SAFETY DATA SHEET



Date of issue/Date of revision 21 February 2020

Version 5.03

Section 1. Identification

Product code : 00140773

Product name : SIGMAZINC 109 HARDENER

Product type : Liquid.

Relevant identified uses of the substance or mixture and uses advised against

Identified uses

Coating. Paints. Painting-related materials.

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 (dermal) - Category 4
ACUTE TOXICITY (inhalation) - Category 4
SKIN CORROSION/IRRITATION - Category 2

SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1

SKIN SENSITIZATION - Category 1

SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract

irritation) - Category 3

ASPIRATION HAZARD - Category 1

GHS label elements, including precautionary statements

Hazard pictograms :









Signal word : Danger

Hazard statements : Flammable liquid and vapor.

Harmful in contact with skin or if inhaled.

Causes serious eye damage.

Causes skin irritation.

May cause an allergic skin reaction.

May be fatal if swallowed and enters airways.

May cause respiratory irritation.

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Section 2. Hazards identification

Precautionary statements

Prevention

: Wear protective gloves. Wear eye or face protection. Wear protective clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep container tightly closed. Use only outdoors or in a well-ventilated area. Avoid breathing vapor. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.

Response

: IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. IF ON SKIN: Wash with plenty of soap and water. Call a POISON CENTER or physician if you feel unwell. Take off contaminated clothing and wash it before reuse. If skin irritation or rash occurs: Get medical 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 physician.

Storage Disposal

- : Store locked up. Store in a well-ventilated place. Keep cool.
- : 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.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

CAS number/other identifiers

CAS number : Not applicable.

EC number : Mixture.

| Ingredient name | % | CAS number |
|---|-------------|------------|
| xylene | 25 - <50 | 1330-20-7 |
| Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines | 20 - <25 | 68410-23-1 |
| ethylbenzene | 5 - <10 | 100-41-4 |
| 2-methylpropan-1-ol | 5 - <10 | 78-83-1 |
| 1-methoxy-2-propanol | 3 - <5 | 107-98-2 |
| 3,6-diazaoctanethylenediamin | 1 - <3 | 112-24-3 |
| toluene | 0.1 - < 0.3 | 108-88-3 |

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.

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Product name SIGMAZINC 109 HARDENER

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 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 : Harmful if inhaled. May cause respiratory irritation.

Skin contact : Harmful in contact with skin. Causes skin irritation. Defatting to the skin. May cause

an allergic skin reaction.

Ingestion: Corrosive to the digestive tract. Causes burns. May be fatal if swallowed and enters

airways.

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

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 nausea or vomiting

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.

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Section 4. First aid measures

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing

media

Unsuitable extinguishing media

: Use dry chemical, CO₂, water spray (fog) or foam.

Specific hazards arising from the chemical

: Do not use water jet.

Hazardous thermal

: 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.

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 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).

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.

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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 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 vapor or mist. 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.

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 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.

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Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

| Ingredient name | Exposure limits |
|----------------------|---|
| xylene | Workplace Safety and Health Act |
| | (Singapore, 2/2006). |
| | PEL (short term): 651 mg/m³ 15 minutes. |
| | PEL (short term): 150 ppm 15 minutes. |
| | PEL (long term): 434 mg/m³ 8 hours. |
| | PEL (long term): 100 ppm 8 hours. |
| ethylbenzene | Workplace Safety and Health Act |
| | (Singapore, 2/2006). |
| | PEL (short term): 543 mg/m³ 15 minutes. |
| | PEL (short term): 125 ppm 15 minutes. |
| | PEL (long term): 434 mg/m³ 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/m³ 8 hours. |
| | PEL (long term): 50 ppm 8 hours. |
| 1-methoxy-2-propanol | Workplace Safety and Health Act |
| | (Singapore, 2/2006). |
| | PEL (short term): 553 mg/m³ 15 minutes. |
| | PEL (short term): 150 ppm 15 minutes. |
| | PEL (long term): 369 mg/m³ 8 hours. |
| | PEL (long term): 100 ppm 8 hours. |
| toluene | Workplace Safety and Health Act |
| | (Singapore, 2/2006). |
| | PEL (long term): 188 mg/m³ 8 hours. |
| | PEL (long term): 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

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Section 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/face protection Skin protection

Hand protection

: Chemical splash goggles and face shield.

: 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.
Color : Yellow.
Odor : Amine-like.

pH : insoluble in water.

Boiling point : >37.78°C (>100°F)

Flash point : Closed cup: 26°C (78.8°F)

Evaporation rate : Highest known value: 0.84 (ethylbenzene) Weighted average: 0.77compared with

butyl acetate

Flammability (solid, gas) : liquid

Vapor pressure : Highest known value: <1.6 kPa (<12 mm Hg) (at 20°C) (2-methylpropan-1-ol).

Weighted average: 0.7 kPa (5.25 mm Hg) (at 20°C)

Vapor density : Highest known value: 5.04 (Air = 1) (3,6-diazaoctanethylenediamin). Weighted

average: 3.58 (Air = 1)

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Section 9. Physical and chemical properties

Relative density : 0.91

Solubility : Insoluble in the following materials: cold water.

Auto-ignition temperature : 290°C

Viscosity : Kinematic (40°C (104°F)): <0.14 cm²/s (<14 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:

oxidizing agents, strong alkalis, strong acids.

Hazardous decomposition

products

: Evolves hydrogen on contact with water. 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 |
|------------------------------|-----------------------|---------|------------|----------|
| xylene | LD50 Dermal | Rabbit | >1.7 g/kg | - |
| • | LD50 Oral | Rat | 4.3 g/kg | - |
| ethylbenzene | LC50 Inhalation Vapor | Rat | 17.8 mg/l | 4 hours |
| - | LD50 Dermal | Rabbit | 17.8 g/kg | - |
| | LD50 Oral | Rat | 3.5 g/kg | - |
| 2-methylpropan-1-ol | LC50 Inhalation Vapor | Rat | 24.6 mg/l | 4 hours |
| | LD50 Dermal | Rabbit | 2460 mg/kg | - |
| | LD50 Oral | Rat | 2830 mg/kg | - |
| 1-methoxy-2-propanol | LD50 Dermal | Rabbit | 13 g/kg | - |
| | LD50 Oral | Rat | 5.2 g/kg | - |
| 3,6-diazaoctanethylenediamin | LD50 Dermal | Rabbit | 805 mg/kg | - |
| • | LD50 Oral | Rat | 2500 mg/kg | - |
| toluene | LC50 Inhalation Vapor | Rat | 49 g/m³ | 4 hours |
| | LD50 Dermal | Rabbit | 8.39 g/kg | - |
| | LD50 Oral | Rat | 5580 mg/kg | - |

Conclusion/Summary

: There are no data available on the mixture itself.

Irritation/Corrosion

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Section 11. Toxicological information

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

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.

Sensitization

| 3 | Route of exposure | Species | Result |
|---|-------------------|------------|-------------|
| Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines | skin | Mouse | Sensitizing |
| 3,6-diazaoctanethylenediamin | skin | Guinea pig | Sensitizing |

Conclusion/Summary

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

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)

| Name | | Route of exposure | Target organs |
|------------------------------|------------|------------------------------------|---|
| xylene | Category 3 | Not applicable. | Respiratory tract irritation |
| 2-methylpropan-1-ol | | | Narcotic effects Respiratory tract irritation |
| 1-methoxy-2-propanol toluene | | Not applicable. Not applicable. | Narcotic effects Narcotic effects |

Specific target organ toxicity (repeated exposure)

| Name | 3 3 3 | Route of exposure | Target organs |
|------|-------|-------------------|----------------------------------|
| | . 0 , | | hearing organs Not determined |

Aspiration hazard

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Section 11. Toxicological information

| Name | Result |
|--------------|--|
| ethylbenzene | ASPIRATION HAZARD - Category 1 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 : Harmful if inhaled. May cause respiratory irritation.

Skin contact : Harmful in contact with skin. Causes skin irritation. Defatting to the skin. May cause

an allergic skin reaction.

ingestion : Corrosive to the digestive tract. Causes burns. May be fatal if swallowed and enters

airways.

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 nausea or vomiting

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate : Not available.

effects

Potential delayed effects: Not available.

Long term exposure

Potential immediate : Not available.

effects

Potential delayed effects : Not available.

Potential chronic health effects

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Section 11. Toxicological information

General: 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.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

| Route | ATE value |
|------------------------------|---------------|
| Dermal | 1548.61 mg/kg |
| Inhalation (vapors) | 12.96 mg/l |
| Inhalation (dusts and mists) | 1.67 mg/l |

Other information

There are no data available on the mixture itself. The mixture has been assessed following the conventional method of the CLP Regulation (EC) No 1272/2008 and is classified for toxicological properties accordingly. See Sections 2 and 3 for details.

Exposure to component solvent vapor concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness.

Solvents may cause some of the above effects by absorption through the skin. Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin.

If splashed in the eyes, the liquid may cause irritation and reversible damage.

Ingestion may cause nausea, diarrhea and vomiting.

This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Contains Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines, 3,6-diazaoctanethylenediamin. May produce an allergic reaction.

Section 12. Ecological information

Toxicity

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Section 12. Ecological information

| Product/ingredient name | Result | Species | Exposure |
|---|--|----------------------------|----------------------------------|
| Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines | EC50 4.11 mg/l Fresh water | Algae | 72 hours |
| ethylbenzene | Acute LC50 150 to 200 mg/l Fresh water | Fish | 96 hours |
| 2-methylpropan-1-ol 1-methoxy-2-propanol | Acute EC50 1100 mg/l Acute LC50 23300 mg/l Acute LC50 >4500 mg/l Fresh water | Daphnia Daphnia Fish | 48 hours 48 hours 96 hours |

Conclusion/Summary

: There are no data available on the mixture itself.

Persistence/degradability

| Product/ingredient name | Test | Result | Dose | Inoculum |
|---|------|----------------|------|----------|
| Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines | - | 15 % - 28 days | - | - |

Conclusion/Summary

: There are no data available on the mixture itself.

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|---|-------------------|------------|------------------|
| xylene | - | - | Readily |
| Fatty acids, C18-unsatd., dimers, reaction products | - | - | Not readily |
| with polyethylenepolyamines | | | |
| ethylbenzene | - | - | Readily |
| toluene | - | - | Readily |

Bioaccumulative potential

| Product/ingredient name | LogPow | BCF | Potential |
|------------------------------|---------------|-------------|-----------|
| xylene | 3.16 | 7.4 to 18.5 | low |
| ethylbenzene | 3.15 | 79.43 | low |
| 2-methylpropan-1-ol | 0.76 | - | low |
| 3,6-diazaoctanethylenediamin | -1.66 to -1.4 | - | low |
| toluene | 2.73 | 8.32 | low |

Mobility in soil

Soil/water partition coefficient (Koc)

: Not available.

Other adverse effects

: No known significant effects or critical hazards.

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Section 13. Disposal considerations

Disposal methods

: The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

| | UN | IMDG | IATA |
|-----------------------------|------------------------|------------------------|------------------------|
| UN number | UN1263 | UN1263 | UN1263 |
| UN proper shipping name | PAINT RELATED MATERIAL | PAINT RELATED MATERIAL | PAINT RELATED MATERIAL |
| Transport hazard class(es) | 3 | 3 | 3 |
| Packing group | III | III | III |
| Environmental hazards | No. | No. | No. |
| Marine pollutant substances | Not applicable. | Not applicable. | Not applicable. |

Additional information

UN :None identified.

IMDG :None identified.

IATA :None identified.

Special precautions for user

:Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

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Product name SIGMAZINC 109 HARDENER

Section 15. Regulatory information

Singapore - hazardous chemicals under government control

None.

International regulations

Montreal Protocol

Not listed.

Section 16. Other information

History

Date of issue/Date of

revision

: 1/15/2020

: 21 February 2020

Date of previous issue

1/13/202

Version
Prepared by

: 5.03 : 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 = 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

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.

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