

# SAFETY DATA SHEET



SIGMACOVER 246/410/430 LT HARDENER

Date of issue 21 September  
2020

Version 23

## 1. Product and company identification

**Product name** : SIGMACOVER 246/410/430 LT HARDENER  
**Product code** : 00299394  
**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  
Tel : +81 78 574 2777  
Fax : +81 78 576 0035

**Emergency telephone  
number** : 078 574 2777

## 2. Hazards identification

**GHS Classification** : FLAMMABLE LIQUIDS - Category 2  
ACUTE TOXICITY (oral) - Category 4  
SKIN CORROSION - Category 1  
SERIOUS EYE DAMAGE - Category 1  
SKIN SENSITIZATION - Category 1  
CARCINOGENICITY - Category 2  
TOXIC TO REPRODUCTION - Category 1B  
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 1  
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  
AQUATIC HAZARD (ACUTE) - Category 1  
AQUATIC HAZARD (LONG-TERM) - Category 1

### GHS label elements

**Hazard pictograms** :



**Signal word** : Danger

## 2. Hazards identification

- Hazard statements** : Highly flammable liquid and vapor.  
Harmful if swallowed.  
Causes severe skin burns and eye damage.  
May cause an allergic skin reaction.  
May cause respiratory irritation.  
May cause drowsiness or dizziness.  
Suspected of causing cancer.  
May damage fertility or the unborn child.  
Causes damage to organs. (central nervous system (CNS), kidneys, liver, respiratory system)  
Causes damage to organs through prolonged or repeated exposure. (bladder, hearing organs, kidneys, nervous system, respiratory system)  
Very toxic to aquatic life with long lasting effects.
- Precautionary statements**
- Prevention** : Obtain special instructions before use. 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 explosion-proof electrical, ventilating or lighting equipment. Use non-sparking tools. Take action to prevent static discharges. Avoid release to the environment. Do not breathe vapor. Do not eat, drink or smoke when using this product. Wash thoroughly after handling.
- Response** : Collect spillage. IF exposed or concerned: Call a POISON CENTER or doctor. IF INHALED: Immediately call a POISON CENTER or doctor. IF SWALLOWED: Immediately call a POISON CENTER or doctor. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or doctor. Wash contaminated clothing before reuse. IF 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. Immediately call a POISON CENTER or doctor.
- Storage** : Store in a well-ventilated place. Keep container tightly closed. Keep cool.
- 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.

**ENCS number** : Not available.

Ingredient name	%	CAS number	ENCS
ethyl benzene	20 - <25	100-41-4	3-28; 3-60
nonylphenol	15 - <20	25154-52-3	3-503
Xylene	12.5 - <15	1330-20-7	3-3; 3-60
Cashew, nutshell liq., polymer with diethylenetriamine and formaldehyde	10 - <12.5	68413-29-6	Not available.
Epoxy Resin	7 - <10	SUB118913	Not available.
isobutyl alcohol	7 - <10	78-83-1	2-3049
Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines	3 - <5	68410-23-1	7-445
2,4,6-Tris(dimethylaminomethyl)phenol	3 - <5	90-72-2	3-714; 3-762;

### 3. Composition/information on ingredients

N,N-dimethyl-1,3-diaminopropane	0.2 - <0.5	109-55-7	3-776
N-(2-Aminoethyl)-1,2-ethanediamine	0.2 - <0.5	111-40-0	2-158
3,6-diazaoctanethylenediamin	0.2 - <0.5	112-24-3	2-159
Cashew, nutshell liq.	0.1 - <0.2	8007-24-7	2-163; 7-5
p-nonylphenol	<0.1	104-40-5	Not available. 3-503

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** : Causes severe burns. Causes damage to organs following a single exposure in contact with skin. Defatting to the skin. May cause an allergic skin reaction.
- Ingestion** : Harmful if swallowed. Causes 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

## 4. First aid measures

- 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

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

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

## 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 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  
nitrogen oxides  
halogenated compounds

- 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 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 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). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid release to the environment. Refer to special instructions/safety data sheet. 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 non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

## 7. Handling and storage

**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
ethyl benzene	<b>Japan Society for Occupational Health (Japan, 5/2019).</b> OEL-M: 217 mg/m <sup>3</sup> 8 hours. OEL-M: 50 ppm 8 hours.
Xylene	<b>ISHL (Japan, 10/2019).</b> TWA: 20 ppm 8 hours. <b>ISHL (Japan, 10/2019).</b> TWA: 50 ppm 8 hours.
isobutyl alcohol	<b>Japan Society for Occupational Health (Japan, 5/2019).</b> OEL-M: 50 ppm 8 hours. OEL-M: 217 mg/m <sup>3</sup> 8 hours. <b>Japan Society for Occupational Health (Japan, 5/2019).</b> OEL-M: 150 mg/m <sup>3</sup> 8 hours. OEL-M: 50 ppm 8 hours. <b>ISHL (Japan, 10/2019).</b> TWA: 50 ppm 8 hours.

**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

## 8. Exposure controls/personal protection

- 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 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** : 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.
- Odor** : Amine-like.
- Boiling point** : >37.78°C (>100°F)
- Flash point** : Closed cup: 20°C (68°F)
- Relative density** : 0.92
- Solubility** : Insoluble in the following materials: cold water.
- Viscosity** : Not Applicable

## 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.

## 10. Stability and reactivity

- Conditions to avoid** : When exposed to high temperatures may produce hazardous decomposition products.
- Incompatible materials** : Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.
- Hazardous decomposition products** : Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.

## 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
ethyl benzene	LC50 Inhalation Vapor	Rat	17.8 mg/l	4 hours
	LD50 Dermal	Rabbit	17.8 g/kg	-
nonylphenol	LD50 Oral	Rat	3.5 g/kg	-
	LD50 Dermal	Rabbit	2.14 g/kg	-
Xylene	LD50 Oral	Rat	580 mg/kg	-
	LD50 Dermal	Rabbit	1.7 g/kg	-
isobutyl alcohol	LD50 Oral	Rat	4.3 g/kg	-
	LC50 Inhalation Vapor	Rat	24.6 mg/l	4 hours
	LD50 Dermal	Rabbit	2460 mg/kg	-
2,4,6-Tris (dimethylaminomethyl) phenol	LD50 Oral	Rat	2830 mg/kg	-
	LD50 Dermal	Rabbit	1.28 g/kg	-
	LD50 Dermal	Rat	1280 mg/kg	-
N,N-dimethyl- 1,3-diaminopropane	LD50 Oral	Rat	1200 mg/kg	-
	LD50 Dermal	Rabbit	>1000 mg/kg	-
	LD50 Oral	Rat	410 mg/kg	-
N-(2-Aminoethyl) -1,2-ethanediamine	LC50 Inhalation Dusts and mists	Rat	0.07 to 0.3 mg/l	4 hours
	LD50 Dermal	Rabbit	1090 mg/kg	-
3,6-diazaoctanethylenediamin	LD50 Oral	Rat	1080 mg/kg	-
	LD50 Dermal	Rabbit	1465 mg/kg	-
	LD50 Oral	Rat	1716 mg/kg	-
p-nonylphenol	LD50 Oral	Rat	1620 mg/kg	-

#### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Xylene	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-
2,4,6-Tris (dimethylaminomethyl) phenol	Skin - Visible necrosis	Rabbit	-	4 hours	7 days

#### Sensitization



**11. Toxicological information**

Product/ingredient name	Route of exposure	Species	Result
Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines	skin	Mouse	Sensitizing
2,4,6-Tris (dimethylaminomethyl) phenol	skin	Guinea pig	Sensitizing
3,6-diazaoctanethylenediamin	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
ethyl benzene	Category 3	-	Respiratory tract irritation
nonylphenol	Category 3	-	Narcotic effects
Xylene	Category 3	-	Respiratory tract irritation
	Category 1	-	central nervous system (CNS), kidneys, liver, respiratory system
Epoxy Resin	Category 3	-	Narcotic effects
	Category 3	-	Respiratory tract irritation
isobutyl alcohol	Category 3	-	Respiratory tract irritation
	Category 3	-	Narcotic effects
N,N-dimethyl-1,3-diaminopropane	Category 3	-	Respiratory tract irritation
	Category 3	-	Respiratory tract irritation
3,6-diazaoctanethylenediamin	Category 3	-	Respiratory tract irritation

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

Name	Category	Route of exposure	Target organs
ethyl benzene	Category 2	-	hearing organs
nonylphenol	Category 2	-	bladder, kidneys
Xylene	Category 1	-	nervous system, respiratory system
	Category 2	-	respiratory system
N,N-dimethyl-1,3-diaminopropane	Category 2	-	respiratory system

**Aspiration hazard**

## 11. Toxicological information

Name	Result
ethyl benzene Xylene	ASPIRATION HAZARD - Category 1 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** : Causes severe burns. Causes damage to organs following a single exposure in contact with skin. Defatting to the skin. May cause an allergic skin reaction.
- Ingestion** : Harmful if swallowed. Causes 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
- 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

## 11. Toxicological information

**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** : Suspected of causing 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)
SIGMACOVER 246/410/430 LT HARDENER	1415	3600.1	N/A	20.6	N/A
ethyl benzene	3500	17800	N/A	17.8	N/A
nonylphenol	580	2140	N/A	N/A	N/A
Xylene	4300	1700	N/A	11	N/A
Cashew, nutshell liq., polymer with diethylenetriamine and formaldehyde	500	1100	N/A	N/A	N/A
isobutyl alcohol	2830	2460	N/A	11	N/A
2,4,6-Tris(dimethylaminomethyl)phenol	1200	1280	N/A	N/A	N/A
N,N-dimethyl-1,3-diaminopropane	410	300	N/A	N/A	N/A
N-(2-Aminoethyl)-1,2-ethanediamine	1080	1090	N/A	N/A	0.05
3,6-diazaoctanethylenediamin	N/A	300	N/A	N/A	N/A
Cashew, nutshell liq.	500	1100	N/A	N/A	N/A
p-nonylphenol	1620	N/A	N/A	N/A	N/A

#### **Other information** :

Prolonged or repeated contact may dry skin and cause irritation. 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. Avoid contact with skin and clothing.

## 12. Ecological information

### Toxicity

Product/ingredient name	Result	Species	Exposure
ethyl benzene	Acute LC50 150 to 200 mg/l Fresh water	Fish	96 hours
nonylphenol	Acute EC50 0.056 mg/l Fresh water	Algae - Desmodesmus subspicatus	72 hours
	Chronic EC10 0.003 mg/l Fresh water	Algae - Desmodesmus subspicatus	72 hours
isobutyl alcohol	Chronic NOEC 1 µg/l Fresh water	Daphnia - Daphnia magna	21 days
Fatty acids, C18-unsatd., dimers, reaction products	Acute EC50 1100 mg/l	Daphnia	48 hours
	EC50 4.11 mg/l Fresh water	Algae	72 hours

## 12. Ecological information

with polyethylenepolyamines 2,4,6-Tris (dimethylaminomethyl)phenol	Acute LC50 175 mg/l	Fish	96 hours
N,N-dimethyl- 1,3-diaminopropane	Acute LC50 122 mg/l	Fish	96 hours

### Persistence/degradability

Product/ingredient name	Test	Result	Dose	Inoculum
Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines	-	15 % - 28 days	-	-
N,N-dimethyl- 1,3-diaminopropane	OECD 301D	69 % - Readily - 20 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
ethyl benzene	-	-	Readily
Xylene	-	-	Readily
Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines	-	-	Not readily
N,N-dimethyl- 1,3-diaminopropane	-	-	Readily

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
ethyl benzene	3.15	79.43	low
nonylphenol	3.28	154.88	low
Xylene	3.16	7.4 to 18.5	low
isobutyl alcohol	0.76	-	low
N,N-dimethyl- 1,3-diaminopropane	-0.352	-	low
N-(2-Aminoethyl) -1,2-ethanediamine	-1.3	4.47	low
3,6-diazaoctanethylenediamin	-1.66 to -1.4	-	low
p-nonylphenol	5.76	380.19	low

### Mobility in soil

Soil/water partition coefficient (K<sub>oc</sub>) : 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

## 13. Disposal considerations

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	UN3469	UN3469	UN3469
UN proper shipping name	PAINT, FLAMMABLE, CORROSIVE	PAINT, FLAMMABLE, CORROSIVE	PAINT, FLAMMABLE, CORROSIVE
Transport hazard class(es)	3 (8)	3 (8)	3 (8)
Packing group	II	II	II
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.	(nonylphenol, Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines)	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 I petroleums	II	Flammable - Keep Fire Away	200 L

### Pollutant Release and Transfer Registers (PRTR)

**15. Regulatory information**

Ingredient name	%	Status	Reference number
Ethylbenzene	22.943	Class 1	53
Nonylphenol	16.141	Class 1	320
Xylene	13.188	Class 1	80

**ISHL****Use of specified chemical substances**

Ingredient name	%	Status	Reference number
Ethyl benzene	≥10 - ≤23	Group-2 Substances under Supervision	3-3

**Substances requiring labelling**

Ingredient name	%	Status	Reference number
Ethylbenzene	≥10 - ≤23	Listed	70
Xylene	≤13	Listed	136
Butanol	≤7.7	Listed	477

**Chemicals requiring notification**

Ingredient name	%	Status	Reference number
Ethylbenzene	≥10 - ≤23	Listed	70
Xylene	≤13	Listed	136
Butanol	≤7.7	Listed	477
Diethylenetriamine	<0.30	Listed	225

**Carcinogen**

None of the components are listed.

**Mutagen**

None of the components are listed.

<b>Corrosive liquid</b>	: Not listed
<b>Occupational Safety and Health Law</b>	: Flammable liquid Class 3
<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>Dangerous Substances</b>	: Inflammable
<b>Lead regulation</b>	: Not listed
<b>Organic solvents poisoning prevention</b>	: Class 2

## 15. Regulatory information

### Poisonous and Deleterious Substances

Ingredient name	%	Status	Reference number
nonylphenol	16.141	Deleterious	78-2

### Chemical Substances Control Law (CSCL)

Ingredient name	%	Status	Reference number
Ethylbenzene	22.943	Priority assessment	50
Xylene	13.188	Priority assessment	125

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

### Explosives Control Law

None of the components are listed.

**Law Concerning Prevention of Pollution of the Ocean and Maritime Disaster** : 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 2B

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

**Japan inventory** : Not determined.

**Road law** : Not available.

## 16. Other information

### History

**Date of issue/Date of revision** : 21 September 2020

**Date of previous issue** : 7/3/2020

**Version** : 23

**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)

## 16. Other information

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.