SAFETY DATA SHEET



Date of issue/Date of revision 23 June 2021 Version 2

| Section 1. Identification | | | |
|--|---|--|--|
| Product code | : 00422652 | | |
| Product name | : SIGMACOVER 246/410/430/620 HARDENER | | |
| Product type | : Liquid. | | |
| Relevant identified uses o | f 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 | ACUTE TOXICITY (inhalation) - Category 4 |
| | SKIN CORROSION/IRRITATION - Category 1C |
| | SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1 |
| | SKIN SENSITISATION - Category 1 |
| | SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract |
| | irritation) - Category 3 |
| | SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2 |
| | LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2 |

GHS label elements, including precautionary statements

| Hazard pictograms | |
|-------------------|---|
| Signal word | : Danger |
| Hazard statements | Fighly flammable liquid and vapour. Causes severe skin burns and eye damage. May cause an allergic skin reaction. Harmful if inhaled. May cause respiratory irritation. May cause damage to organs through prolonged or repeated exposure. (hearing organs) |

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Section 2. Hazards identification

| Precautionary statements | | |
|---|---|---|
| Prevention | : | 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 vapour. |
| Response | : | Collect spillage. 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 | : | Causes digestive tract burns. Prolonged or repeated contact may dry skin and cause irritation. |

Toxic to aquatic life with long lasting effects

Section 3. Composition/information on ingredients

| Sub | stan | ce/ | mi | xtu | re |
|-----|------|-----|----|-----|----|
| ous | otun | | | ALU | |

: Mixture

CAS number/other identifiers

| CAS number | : Not applicable. |
|------------|-------------------|
| EC number | : Mixture. |

| Ingredient name | % | CAS number |
|---|----------|------------|
| Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine | 25 - <50 | 68082-29-1 |
| Phenol, styrenated | 20 - <25 | 61788-44-1 |
| ethylbenzene | 10 - <20 | 100-41-4 |
| 2-methylpropan-1-ol | 10 - <20 | 78-83-1 |
| xylene | 5 - <10 | 1330-20-7 |
| 2,4,6-tris(dimethylaminomethyl)phenol | 5 - <10 | 90-72-2 |
| 3,6-diazaoctanethylenediamin | 3 - <5 | 112-24-3 |

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 | 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 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/e | acute and delayed | |
|-----------------------------|--|---|
| Potential acute health effe | | |
| Eye contact | uses serious eye damage. | |
| Inhalation | rmful if inhaled. May cause respiratory irritation. | |
| Skin contact | uses severe burns. Defatting to the skin. May cause | an allergic skin reaction. |
| Ingestion | rrosive to the digestive tract. Causes burns. | |
| Over-exposure signs/symp | | |
| Eye contact | verse symptoms may include the following: n tering ness | |
| Inhalation | verse symptoms may include the following: piratory tract irritation Jghing | |
| Skin contact | verse symptoms may include the following: n or irritation Iness ness cking stering may occur | |
| Ingestion | verse symptoms may include the following: mach pains | |
| Indication of immediate mee | <u>ention and special treatment needed, if necessary</u> | |
| Notes to physician | case of inhalation of decomposition products in a fire, s e exposed person may need to be kept under medical | |
| Specific treatments | specific treatment. | |
| Protection of first-aiders | action shall be taken involving any personal risk or wir suspected that fumes are still present, the rescuer sho sk or self-contained breathing apparatus. It may be d viding aid to give mouth-to-mouth resuscitation. Was roughly with water before removing it, or wear gloves. | uld wear an appropriate angerous to the person |

See toxicological information (Section 11)

| Singapore | English (GB) | Page: 3/14 |
|-----------|--------------|------------|
|-----------|--------------|------------|

Section 5. Firefighting measures

| Extinguishing media | |
|--|---|
| Suitable extinguishing media | : Use dry chemical, CO ₂ , water spray (fog) or foam. |
| Unsuitable extinguishing media | : Do not use water jet. |
| Specific hazards arising from the chemical | : Highly 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 nitrogen 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. Do not breathe 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 con | tai | nment 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. |

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|-----------|--------------|------|---------|
|-----------|--------------|------|---------|

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Section 6. Accidental release measures

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 spill 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 | : Fut 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. Do not get in eyes or on skin or clothing. Do not breathe vapour 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. |
|--|--|
| 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. |
| 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. |

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Section 8. Exposure controls/personal protection

Control parameters

Singapore

Occupational exposure limits

| Ingredient name | | | Exposure limits | | |
|--|------------|--|---|--|--|
| ethylbenzene | | | Workplace Safety and Health Act (Singapore, 2/2006). PEL (short term): 543 mg/m ³ 15 minutes. PEL (short term): 125 ppm 15 minutes. PEL (long term): 434 mg/m ³ 8 hours. PEL (long term): 100 ppm 8 hours. | | |
| 2-methylpropan-1-ol | | | Workplace Safety and Health Act (Singapore, 2/2006). PEL (long term): 152 mg/m ³ 8 hours. | | |
| xylene | | | PEL (long term): 50 ppm 8 hours. Workplace Safety and Health Act (Singapore, 2/2006). PEL (short term): 651 mg/m ³ 15 minutes. PEL (short term): 150 ppm 15 minutes. PEL (long term): 434 mg/m ³ 8 hours. PEL (long term): 100 ppm 8 hours. | | |
| Recommended monitoring procedures | : | atmosphere or biological monitoring n of the ventilation or other control mea | | | |
| Appropriate engineering controls | : | contaminants below any recommende | ols to keep worker exposure to airborne ed or statutory limits. The engineering controls t concentrations below any lower explosive | | |
| Environmental exposure controls | : | | | | |
| ndividual protection measu | <u>res</u> | | | | |
| Hygiene measures Wash hands, forearms and face thoroughly after handling chemical products, the eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clo Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safet showers are close to the workstation location. | | | y and at the end of the working period. ed to remove potentially contaminated clothing. ot be allowed out of the workplace. Wash Ensure that eyewash stations and safety | | |
| Eye/face protection Skin protection | : | Chemical splash goggles and face shield. | | | |

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Section 8. Exposure controls/personal protection

| Hand protection | : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. |
|------------------------|---|
| Gloves | : nitrile neoprene |
| 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

| <u>Appearance</u> | |
|---------------------------|---|
| Physical state | : Liquid. |
| Odour | : Characteristic. |
| рН | insoluble in water. |
| Boiling point | : >37.78°C (>100°F) |
| Flash point | : Closed cup: 20°C (68°F) |
| Evaporation rate | : Highest known value: 0.84 (ethylbenzene) Weighted average: 0.76compared with butyl acetate |
| Flammability (solid, gas) | : liquid |
| Vapour pressure | : Highest known value: <1.6 kPa (<12 mm Hg) (at 20°C) (2-methylpropan-1-ol). Weighted average: 0.6 kPa (4.5 mm Hg) (at 20°C) |
| Vapour density | : F ighest known value: 5.04 (Air = 1) (3,6-diazaoctanethylenediamin). Weighted average: 3.49 (Air = 1) |
| Relative density | : 0.93 |
| Solubility | : Insoluble in the following materials: cold water. |
| Auto-ignition temperature | : ✔owest known value: 337.78°C (640°F) (3,6-diazaoctanethylenediamin). |
| Viscosity | : K inematic (40°C (104°F)): >21 mm²/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 nitrogen oxides |

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

| Product/ingredient name | Result | Species | Dose | Exposure |
|------------------------------|------------------------|---------|-------------|----------|
| Phenol, styrenated | LD50 Dermal | Rabbit | >5010 mg/kg | - |
| - | LD50 Oral | Rat | 3550 mg/kg | - |
| ethylbenzene | LC50 Inhalation Vapour | Rat | 17.8 mg/l | 4 hours |
| | LD50 Dermal | Rabbit | 17.8 g/kg | - |
| | LD50 Oral | Rat | 3.5 g/kg | - |
| 2-methylpropan-1-ol | LC50 Inhalation Vapour | Rat | 24.6 mg/l | 4 hours |
| | LD50 Dermal | Rabbit | 2460 mg/kg | - |
| | LD50 Oral | Rat | 2830 mg/kg | - |
| xylene | LD50 Dermal | Rabbit | 1.7 g/kg | - |
| | LD50 Oral | Rat | 4.3 g/kg | - |
| 2,4,6-tris | LD50 Dermal | Rabbit | 1.28 g/kg | - |
| (dimethylaminomethyl) | | | | |
| phenol | | | | |
| | LD50 Dermal | Rat | 1280 mg/kg | - |
| | LD50 Oral | Rat | 1200 mg/kg | - |
| 3,6-diazaoctanethylenediamin | LD50 Dermal | Rabbit | 1465 mg/kg | - |
| | LD50 Oral | Rat | 1716 mg/kg | - |

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

Irritation/Corrosion

Section 11. Toxicological information

| Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine Skin - Irritant Human - - - xylene Eyes - Severe irritant Skin - Moderate irritant Rabbit - - - 2,4,6-tris (dimethylaminomethyl) phenol Skin - Visible necrosis Rabbit - - - Conclusion/Summary Skin Skin - Visible necrosis Rabbit - 4 hours 7 days Products with There are no data available on the mixture itself. - - - - Skin : There are no data available on the mixture itself. - - - - Product/ingredient name Route of exposure Species Result - - Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine skin Mouse Sensitising Skin guinea pig Sensitising Sensitising Sensitising Skin : There are no data available on the mixture itself. Sensitising Skin : Guinea pig Sensitising Skin </th <th>Product/ingredient name</th> <th>Result</th> <th></th> <th>Species</th> <th>Score</th> <th>e</th> <th>Exposure</th> <th>Observation</th> | Product/ingredient name | Result | | Species | Score | e | Exposure | Observation |
|---|--|--------------------|-------------|----------------|-------------|--------|-------------------|-------------|
| xylene Skin - Moderate irritant (dimethylaminomethyl) phenol Rabbit - 24 hours 500 mg - 2,4,6-tris (dimethylaminomethyl) phenol Skin - Visible necrosis Rabbit - 4 hours 7 days Conclusion/Summary Skin : There are no data available on the mixture itself. - 4 hours 7 days Skin : : There are no data available on the mixture itself. - - - 7 days Respiratory : There are no data available on the mixture itself. - - - - - - - 7 days Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine Phenol, styrenated skin Mouse Sensitising - | dimers, oligomeric reaction products with tall-oil fatty acids and | | | | - | | - | - |
| 2.4,6-tris (dimethylaminomethyl) phenol Skin - Visible necrosis Rabbit - 4 hours 7 days Conclusion/Summary Skin : There are no data available on the mixture itself. - 4 hours 7 days Conclusion/Summary Skin : There are no data available on the mixture itself. - 4 hours 7 days Skin : : There are no data available on the mixture itself. - - 4 hours 7 days Respiratory : : There are no data available on the mixture itself. - < | vulana | | | | - | | - 24 hours 500 | - |
| 2,4,6-tris (dimethylaminomethyl) phenol Skin - Visible necrosis Rabbit - 4 hours 7 days 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. Respiratory : There are no data available on the mixture itself. Result Product/ingredient name products with tall-oil fatty acids and triethylenetetramine Phenol, styrenated 2,4,6-tris (dimethylaminomethyl) phenol skin Mouse Sensitising Skin skin Guinea pig Sensitising Conclusion/Summary Skin : There are no data available on the mixture itself. Respiratory : skin Mouse Sensitising Skin : Guinea pig Sensitising Conclusion/Summary Skin : : There are no data available on the mixture itself. Respiratory : There are no data available on the mixture itself. Respiratory : There are no data available on the mixture itself. Respiratory : There are no data available on the mixture itself. Resp | xyierie | Skin - Moderale | Imani | Rappil | - | | | - |
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| Conclusion/Summary : There are no data available on the mixture itself. | Respiratory : | There are no data | available | on the mixtur | e itself. | | | |
| Carcinogenicity | <u>lutagenicity</u> | | | | | | | |
| | | There are no data | a available | e on the mixtu | re itself. | | | |
| Conclusion/Summary : There are no data available on the mixture itself. | | There are no data | a available | e on the mixtu | re itself. | | | |

| 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) | | | | | |

Reproductive toxicity

Section 11. Toxicological information

| Name | Category | Route of exposure | Target organs |
|---------------------|--------------------------|-------------------|---|
| ₽-methylpropan-1-ol | Category 3 | - | Respiratory tract irritation |
| xylene | Category 3 Category 3 | - | Narcotic effects Respiratory tract irritation |

Specific target organ toxicity (repeated exposure)

| Name | | Route of exposure | Target organs |
|----------------------|------------|-------------------|----------------|
| e thylbenzene | Category 2 | - | hearing organs |

Aspiration hazard

| Name | Result |
|------|--|
| • | ASPIRATION HAZARD - Category 1 ASPIRATION HAZARD - Category 1 |

| Information on likely routes | : Not available. |
|------------------------------|------------------|
| of exposure | |
| | |

Potential acute health effects

| Eye contact | : Causes serious eye damage. |
|--------------|---|
| Inhalation | : 📕 armful if inhaled. May cause respiratory irritation. |
| Skin contact | : $ ot\!$ |
| Ingestion | : 🖉 orrosive to the digestive tract. Causes burns. |

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 | |
| Skin contact | : Adverse symptoms may include the following: pain or irritation redness dryness cracking blistering may occur | |
| Ingestion | : Adverse symptoms may include the following: stomach pains | |

<u>Delayed and immediate effects as well as chronic effects from short and long-term exposure</u> <u>Short term exposure</u>

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|-----------|--------------|-------------|

Section 11. Toxicological information

| 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 eff | <u>ects</u> |
| General | : May cause 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

| Route | ATE value |
|------------------------------|----------------|
| Øral | 11231.14 mg/kg |
| Dermal | 5829.28 mg/kg |
| Inhalation (vapours) | 21.24 mg/l |
| Inhalation (dusts and mists) | 2.19 mg/l |

Other information

Zauses digestive tract burns. 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 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

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Toxicity

| Product/ingredient name | Result | Species | Exposure |
|--|--|------------------------------|-------------|
| Atty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine | EC10 1.78 mg/l | Algae | 72 hours |
| Phenol, styrenated | Acute EC50 3.8 mg/l | Daphnia | 48 hours |
| ethylbenzene | Acute EC50 1.8 mg/l Fresh water | Daphnia | 48 hours |
| - | Acute LC50 150 to 200 mg/l Fresh water | Fish | 96 hours |
| | Chronic NOEC 1 mg/l Fresh water | Daphnia - Ceriodaphnia dubia | - |
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Product name SIGMACOVER 246/410/430/620 HARDENER

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| 2-methylpropan-1-ol 2,4,6-tris (dimethylaminomethyl)phenol | Acute EC50 1100 mg/l Acute LC50 175 mg/l | Daphnia Fish | 48 hours 96 hours |
|--|---|-----------------|----------------------|
| Conclusion/Summary | : There are no data available on the m | ixture itself. | |

Persistence/degradability

| Product/ingredient name | Test | Result | Dose | Inoculum |
|-----------------------------------|----------------|---|------|----------|
| henol, styrenated ethylbenzene | OECD 301F - | 7 % - Not readily - 28 days 79 % - Readily - 10 days | - | - |

Conclusion/Summary

: There are no data available on the mixture itself.

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|--|-------------------|-------------|-----------------------------------|
| Atty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine | - | - | Not readily |
| Phenol, styrenated ethylbenzene xylene | - - - | - - - | Not readily Readily Readily |

Bioaccumulative potential

| Product/ingredient name | LogPow | BCF | Potential |
|------------------------------|---------------|-------------|-----------|
| ethylbenzene | 3.6 | 79.43 | low |
| 2-methylpropan-1-ol | 1 | - | low |
| xylene | 3.12 | 7.4 to 18.5 | low |
| 2,4,6-tris | 0.219 | - | low |
| (dimethylaminomethyl)phenol | | | |
| 3,6-diazaoctanethylenediamin | -1.66 to -1.4 | - | low |

Mobility in soil

Soil/water partition coefficient (Koc)

: 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 |
|------------------|--|
| | all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and |

Section 13. Disposal considerations

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.

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Section 14. Transport information

| | UN | IMDG | ΙΑΤΑ |
|-------------------------------|--|------------------------------------|--|
| 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. | (Polyamide, Phenol, styrenated) | Not applicable. |

Additional information

| UN | : None identified. |
|------|--|
| IMDG | : The marine pollutant mark is not required when transported in sizes of \leq 5 L or \leq 5 kg. |
| ΙΑΤΑ | : 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 : Not applicable. to IMO instruments

Section 15. Regulatory information

Singapore - hazardous chemicals under government control

None.

International regulations

Montreal Protocol

Not listed.

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Section 15. Regulatory information

Stockholm Convention on Persistent Organic Pollutants Not listed.

Section 16. Other information

| <u>History</u> | |
|--------------------------------|--|
| Date of issue/Date of revision | : 23 June 2021 |
| Date of previous issue | : 2/21/2020 |
| Version | : 2 |
| Prepared by | : EHS |
| 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 = Internediate 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 as modified by the Protocol of 1978. ("Marpol" = marine pollution) 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.