

SAFETY DATA SHEET



SIGMACOVER 456 HS BASE BASE L

Date of issue 9 November 2022

Version 23

1. Product and company identification

Product name : SIGMACOVER 456 HS BASE BASE L
Product code : 00191846
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 3
SKIN IRRITATION - Category 2
EYE IRRITATION - Category 2A
SKIN SENSITIZATION - Category 1
GERM CELL MUTAGENICITY - Category 2
CARCINOGENICITY - Category 1A
TOXIC TO REPRODUCTION - Category 1B
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 1
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 2

GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements :  Flammable liquid and vapor.
Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye irritation.
Suspected of causing genetic defects.
May cause cancer.
May damage fertility or the unborn child.
Causes damage to organs. (central nervous system (CNS), kidneys, liver,

2. Hazards identification

respiratory organs)

Causes damage to organs through prolonged or repeated exposure. (blood system, immune system, kidneys, nervous system, respiratory organs)

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 (or hair): Take off immediately all contaminated clothing. Rinse skin with water. IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice or attention. 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 : 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
crystalline silica, respirable powder (>10 microns)	15 - <20	14808-60-7	1-548
Talc containing no asbestos or quartz	15 - <20	14807-96-6	Not available.
titanium dioxide (excluding nanoparticle)	12.5 - <15	13463-67-7	1-558; 5-5225
Xylene	10 - <12.5	1330-20-7	3-3; 3-60
Epoxy Resin	10 - <12.5	SUB110652	Not available.
zinc phosphate	7 - <10	7779-90-0	1-1181; 1-526
bis-[4-(2,3-epoxipropoxy)phenyl]propane	3 - <5	1675-54-3	4-209; 7-1279; 7-1283
Propylidynetrimethanol, ethoxylated, esters with acrylic acid	3 - <5	28961-43-5	7-708
Epoxy Resin (700<MW<=1100)	2 - <3	25036-25-3	Not available.
Epoxy resin (MW ≤ 700)	2 - <3	25068-38-6	(7)-1279
ethyl benzene	2 - <3	100-41-4	3-28; 3-60
Propylene glycol monomethyl ether	1 - <2	107-98-2	2-404; 7-97
crystalline silica (quartz)	1 - <2	14808-60-7	1-548
isobutyl alcohol	1 - <2	78-83-1	2-3049
Reaction products of 12-hydroxyoctadecanoic acid and octadecanoic acid and 1,3-phenylenedimethanamine	0.5 - <1	911674-82-3	Not available.
Zinc oxide	0.1 - <0.2	1314-13-2	1-561
Silica silicon dioxide containing crystalline and amorphous	0.1 - <0.2	7631-86-9	1-548

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** : Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10 minutes and seek immediate medical advice. In case of accidental eye contact, avoid direct exposure to the sun or other sources of UV light as severe irritation including burns may result. These reactions can be delayed – get medical attention if pain, irritation or blistering occurs after contact.
- 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** : Causes damage to organs following a single exposure in contact with skin. Causes skin irritation. Defatting to the skin. May cause an allergic skin reaction.
- Ingestion** : Causes 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
dryness
cracking
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.

4. First aid measures

- 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 : 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 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
phosphorus 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.

6. Accidental release measures

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). 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. 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

8. Exposure controls/personal protection

Ingredient name	Exposure limits
crystalline silica, respirable powder (>10 microns)	Japan Society for Occupational Health (Japan, 9/2021). [Respirable crystalline silica] OEL-C: 0.03 mg/m ³ Form: Respirable dust
Talc containing no asbestos or quartz	Japan Society for Occupational Health (Japan, 9/2021). [Class 1 dusts (Activated charcoal, Alumina, Aluminium, Bentonite, Diatomite, Graphite, Kaolinite, Pagodite, Pyrites, Pyrite cinder, Talc)] OEL-M: 0.5 mg/m ³ 8 hours. Form: Respirable dust (Class 1 Dust) OEL-M: 2 mg/m ³ 8 hours. Form: Total dust (Class 1 Dust)
titanium dioxide (excluding nanoparticle)	Japan Society for Occupational Health (Japan, 9/2021). OEL-M: 1 mg/m ³ 8 hours. Form: Respirable dust (Class 2 Dust) OEL-M: 4 mg/m ³ 8 hours. Form: Total dust (Class 2 Dust)
Xylene	ISHL (Japan, 6/2020). [xylene] TWA: 50 ppm 8 hours. Japan Society for Occupational Health (Japan, 9/2021). OEL-M: 50 ppm 8 hours. OEL-M: 217 mg/m ³ 8 hours.
ethyl benzene	Japan Society for Occupational Health (Japan, 9/2021). Absorbed through skin. OEL-M: 87 mg/m ³ 8 hours. OEL-M: 20 ppm 8 hours. ISHL (Japan, 6/2020). TWA: 20 ppm 8 hours.
crystalline silica (quartz)	Japan Society for Occupational Health (Japan, 9/2021). [Respirable crystalline silica] OEL-C: 0.03 mg/m ³ Form: Respirable dust
isobutyl alcohol	Japan Society for Occupational Health (Japan, 9/2021). OEL-M: 150 mg/m ³ 8 hours. OEL-M: 50 ppm 8 hours. ISHL (Japan, 6/2020). TWA: 50 ppm 8 hours.
Zinc oxide	Japan Society for Occupational Health (Japan, 9/2021). [Class 2 dusts (Dusts containing less than 3% free silica, Bakelite, Carbon black, Coal, Cork dust, Cotton dust, Iron oxide, Grain dust, Joss stick material dust, Marble, Portland cement, Titanium oxide, Wood dust, Zinc oxide)] OEL-M: 1 mg/m ³ 8 hours. Form: Respirable dust (Class 2 Dust) OEL-M: 4 mg/m ³ 8 hours. Form: Total dust (Class 2 Dust)

8. Exposure controls/personal protection

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. 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

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 : polyethylene 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. 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	: Various
Odor	: Aromatic.
Boiling point	: >37.78°C (>100°F)
Flash point	: Closed cup: 27.9°C (82.2°F)
Relative density	: 1.57

Media	Result
cold water	Not soluble

Auto-ignition temperature : 430°C (806°F)

Viscosity : 60 - 100 s (ISO 6mm)

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 phosphorus oxides halogenated compounds metal oxide/oxides

11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Titanium dioxide (excluding nanoparticle)	LC50 Inhalation Dusts and mists	Rat	>6.82 mg/l	4 hours
	LD50 Dermal	Rabbit	>5000 mg/kg	-
Xylene	LD50 Oral	Rat	>5000 mg/kg	-
	LD50 Dermal	Rabbit	1.7 g/kg	-
zinc phosphate	LD50 Oral	Rat	4.3 g/kg	-
	LC50 Inhalation Dusts and mists	Rat	>5.7 mg/l	4 hours
bis-[4-(2,3-epoxipropoxy)phenyl]propane	LD50 Oral	Rat	>5000 mg/kg	-
	LD50 Dermal	Rabbit	23000 mg/kg	-
Propylidynetrimethanol, ethoxylated, esters with acrylic acid	LD50 Oral	Rat	15000 mg/kg	-
	LD50 Dermal	Rabbit	>13 g/kg	-

11. Toxicological information

Epoxy Resin (700<MW <=1100)	LD50 Oral	Rat	>5000 mg/kg	-
	LD50 Dermal	Rat	>2000 mg/kg	-
Epoxy resin (MW ≤ 700)	LD50 Oral	Rat	>2000 mg/kg	-
	LD50 Dermal	Rabbit	>2 g/kg	-
ethyl benzene	LD50 Oral	Rat	>2 g/kg	-
	LC50 Inhalation Vapor	Rat	17.8 mg/l	4 hours
Propylene glycol monomethyl ether	LD50 Dermal	Rabbit	17.8 g/kg	-
	LD50 Oral	Rat	3.5 g/kg	-
isobutyl alcohol	LC50 Inhalation Vapor	Rat	>7000 ppm	6 hours
	LD50 Dermal	Rabbit	13 g/kg	-
Reaction products of 12-hydroxyoctadecanoic acid and octadecanoic acid and 1,3-phenylenedimethanamine	LD50 Oral	Rat	5.2 g/kg	-
	LC50 Inhalation Vapor	Rat	24.6 mg/l	4 hours
Zinc oxide	LD50 Dermal	Rabbit	2460 mg/kg	-
	LD50 Oral	Rat	2830 mg/kg	-
Silica silicon dioxide containing crystalline and amorphous	LC50 Inhalation Dusts and mists	Rat	>5.08 mg/l	4 hours
	LD50 Dermal	Rat	>5700 mg/m ³	4 hours
	LD50 Oral	Rat	>2000 mg/kg	-
	LD50 Dermal	Rat	>5000 mg/kg	-
	LD50 Oral	Rabbit	>5000 mg/kg	-
	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat - Male, Female	>5000 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Xylene	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-
bis-[4-(2,3-epoxipropoxy) phenyl]propane	Eyes - Mild irritant	Rabbit	-	24 hours	-
	Eyes - Redness of the conjunctivae	Rabbit	0.4	24 hours	-
	Skin - Edema	Rabbit	0.5	4 hours	-
	Skin - Erythema/Eschar	Rabbit	0.8	4 hours	-
	Skin - Mild irritant	Rabbit	-	4 hours	-
Epoxy resin (MW ≤ 700)	Eyes - Mild irritant	Rabbit	-	-	-
	Skin - Mild irritant	Rabbit	-	-	-

Sensitization

Product/ingredient name	Route of exposure	Species	Result
bis-[4-(2,3-epoxipropoxy) phenyl]propane	skin	Mouse	Sensitizing
Propylidynetrimethanol, ethoxylated, esters with acrylic acid	skin	Guinea pig	Sensitizing
Epoxy resin (MW ≤ 700)	skin	Mouse	Sensitizing

Mutagenicity

Not available.

Carcinogenicity

Not available.

11. Toxicological information

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Calc containing no asbestos or quartz	Category 1	-	respiratory organs
Xylene	Category 1	-	central nervous system (CNS), kidneys, liver, respiratory organs
ethyl benzene	Category 3	-	Narcotic effects
	Category 3	-	Respiratory tract irritation
Propylene glycol monomethyl ether	Category 3	-	Narcotic effects
isobutyl alcohol	Category 3	-	Narcotic effects
	Category 3	-	Respiratory tract irritation
Zinc oxide	Category 3	-	Narcotic effects
	Category 1	-	respiratory organs, systemic
Silica silicon dioxide containing crystalline and amorphous	Category 3	-	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Calc containing no asbestos or quartz	Category 1	-	respiratory organs
titanium dioxide (excluding nanoparticle)	Category 1	-	respiratory organs
Xylene	Category 1	-	nervous system, respiratory organs
zinc phosphate	Category 1	-	blood system
ethyl benzene	Category 2	-	hearing organs
crystalline silica (quartz)	Category 1	-	immune system, kidneys, respiratory organs
Silica silicon dioxide containing crystalline and amorphous	Category 1	-	immune system, kidneys, respiratory organs

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 : Causes damage to organs following a single exposure in contact with skin. Causes skin irritation. Defatting to the skin. May cause an allergic skin reaction.

11. Toxicological information

Ingestion : Causes 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
dryness
cracking
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

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. 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 : Suspected of causing genetic defects.

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)

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SIGMACOVER 456 HS BASE BASE L	38258.3	6753.2	N/A	51.5	N/A
Xylene	4300	1700	N/A	11	N/A
bis-[4-(2,3-epoxipropoxy)phenyl]propane	15000	23000	N/A	N/A	N/A
Epoxy Resin (700<MW<=1100)	2500	2500	N/A	N/A	N/A
Epoxy resin (MW ≤ 700)	2500	2500	N/A	N/A	N/A
ethyl benzene	3500	17800	N/A	17.8	N/A
Propylene glycol monomethyl ether	5200	13000	N/A	11	N/A
isobutyl alcohol	2830	2460	N/A	11	N/A
Zinc oxide	N/A	2500	N/A	N/A	N/A

Other 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. Acrylate components of the mixture have irritating properties. Prolonged or repeated contact with skin or mucous membrane may result in irritation symptoms, such as redness, blistering, dermatitis etc. May cause allergic skin reactions with repeated exposure. The inhalation of airborne droplets or aerosols may cause irritation of the respiratory tract. Ingestion may cause nausea, weakness and central nervous system effects. In case of accidental skin contact, avoid direct exposure to the sun or other sources of UV light as severe irritation including burns may result. These reactions can be delayed – get medical attention if pain, irritation, rash or blistering occurs after contact. Avoid contact with skin and clothing.

12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Titanium dioxide (excluding nanoparticle) zinc phosphate	Acute LC50 >100 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 0.112 mg/l Chronic NOEC 0.026 mg/l	Fish Fish	96 hours 30 days
bis-[4-(2,3-epoxipropoxy)phenyl]propane	Acute LC50 1.8 mg/l Fresh water	Daphnia - daphnia magna	48 hours
	Chronic NOEC 0.3 mg/l Acute EC50 70.7 mg/l	Daphnia Daphnia	21 days 48 hours
Propylidynetrimethanol, ethoxylated, esters with acrylic acid Epoxy resin (MW ≤ 700)	Acute LC50 1.8 mg/l Chronic NOEC 0.3 mg/l	Daphnia Daphnia	48 hours 21 days
	Acute EC50 1.8 mg/l Fresh water Chronic NOEC 1 mg/l Fresh water	Daphnia Daphnia - Ceriodaphnia dubia	48 hours -
ethyl benzene	Acute LC50 23300 mg/l	Daphnia	48 hours
	Acute LC50 >4500 mg/l Fresh water Acute EC50 1100 mg/l Acute LC50 >100 mg/l	Fish Daphnia Fish	96 hours 48 hours 96 hours
Propylene glycol monomethyl ether isobutyl alcohol Reaction products of 12-hydroxyoctadecanoic acid and octadecanoic acid and 1,3-phenylenedimethanamine	Acute EC50 0.17 mg/l Acute EC50 0.481 mg/l Fresh water	Algae Daphnia - Daphnia magna - Neonate	72 hours 48 hours
	Chronic NOEC 0.017 mg/l Fresh water Acute EC50 2.2 g/L Fresh water	Algae Daphnia - Daphnia magna - Neonate	72 hours 48 hours
Zinc oxide Silica silicon dioxide containing crystalline and amorphous	Acute LC50 >10000 mg/l	Fish	96 hours

12. Ecological information

	Chronic NOEC 12.5 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	21 days
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Persistence/degradability

Product/ingredient name	Test	Result	Dose	Inoculum
Propylidynetrimethanol, ethoxylated, esters with acrylic acid	OECD 301B	60 % - Readily - 28 days	-	-
Epoxy resin (MW ≤ 700)	OECD 301F	5 % - 28 days	-	-
ethyl benzene	-	79 % - Readily - 10 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Xylene	-	-	Readily
bis-[4-(2,3-epoxipropoxy)phenyl]propane	-	-	Not readily
Propylidynetrimethanol, ethoxylated, esters with acrylic acid	-	-	Readily
Epoxy resin (MW ≤ 700)	-	-	Not readily
ethyl benzene	-	-	Readily

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Xylene	3.12	7.4 to 18.5	low
Propylidynetrimethanol, ethoxylated, esters with acrylic acid	2.89	-	low
Epoxy resin (MW ≤ 700)	3	31	low
ethyl benzene	3.6	79.43	low
Propylene glycol monomethyl ether	<1	-	low
isobutyl alcohol	1	-	low

Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

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

13. Disposal considerations

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	UN1263	UN1263	UN1263
UN proper shipping name	PAINT	PAINT	PAINT
Transport hazard class(es)	3	3	3
Packing group	III	III	III
Environmental hazards	Yes. The environmentally hazardous substance mark is not required.	Yes.	Yes. The environmentally hazardous substance mark is not required.
Marine pollutant substances	Not applicable.	(trizinc bis(orthophosphate), bis-[4-(2,3-epoxypropoxy) phenyl]propane)	Not applicable.

Additional information

UN : None identified.

IMDG : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.

IATA : The environmentally hazardous substance mark may appear if required by other transportation regulations.

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	III	Flammable - Keep Fire Away	1000 L

Pollutant Release and Transfer Registers (PRTR)

Ingredient name	%	Status	Reference number
Xylene	≥10 - ≤20	Class 1	80
Ethylbenzene	≤10	Class 1	53

ISHL

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

15. Regulatory information

Ingredient name	%	Status	Reference number
<input checked="" type="checkbox"/> Ethyl benzene	≤10	Group-2 Substances under Supervision	3-3

Substance(s) requiring labelling

Ingredient name	%	Status	Reference number
<input checked="" type="checkbox"/> Crystalline silica	≥10 - ≤20	Listed	165-2
Titanium(IV) oxide	≥10 - ≤20	Listed	191
Xylene	≥10 - ≤20	Listed	136
Ethylbenzene	≤10	Listed	70
Propylene glycol monomethyl ether	≤10	Listed	496
Butanol	≤10	Listed	477

Chemicals requiring notification

Ingredient name	%	Status	Reference number
<input checked="" type="checkbox"/> Crystalline silica	≥10 - ≤20	Listed	165-2
Titanium(IV) oxide	≥10 - ≤20	Listed	191
Xylene	≥10 - ≤20	Listed	136
Ethylbenzene	≤10	Listed	70
Propylene glycol monomethyl ether	≤10	Listed	496
Butanol	≤10	Listed	477
Zinc oxide	≤10	Listed	188

Carcinogen

Ingredient name	%	Status	Reference number
<input checked="" type="checkbox"/> Ethylbenzene	≤10	Listed	-

Mutagen

None of the components are listed.

Corrosive liquid	: Not listed
Occupational Safety and Health Law	: <input checked="" type="checkbox"/> Inflammable, Combustible
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
ISHL Enforcement Order Appendix 1 - Dangerous Substances	: <input checked="" type="checkbox"/> Inflammable, Combustible
Lead regulation	: Not listed
Organic solvents poisoning prevention	: Class 2

15. Regulatory information

Poisonous and Deleterious Substances

None of the components are listed.

Chemical Substances Control Law (CSCL)

Ingredient name	%	Status	Reference number
Xylene	12.416	Priority assessment	125
Polycondensate of 4,4'-isopropylidenediphenol and 1-chloro-2,3-epoxypropane (liquid only)	4.397	Priority assessment	87
Ethylbenzene	2.2305	Priority assessment	50
Toluene	0.065439	Priority assessment	46
Acrylic acid	0.0037989	Priority assessment	94
Benzene	0.0015171	Priority assessment	45
Cumene	0.00086471	Priority assessment	126
2,2,4,4,6,6,8,8-Octamethyl-1,3,5,7,2,4,6,8-tetraoxatetrasilocane	0.00054	Monitoring	40
4,4'-(Propane-2,2-diyl)diphenol	0.000043531	Priority assessment	75
Acetaldehyde	0.00000057	Priority assessment	26
Formaldehyde	0.00000042	Priority assessment	25
Ethylene oxide	0.00000042	Priority assessment	19
1,4-Dioxane	0.00000024	Priority assessment	80
Methanol	0.00000024	Priority assessment	90
Chloromethane	0.00000024	Priority assessment	6

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

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 : 9 November 2022

Date of previous issue : 6/25/2021

Version : 23

Prepared by : EHS

16. Other information

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

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