Low
Methanol	-0.77	-	Low

Mobility in soil

Soil/Water partition coefficient : Not available.

12. Ecological information

Mobility : Not available.

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

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 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.

14. Transport information

	UN	IMDG	IATA
UN number	UN3082	UN3082	UN3082
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. ☑reaction product: bisphenol-A-(epichlorohydrin); epoxy resin	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. ☑reaction product: bisphenol-A-(epichlorohydrin); epoxy resin	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. ☑reaction product: bisphenol-A-(epichlorohydrin); epoxy resin
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.

14. Transport information

Transport in bulk according to IMO instruments : Not applicable.

15. Regulatory information

Fire Service Law

Category	Substance name/Type	Danger category	Signal word	Designated quantity
Specified flammables	Combustible liquid	Not applicable	Not applicable	2 m ³

Pollutant Release and Transfer Registers (PRTR)

Ingredient name	%	Status	Reference number
Xylene	1.1	Class 1	80

Industrial Safety and Health Act

Ordinance on the Prevention of the Hazard due to Specified Chemical Substances

None of the components are listed.

Substance(s) requiring labelling

Ingredient name	%	Status	Reference number
Polycondensation products of 4,4'-isopropylidenediphenol and 1-chloro-2,3-epoxypropane (liquid only)(2025-04)	≥40 - ≤50	Listed	2-169 (2025-04)
Benzyl alcohol	≤10	Listed	530-4, 2-1899 (2025-04)
Titanium(IV) oxide	≤10	Listed	191, 2-623 (2025-04)
Xylene	≤10	Listed	136, 2-426 (2025-04)
Crystalline silica	≤10	Listed	165-2
Silica, crystalline(2025-04)	≤10	Listed	2-578 (2025-04)
Ethylbenzene	≤10	Listed	70, 2-247 (2025-04)
Ethanol	≤10	Listed	61, 2-205 (2025-04)

Chemicals requiring notification

Ingredient name	%	Status	Reference number
Polycondensation products of 4,4'-isopropylidenediphenol and 1-chloro-2,3-epoxypropane (liquid only)(2025-04)	≥40 - ≤50	Listed	2-169 (2025-04)
Benzyl alcohol	≤10	Listed	530-4, 2-1899 (2025-04)
Titanium(IV) oxide	≤10	Listed	191, 2-623 (2025-04)
Xylene	≤10	Listed	136, 2-426 (2025-04)
Crystalline silica	≤10	Listed	165-2

15. Regulatory information

Silica, crystalline(2025-04)	≤10	Listed	2-578 (2025-04)
Ethylbenzene	≤10	Listed	70, 2-247 (2025-04)
Ethanol	≤10	Listed	61, 2-205 (2025-04)
Carbon black	≤10	Listed	130, 2-403 (2025-04)
Methanol	≤10	Listed	560, 2-2006 (2025-04)

Carcinogens based on Article 577-2 of the Ordinance on ISH

Ingredient name	%	Status	Reference number
quartz	≤10	Listed	-

Mutagen

Ingredient name	%	Status	Reference number
bisphenol A type epoxy resin intermediate	≥40 - ≤50	Listed	110

Corrosive liquid : Not listed

Occupational Safety and Health Law : ☒ Not applicable.

Regulations on the Prevention of Tetraalkyl Lead Poisoning : Not listed

Harmful Substances Subject to Obtaining Permission for Manufacturing : Not listed

Harmful Substances, Prohibited for Manufacturing : Not listed

Lead regulation : Not listed

Organic solvents poisoning prevention : Not applicable.

Poisonous and Deleterious Substances

None of the components are listed.

Chemical Substances Control Law (CSCL)

Ingredient name	%	Status	Reference number
Polycondensate of 4,4'-isopropylidenediphenol and 1-chloro-2,3-epoxypropane (liquid only)	≥40 - ≤50	Priority assessment	87
Xylene	≤10	Priority assessment	125
Ethylbenzene	≤10	Priority assessment	50

High Pressure Gas Control Law : Not available.

Explosives Control Law

15. Regulatory information

None of the components are listed.

**Law concerning prevention
of pollution of the ocean** : Not available.

Maritime Safety Law

Notification Regulating Transportation of Dangerous Materials by Sea

None of the components are listed.

Container class

None of the components are listed.

JSOH Carcinogen : Group 1

**List of Specially Controlled
Industrial Waste** : Not listed

Japan inventory : ☒ All components are listed or exempted.

Road law : Not available.

16. Other information

History

**Date of issue/Date of
revision** : 24 June 2025

Date of previous issue : 5/18/2021

Version : 14

Prepared by : EHS

Key to abbreviations : ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
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)
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
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.