

# SAFETY DATA SHEET

SIGMATHERM 540 BLACK



Date of issue 29 June 2026

Version 4

## 1. Product and company identification

**Product name** : SIGMATHERM 540 BLACK  
**Product code** : 000010023228  
**Other means of identification** : 00381419; 00469219 ; 381419  
**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 2  
SERIOUS EYE DAMAGE - Category 1  
GERM CELL MUTAGENICITY - Category 2  
CARCINOGENICITY - Category 1A  
TOXIC TO REPRODUCTION - Category 1A  
TOXIC TO REPRODUCTION - Effects on or via lactation  
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 2  
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3  
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3  
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1  
HAZARDOUS TO THE AQUATIC ENVIRONMENT - ACUTE HAZARD - Category 2  
HAZARDOUS TO THE AQUATIC ENVIRONMENT - CHRONIC HAZARD - Category 3

### GHS label elements

**Hazard pictograms** :



**Signal word** : Danger

## 2. Hazards identification

- Hazard statements** : Highly flammable liquid and vapor.  
Causes serious eye damage.  
May cause respiratory irritation.  
May cause drowsiness or dizziness.  
Suspected of causing genetic defects.  
May cause cancer.  
May damage fertility or the unborn child.  
May cause harm to breast-fed children.  
May cause damage to organs. (central nervous system (CNS), kidneys, liver, respiratory organs)  
Causes damage to organs through prolonged or repeated exposure. (hearing organs, nervous system, respiratory organs)  
Toxic to aquatic life.  
Harmful 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. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Do not breathe vapor. Avoid contact during pregnancy and while nursing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling.
- Response** : IF exposed or concerned: Call a POISON CENTER or doctor. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. 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. Store in a well-ventilated place. Keep container tightly closed.
- Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.

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

## 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
Mica	20 - <25	12001-26-2	Not available.
Ethylbenzene	12.5 - <15	100-41-4	3-28; 3-60
manganese ferrite black spinel	7 - <10	68186-94-7	Not available.
Propylene glycol monomethyl ether	7 - <10	107-98-2	2-404; 7-97
Xylene	7 - <10	1330-20-7	3-3; 3-60
2-([3-(Trimethoxysilyl)propoxy]methyl)oxirane	5 - <7	2530-83-8	2-2071
1-Butanol, titanium(4+) salt (4:1), homopolymer	1 - <2	9022-96-2	2-2175; 2-2192
Toluene	0.2 - <0.5	108-88-3	3-2; 3-60
Crystalline silica	0.2 - <0.5	14808-60-7	1-548
Methanol	0.1 - <0.2	67-56-1	2-201
Copper	<0.1	7440-50-8	Not available.

### 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 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.

### 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.
- 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** : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.
- Skin contact** : May cause damage to organs following a single exposure in contact with skin. Defatting to the skin. May cause skin dryness and irritation.
- Ingestion** : May cause damage to organs following a single exposure if swallowed. Can cause central nervous system (CNS) depression.

##### Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:  
pain  
watering  
redness
- Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing  
nausea or vomiting  
headache  
drowsiness/fatigue  
dizziness/vertigo  
unconsciousness  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations
- Skin contact** : Adverse symptoms may include the following:  
pain or irritation  
redness  
dryness  
cracking  
blistering may occur  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations

## 4. First aid measures

**Ingestion** : Adverse symptoms may include the following:  
stomach pains  
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, CO<sub>2</sub>, water spray (fog) or foam.

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

**Specific hazards arising from the chemical** : Highly flammable liquid and vapor. 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. 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  
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. Do not breathe vapor. Put on appropriate personal protective equipment. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate.

## 6. Accidental release measures

**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.

## 7. Handling and storage

**Precautions for safe handling** : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid contact during pregnancy or while nursing. 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. Take precautionary measures against electrostatic discharges. 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

Mica-group minerals

**Industrial Safety and Health Act (Japan, 6/2025) [mineral, metal or carbon dusts]**

TWA 8 hours:  $3 / (1.19 \times \%SiO_2 + 1)$  mg/m<sup>3</sup>.

Form: dust.

**Japan Society for Occupational Health (Japan, 5/2024)** Absorbed through skin.

OEL-M 8 hours: 20 ppm.

OEL-M 8 hours: 87 mg/m<sup>3</sup>.

**Industrial Safety and Health Act (Japan, 6/2025)**

TWA 8 hours: 20 ppm.

**Japan Society for Occupational Health (Japan, 5/2024) [Manganese and compounds (except organic compounds)]**

OEL-M 8 hours: 0.02 mg/m<sup>3</sup> (measured as Mn). Form: Respirable particulate matter.

OEL-M 8 hours: 0.1 mg/m<sup>3</sup> (measured as Mn). Form: Total particulate matter.

**Industrial Safety and Health Act (Japan, 6/2025) [manganese and its compounds]**

TWA 8 hours: 0.05 mg/m<sup>3</sup> (as manganese).

**Substances Specified Concentration Standard (Ordinance on ISHL, Article 577-2, Paragraph 2) (Japan, 6/2024)**

TWA 8 hours: 50 ppm.

**Japan Society for Occupational Health (Japan, 5/2024)**

OEL-M 8 hours: 50 ppm.

OEL-M 8 hours: 217 mg/m<sup>3</sup>.

**Industrial Safety and Health Act (Japan, 6/2025) [xylene]**

TWA 8 hours: 50 ppm.

**Japan Society for Occupational Health (Japan, 5/2024)** Absorbed through skin.

OEL-M 8 hours: 50 ppm.

OEL-M 8 hours: 188 mg/m<sup>3</sup>.

**Industrial Safety and Health Act (Japan, 6/2025)**

TWA 8 hours: 20 ppm.

**Japan Society for Occupational Health (Japan, 5/2024) [Respirable crystalline silica]**

OEL-C: 0.03 mg/m<sup>3</sup>. Form: Respirable particulate matter.

**Japan Society for Occupational Health (Japan, 5/2024)** Absorbed through skin.

OEL-M 8 hours: 200 ppm.

OEL-M 8 hours: 260 mg/m<sup>3</sup>.

**Industrial Safety and Health Act (Japan, 6/2025)**

TWA 8 hours: 200 ppm.

**Japan Society for Occupational Health (Japan, 5/2024) [Copper and compounds]**

Skin sensitizer.

ethylbenzene

manganese ferrite black spinel

1-methoxy-2-propanol

xylene

toluene

crystalline silica, respirable powder (<10 microns)

methanol

copper

## 8. Exposure controls/personal protection

**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 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** : For prolonged or repeated handling, use the following type of gloves:

Not recommended: nitrile rubber

Recommended: polyvinyl alcohol (PVA), butyl rubber, Viton®

**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.

**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	: Black.
Odor	: Characteristic.
Boiling point	: >37.78°C (>100°F)
Flash point	: Closed cup: 22°C (71.6°F)
Relative density	: 1.38

Solubility(ies)	<b>Media</b>	<b>Result</b>
	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 metal oxide/oxides

## 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Ethylbenzene	LC50 Inhalation Vapor	Rat	17.8 mg/l	4 hours
	LD50 Dermal	Rabbit	17.8 g/kg	-
	LD50 Oral	Rat	3.5 g/kg	-
Propylene glycol monomethyl ether	LC50 Inhalation Vapor	Rat	>7000 ppm	6 hours
	LD50 Dermal	Rabbit	13 g/kg	-
Xylene	LD50 Oral	Rat	5.2 g/kg	-
	LD50 Dermal	Rabbit	1.7 g/kg	-
	LD50 Oral	Rat	4.3 g/kg	-
2-[[3-(Trimethoxysilyl)propoxy]methyl]oxirane	LC50 Inhalation Dusts and mists	Rat	>5.3 mg/l	4 hours
	LD50 Oral	Rat	7.01 g/kg	-
Toluene	LC50 Inhalation Vapor	Rat	49 g/m <sup>3</sup>	4 hours
	LD50 Oral	Rat	5580 mg/kg	-
	LC50 Inhalation Vapor	Rat	64000 ppm	4 hours
Methanol	LD50 Dermal	Rabbit	15800 mg/kg	-
	LD50 Oral	Rat	5600 mg/kg	-
	LC50 Inhalation Dusts and mists	Rat	>5.11 mg/l	4 hours

## 11. Toxicological information

### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Xylene	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-

### Sensitization

Not available.

### 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
Ethylbenzene	Category 3	-	Respiratory tract irritation
-	Category 3	-	Narcotic effects
Propylene glycol monomethyl ether	Category 3	-	Narcotic effects
Xylene	Category 1	-	central nervous system (CNS), kidneys, liver, respiratory organs
-	Category 3	-	Narcotic effects
2-[[3-(Trimethoxysilyl)propoxy]methyl]oxirane	Category 3	-	Respiratory tract irritation
1-Butanol, titanium(4+) salt (4:1), homopolymer	Category 3	-	Respiratory tract irritation
-	Category 3	-	Narcotic effects
Toluene	Category 1	-	central nervous system (CNS)
-	Category 3	-	Respiratory tract irritation
-	Category 3	-	Narcotic effects
Methanol	Category 1	-	central nervous system (CNS), systemic toxicity, visual organ
-	Category 3	-	Narcotic effects
Copper	Category 1	-	digestive organs
-	Category 3	-	Respiratory tract irritation

### Specific target organ toxicity (repeated exposure)

## 11. Toxicological information

Name	Category	Route of exposure	Target organs
Mica	Category 1	-	respiratory organs
Ethylbenzene	Category 1	-	hearing organs, nervous system
Xylene	Category 1	-	nervous system, respiratory organs
Toluene	Category 1	-	central nervous system (CNS), kidneys
Crystalline silica	Category 1	-	immune system, kidneys, respiratory organs
Methanol	Category 1	-	central nervous system (CNS), visual organ

### Aspiration hazard

Name	Result
Ethylbenzene	ASPIRATION HAZARD - Category 1
Xylene	ASPIRATION HAZARD - Category 1
Toluene	ASPIRATION HAZARD - Category 1

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

### Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.
- Skin contact** : May cause damage to organs following a single exposure in contact with skin. Defatting to the skin. May cause skin dryness and irritation.
- Ingestion** : May cause damage to organs following a single exposure if swallowed. Can cause central nervous system (CNS) depression.

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

- Eye contact** : Adverse symptoms may include the following:  
pain  
watering  
redness
- Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing  
nausea or vomiting  
headache  
drowsiness/fatigue  
dizziness/vertigo  
unconsciousness  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations

## 11. Toxicological information

- Skin contact** : Adverse symptoms may include the following:  
 pain or irritation  
 redness  
 dryness  
 cracking  
 blistering may occur  
 reduced fetal weight  
 increase in fetal deaths  
 skeletal malformations
- Ingestion** : Adverse symptoms may include the following:  
 stomach pains  
 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

- General** : Causes damage to organs through prolonged or repeated exposure. Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.
- Carcinogenicity** : May cause cancer. Risk of cancer depends on duration and level of exposure.
- Mutagenicity** : Suspected of causing genetic defects.
- Reproductive toxicity** : May damage fertility or the unborn child.  
 May cause harm to breast-fed children.

### 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)
SIGMATHERM 540 BLACK	17525.9	13518.2	N/A	41.4	N/A
Ethylbenzene	3500	17800	N/A	17.8	N/A
Propylene glycol monomethyl ether	5200	13000	N/A	11	N/A
Xylene	4300	1700	N/A	11	N/A
2-[[3-(Trimethoxysilyl)propoxy]methyl]oxirane	7010	N/A	N/A	N/A	N/A
1-Butanol, titanium(4+) salt (4:1), homopolymer	500	N/A	N/A	N/A	N/A
Toluene	5580	N/A	N/A	11	N/A
Methanol	500	15800	64000	N/A	N/A

**Other information** :

## 11. Toxicological information

Prolonged or repeated contact may dry skin and cause irritation. 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. Trimethoxysilanes are capable of forming methanol if hydrolyzed or ingested. If swallowed, methanol may be harmful or fatal or cause blindness. Avoid contact with skin and clothing.

## 12. Ecological information

### Toxicity

Product/ingredient name	Result	Species	Exposure
Ethylbenzene	Acute EC50 1.8 mg/l Fresh water	Daphnia	48 hours
Propylene glycol monomethyl ether	Chronic NOEC 1 mg/l Fresh water	Daphnia - <i>Ceriodaphnia dubia</i>	-
	Acute LC50 23300 mg/l	Daphnia	48 hours
2-[[3-(Trimethoxysilyl)propoxy]methyl]oxirane	Acute LC50 >4500 mg/l Fresh water	Fish	96 hours
	Acute EC50 255 mg/l Fresh water	Algae	72 hours
Toluene	Acute EC50 473 mg/l	Daphnia	48 hours
	Acute LC50 55 mg/l	Fish	96 hours
	EC50 3.78 mg/l	Daphnia	48 hours
	LC50 5.5 mg/l	Fish	96 hours
Methanol	Acute LC50 13 mg/l Fresh water	Fish	96 hours
Copper	Acute LC50 810 ppb	Fish	96 hours
	Chronic EC10 8.1 µg/l	Daphnia - <i>Daphnia magna</i> - Neonate	21 days

### Persistence/degradability

Product/ingredient name	Test	Result	Dose	Inoculum
Ethylbenzene 2-[[3-(Trimethoxysilyl)propoxy]methyl]oxirane	-	79 % - Readily - 10 days	-	-
	-	37 % - Not readily - 28 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Ethylbenzene	-	-	Readily
Xylene	-	-	Readily
2-[[3-(Trimethoxysilyl)propoxy]methyl]oxirane	-	-	Not readily
Toluene	-	-	Readily

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
Ethylbenzene	3.6	79.43	Low
Propylene glycol monomethyl ether	<1	-	Low
Xylene	3.12	7.4 to 18.5	Low
Toluene	2.73	90	Low
Methanol	-0.77	-	Low

### Mobility in soil

Soil/Water partition coefficient : Not available.

Mobility : Not available.

## 12. Ecological information

**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
<b>UN number</b>	UN1263	UN1263	UN1263
<b>UN proper shipping name</b>	PAINT	PAINT	PAINT
<b>Transport hazard class(es)</b>	3	3	3
<b>Packing group</b>	II	II	II
<b>Environmental hazards</b>	No.	No.	No.
<b>Marine pollutant substances</b>	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.

## 15. Regulatory information

### Fire Service Law

Category	Substance name/Type	Danger category	Signal word	Designated quantity
Category IV	Class II petroleum (Water insoluble)	III	Flammable - Keep Fire Away	1000 L

### Pollutant Release and Transfer Registers (PRTR)

Ingredient name			
Ethylbenzene	13	Class 1	53
Manganese and its compounds	9.8	Class 1	412
Xylene	7.5	Class 1	80
Trimethoxy-[3-(oxiran-2-ylmethoxy)propyl]silane	5.9	Class 1	693

### Industrial Safety and Health Act

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

Ingredient name	%	Status	Reference number
Ethyl benzene	≥10 - ≤20	Special Organic Solvents Group-2 Substances under Supervision	3-3
manganese and its compounds	≤10		33

#### Substance(s) requiring labelling

Ingredient name	%	Status	Reference number
Ethylbenzene	≥10 - ≤20	Listed	2-247
Manganese and its inorganic compounds	≤10	Listed	30
Propylene glycol monomethyl ether	≤10	Listed	2-1787
Xylene	≤10	Listed	2-426
Trimethoxy-[3-(oxiran-2-ylmethoxy)propyl]silane	≤10	Listed	2-1431-2
Toluene	≤10	Listed	2-1437
Silica, crystalline	≤10	Listed	2-578

#### Chemicals requiring notification

Ingredient name	%	Status	Reference number
Ethylbenzene	≥10 - ≤20	Listed	2-247
Manganese and its inorganic compounds	≤10	Listed	30
Propylene glycol monomethyl ether	≤10	Listed	2-1787
Xylene	≤10	Listed	2-426
Trimethoxy-[3-(oxiran-2-ylmethoxy)propyl]silane	≤10	Listed	2-1431-2
Toluene	≤10	Listed	2-1437
Silica, crystalline	≤10	Listed	2-578
Methanol	≤10	Listed	2-2006

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

Ingredient name	%	Status	Reference number
Crystalline silica	≤10	Listed	-
Crystalline silica	≤10	Listed	-
Crystalline silica	≤10	Listed	-
Crystalline silica (tridymite)	≤10	Listed	-

#### Mutagen

## 15. Regulatory information

None of the components are listed.

<b>Corrosive liquid</b>	: Not listed
<b>Occupational Safety and Health Law</b>	: <input checked="" type="checkbox"/> Oxidizing, Inflammable, Combustible
<b>Regulations on the Prevention of Tetraalkyl Lead Poisoning</b>	: Not listed
<b>Harmful Substances Subject to Obtaining Permission for Manufacturing</b>	: Not listed
<b>Harmful Substances, Prohibited for Manufacturing</b>	: Not listed
<b>ISHL Enforcement Order Appendix 1 - Dangerous Substances</b>	: <input checked="" type="checkbox"/> Oxidizing, Inflammable, Combustible
<b>Lead regulation</b>	: Not listed
<b>Organic solvents poisoning prevention</b>	: Class 2

### Poisonous and Deleterious Substances

None of the components are listed.

### Chemical Substances Control Law (CSCL)

Ingredient name	%	Status	Reference number
<input checked="" type="checkbox"/> Ethylbenzene	≥10 - ≤20	Priority assessment	50
Xylene	≤10	Priority assessment	125
Toluene	≤10	Priority assessment	46
1-Butanol	≤10	Priority assessment	124
Sodium salt of saturated fatty acid(C8-18, normal chain) or unsaturated fatty acid(C16-18, normal chain)	≤10	Priority assessment	172
Benzene	≤10	Priority assessment	45

**High Pressure Gas Control Law** : Not available.

### Explosives Control Law

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

## 15. Regulatory information

**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** : 29 June 2026

**Date of previous issue** : 7/25/2025

**Version** : 4

**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.

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