SAFETY DATA SHEET

Date of issue/Date of revision: 30 September 2020
Version: 1

Section 1. Identification

Product code: 00390153
Product name: SIGMACOVER 256 BASE (TINTED)
Product type: Liquid.

Relevant identified uses of the substance or mixture and uses advised against
Product use: Coating.
Professional applications, Used by spraying.

Supplier's details: PPG Industries (Singapore) Pte. Ltd., No. 1 Tuas Basin Close, Singapore 638803.
Tel +65 68653737

Emergency telephone number (with hours of operation): CHEMTREC +(65)-31581349 (CCN 17704)

Section 2. Hazards identification

Classification of the substance or mixture:
- FLAMMABLE LIQUIDS - Category 3
- ACUTE TOXICITY (inhalation) - Category 4
- SKIN CORROSION/IRRITATION - Category 2
- SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2A
- SKIN SENSITISATION - Category 1
- SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3
- SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 1
- LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2

GHS label elements, including precautionary statements

Hazard pictograms:
Section 2. Hazards identification

Toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention: Wear protective gloves. Wear 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 vapour. Do not eat, drink or smoke when using this product. Wash thoroughly after handling.

Response: Collect spillage. Get medical advice/attention if you feel unwell. IF INHALED: Call a POISON CENTER or doctor if you feel unwell. Take off contaminated clothing and wash it 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. If eye irritation persists: Get medical advice or attention.


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.

Section 3. Composition/information on ingredients

Substance/mixture: Mixture

CAS number/other identifiers

CAS number: Not applicable.
EC number: Mixture.

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>%</th>
<th>CAS number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epoxy Resin</td>
<td>20 - 25</td>
<td>SUB110652</td>
</tr>
<tr>
<td>crystalline silica, respirable powder (&lt;10 microns)</td>
<td>10 - 20</td>
<td>14808-60-7</td>
</tr>
<tr>
<td>trizinc bis(orthophosphate)</td>
<td>5 - 10</td>
<td>7779-90-0</td>
</tr>
<tr>
<td>xylene</td>
<td>5 - 10</td>
<td>1330-20-7</td>
</tr>
<tr>
<td>Talc, not containing asbestiform fibres</td>
<td>5 - 10</td>
<td>14807-96-6</td>
</tr>
<tr>
<td>Solvent naphtha (petroleum), light aromatic</td>
<td>5 - 10</td>
<td>64742-95-6</td>
</tr>
<tr>
<td>epoxy resin (MW ≤ 700)</td>
<td>5 - 10</td>
<td>25068-38-6</td>
</tr>
<tr>
<td>1,2,4-trimethylbenzene</td>
<td>3 - 5</td>
<td>95-63-6</td>
</tr>
<tr>
<td>ethylbenzene</td>
<td>1 - 3</td>
<td>100-41-4</td>
</tr>
<tr>
<td>Octadecanoic acid, 12-hydroxy-, reaction products with ethylenediamine</td>
<td>0.1 - 0.3</td>
<td>100545-48-0</td>
</tr>
</tbody>
</table>

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.
Section 4. First aid measures

Description of necessary first aid measures

Eye contact
Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10 minutes and seek immediate medical advice.

Inhalation
Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Skin contact
Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognised skin cleanser. Do NOT use solvents or thinners.

Ingestion
If swallowed, seek medical advice immediately and show the 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
Harmful if inhaled. May cause respiratory irritation.

Skin contact
Causes skin irritation. Defatting to the skin. May cause an allergic skin reaction.

Ingestion
No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact
Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation
Adverse symptoms may include the following:
respiratory tract irritation
coughing

Skin contact
Adverse symptoms may include the following:
irritation
redness
dryness
cracking

Ingestion
No specific data.

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)
Section 5. Firefighting 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 vapour. 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
- sulfur 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.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders: If specialised 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 spilt 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 material for containment and cleaning up
Section 6. Accidental release measures

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 the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). 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 ingest. Avoid breathing vapour or mist. 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 earthing and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities: Store between the following temperatures: 0 to 35°C (32 to 95°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidising 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 unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>crystalline silica, respirable powder (&lt;10 microns)</td>
<td>Workplace Safety and Health Act (Singapore, 2/2006).</td>
</tr>
<tr>
<td></td>
<td>PEL (long term): 0.1 mg/m³ 8 hours. Form: Respirable dust</td>
</tr>
<tr>
<td></td>
<td>Workplace Safety and Health Act (Singapore, 2/2006).</td>
</tr>
<tr>
<td></td>
<td>PEL (short term): 651 mg/m³ 15 minutes.</td>
</tr>
<tr>
<td></td>
<td>PEL (short term): 150 ppm 15 minutes.</td>
</tr>
<tr>
<td></td>
<td>PEL (long term): 434 mg/m³ 8 hours.</td>
</tr>
<tr>
<td></td>
<td>PEL (long term): 100 ppm 8 hours.</td>
</tr>
<tr>
<td>xylene</td>
<td>Workplace Safety and Health Act (Singapore, 2/2006).</td>
</tr>
<tr>
<td>Talc , not containing asbestiform fibres</td>
<td>Workplace Safety and Health Act (Singapore, 2/2006).</td>
</tr>
<tr>
<td></td>
<td>PEL (long term): 2 mg/m³ 8 hours.</td>
</tr>
<tr>
<td>1,2,4-trimethylbenzene</td>
<td>Workplace Safety and Health Act (Singapore, 2/2006).</td>
</tr>
<tr>
<td></td>
<td>PEL (long term): 123 mg/m³ 8 hours.</td>
</tr>
<tr>
<td></td>
<td>PEL (long term): 25 ppm 8 hours.</td>
</tr>
<tr>
<td>ethylbenzene</td>
<td>Workplace Safety and Health Act (Singapore, 2/2006).</td>
</tr>
<tr>
<td></td>
<td>PEL (short term): 543 mg/m³ 15 minutes.</td>
</tr>
<tr>
<td></td>
<td>PEL (short term): 125 ppm 15 minutes.</td>
</tr>
<tr>
<td></td>
<td>PEL (long term): 434 mg/m³ 8 hours.</td>
</tr>
<tr>
<td></td>
<td>PEL (long term): 100 ppm 8 hours.</td>
</tr>
</tbody>
</table>

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.
# Section 8. Exposure controls/personal protection

**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, vapour 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/face protection**

**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.
Section 9. Physical and chemical properties

Appearance
Physical state: Liquid.
Odour: Characteristic.

pH: insoluble in water.

Boiling point: >37.78°C (>100°F)
Flash point: Closed cup: 32°C (89.6°F)
Evaporation rate: Highest known value: 0.84 (ethylbenzene) Weighted average: 0.78 compared with butyl acetate
Flammability (solid, gas): liquid
Vapour pressure: Highest known value: 1.2 kPa (9.3 mm Hg) (at 20°C) (ethylbenzene). Weighted average: 0.56 kPa (4.2 mm Hg) (at 20°C)
Vapour density: Highest known value: 4.6 (Air = 1) (2-methoxy-1-methylethyl acetate). Weighted average: 3.94 (Air = 1)
Relative density: 1.32
Solubility: Insoluble in water.
Auto-ignition temperature: Lowest known value: 280 to 470°C (536 to 878°F) (Solvent naphtha (petroleum), light aromatic).
Viscosity: Kinematic (40°C (104°F)): >0.21 cm²/s (>21 cSt)

Section 10. Stability and reactivity

Reactivity: No specific test data related to reactivity available for this product or its ingredients.

Chemical stability: The product is stable.

Possibility of hazardous reactions: Under normal conditions of storage and use, hazardous reactions will not occur.

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: oxidising agents, strong alkalis, strong acids.

Hazardous decomposition products: Depending on conditions, decomposition products may include the following materials: carbon oxides sulfur oxides phosphorus oxides halogenated compounds metal oxide/oxides
## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>trizinc bis(orthophosphate)</td>
<td>LC50 Inhalation Dusts and mists</td>
<td>Rat</td>
<td>&gt;5.7 mg/l</td>
<td>4 hours</td>
<td></td>
</tr>
<tr>
<td>xylene</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>&gt;5000 mg/kg</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Solvent naphtha (petroleum), light aromatic</td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>1.7 g/kg</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>epoxy resin (MW ≤ 700)</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>4.3 g/kg</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>1,2,4-trimethylbenzene</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>&gt;2 g/kg</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>ethylbenzene</td>
<td>LD50 Inhalation Vapour</td>
<td>Rat</td>
<td>18000 mg/m³</td>
<td>4 hours</td>
<td></td>
</tr>
<tr>
<td>LD50 Oral</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>17.8 g/kg</td>
<td>4 hours</td>
<td></td>
</tr>
<tr>
<td>LD50 Oral</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>&gt;2 g/kg</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Octadecanoic acid, 12-hydroxy-, reaction products with ethylenediamine</td>
<td>LC50 Inhalation Vapour</td>
<td>Rat</td>
<td>5.05 mg/l</td>
<td>4 hours</td>
<td></td>
</tr>
</tbody>
</table>

**Conclusion/Summary**

There are no data available on the mixture itself.

#### Irritation/Corrosion

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Score</th>
<th>Exposure</th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>xylene</td>
<td>Skin - Moderate irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 mg</td>
<td>-</td>
</tr>
<tr>
<td>epoxy resin (MW ≤ 700)</td>
<td>Skin - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Eyes - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**Conclusion/Summary**

**Skin**: There are no data available on the mixture itself.

**Eyes**: There are no data available on the mixture itself.

**Respiratory**: There are no data available on the mixture itself.

#### Sensitisation

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Route of exposure</th>
<th>Species</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>epoxy resin (MW ≤ 700)</td>
<td>skin</td>
<td>Mouse</td>
<td>Sensitising</td>
</tr>
<tr>
<td>Octadecanoic acid, 12-hydroxy-, reaction products with ethylenediamine</td>
<td>skin</td>
<td>Guinea pig</td>
<td>Sensitising</td>
</tr>
</tbody>
</table>

**Conclusion/Summary**

**Skin**: There are no data available on the mixture itself.

**Respiratory**: There are no data available on the mixture itself.
Section 11. Toxicological information

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

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

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

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

Specific target organ toxicity (single exposure)

<table>
<thead>
<tr>
<th>Name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>xylene</td>
<td>Category 3</td>
<td>-</td>
<td>Respiratory tract irritation</td>
</tr>
<tr>
<td>Talc , not containing asbestiform fibres</td>
<td>Category 3</td>
<td>-</td>
<td>Respiratory tract irritation</td>
</tr>
<tr>
<td>Solvent naphtha (petroleum), light aromatic</td>
<td>Category 3</td>
<td>-</td>
<td>Respiratory tract irritation</td>
</tr>
<tr>
<td>1,2,4-trimethylbenzene</td>
<td>Category 3</td>
<td>-</td>
<td>Narcotic effects</td>
</tr>
<tr>
<td></td>
<td>Category 3</td>
<td></td>
<td>Respiratory tract irritation</td>
</tr>
</tbody>
</table>

Specific target organ toxicity (repeated exposure)

<table>
<thead>
<tr>
<th>Name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>crystalline silica, respirable powder (&lt;10 microns) ethylbenzene</td>
<td>Category 1</td>
<td>inhalation</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Category 2</td>
<td></td>
<td>hearing organs</td>
</tr>
</tbody>
</table>

Aspiration hazard

<table>
<thead>
<tr>
<th>Name</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>xylene</td>
<td>ASPIRATION HAZARD - Category 1</td>
</tr>
<tr>
<td>Solvent naphtha (petroleum), light aromatic ethylbenzene</td>
<td>ASPIRATION HAZARD - Category 1</td>
</tr>
<tr>
<td></td>
<td>ASPIRATION HAZARD - Category 1</td>
</tr>
</tbody>
</table>

Information on likely routes of exposure
Not available.

Potential acute health effects

Eye contact: Causes serious eye irritation.
Inhalation: Harmful if inhaled. May cause respiratory irritation.
Skin contact: Causes skin irritation. Defatting to the skin. May cause an allergic skin reaction.
Ingestion: No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics
Section 11. Toxicological information

Eye contact : Adverse symptoms may include the following:
- pain or irritation
- watering
- redness

Inhalation : Adverse symptoms may include the following:
- respiratory tract irritation
- coughing

Skin contact : Adverse symptoms may include the following:
- irritation
- redness
- dryness
- cracking

Ingestion : No specific data.

Delayed and immediate effects as well as 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 : No known significant effects or critical hazards.
Mutagenicity : No known significant effects or critical hazards.
Reproductive toxicity : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

<table>
<thead>
<tr>
<th>Route</th>
<th>ATE value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dermal</td>
<td>8508.54 mg/kg</td>
</tr>
<tr>
<td>Inhalation (vapours)</td>
<td>30.65 mg/l</td>
</tr>
<tr>
<td>Inhalation (dusts and mists)</td>
<td>3.56 mg/l</td>
</tr>
</tbody>
</table>

Other information : 
Section 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 vapour/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.

Section 12. Ecological information

**Toxicity**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>trizinc bis(orthophosphate)</td>
<td>Acute LC50 0.112 mg/l Chronic NOEC 0.026 mg/l Acute LC50 8.2 mg/l</td>
<td>Fish</td>
<td>96 hours</td>
</tr>
<tr>
<td>Solvent naphtha (petroleum), light aromatic epoxy resin (MW ≤ 700)</td>
<td>Acute LC50 1.8 mg/l Chronic NOEC 0.3 mg/l Acute LC50 150 to 200 mg/l Fresh water</td>
<td>Daphnia</td>
<td>48 hours</td>
</tr>
<tr>
<td>ethylbenzene</td>
<td>Acute EC50 &gt;100 mg/l</td>
<td>Daphnia - Pseudokirchneriella subcapitata</td>
<td>72 hours</td>
</tr>
<tr>
<td>Octadecanoic acid, 12-hydroxy-, reaction products with ethylenediamine</td>
<td>Acute EC50 &gt;10 mg/l Acute LC50 &gt;10 mg/l</td>
<td>Daphnia - Daphnia magna Fish - Oncorhynchus mykiss</td>
<td>48 hours 96 hours</td>
</tr>
</tbody>
</table>

**Conclusion/Summary**

- There are no data available on the mixture itself.

**Persistence/degradability**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Test</th>
<th>Result</th>
<th>Dose</th>
<th>Inoculum</th>
</tr>
</thead>
<tbody>
<tr>
<td>epoxy resin (MW ≤ 700) Octadecanoic acid, 12-hydroxy-, reaction products with ethylenediamine</td>
<td>OECD 301F 301D Ready Biodegradability - Closed Bottle Test</td>
<td>5 % - 28 days 22 % - 28 days</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**Conclusion/Summary**

- There are no data available on the mixture itself.

**Bioaccumulative potential**
Section 12. Ecological information

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogP_{ow}</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>xylene</td>
<td>3.16</td>
<td>7.4 to 18.5</td>
<td>low</td>
</tr>
<tr>
<td>epoxy resin (MW ≤ 700)</td>
<td>3</td>
<td>31</td>
<td>low</td>
</tr>
<tr>
<td>1,2,4-trimethylbenzene</td>
<td>3.63</td>
<td>120.23</td>
<td>low</td>
</tr>
<tr>
<td>ethylbenzene</td>
<td>3.15</td>
<td>79.43</td>
<td>low</td>
</tr>
<tr>
<td>Octadecanoic acid, 12-hydroxy-, reaction products with ethylenediamine</td>
<td>&gt;5.86</td>
<td>-</td>
<td>high</td>
</tr>
</tbody>
</table>

**Mobility in soil**

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

**Other adverse effects**

: No known significant effects or critical hazards.

Section 13. Disposal considerations

**Disposal methods**

: The generation of waste should be avoided or minimised 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. Vapour 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 spilt material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

<table>
<thead>
<tr>
<th></th>
<th>UN</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>UN number</strong></td>
<td>UN1263</td>
<td>UN1263</td>
<td>UN1263</td>
</tr>
<tr>
<td><strong>UN proper shipping name</strong></td>
<td>PAINT</td>
<td>PAINT</td>
<td>PAINT</td>
</tr>
<tr>
<td><strong>Transport hazard class(es)</strong></td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td><strong>Packing group</strong></td>
<td>III</td>
<td>III</td>
<td>III</td>
</tr>
<tr>
<td></td>
<td>Yes. The environmentally hazardous substance mark is not required.</td>
<td>Yes.</td>
<td>Yes. The environmentally hazardous substance mark is not required.</td>
</tr>
</tbody>
</table>
## Section 14. Transport information

### Environmental hazards

| Marine pollutant substances | Not applicable. | (trizinc bis(orthophosphate), Solvent naphtha (petroleum), light aromatic) | 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.

## Section 15. Regulatory information

### Singapore - hazardous chemicals under government control

None.

### International regulations

- **Montreal Protocol**: Not listed.
- **Stockholm Convention on Persistent Organic Pollutants**: Not listed.

## Section 16. Other information

### History

- **Date of issue/Date of revision**: 30 September 2020
- **Date of previous issue**: No previous validation
- **Version**: 1
- **Prepared by**: EHS
Section 16. Other information

Key to abbreviations:
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973
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.