SAFETY DATA SHEET



Date of issue/Date of revision 17 February 2020 Version1

Section 1. Identification

Product code : 00427560

Product name : SIGMACOVER 435 HARDENER

Other means of : Not available.

identification

Product type : Liquid.

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

Product use : Coating. Paint. Painting-related materials.

Supplier's details : PT PPG Coatings Indonesia

Jl. Rawagelam III No.1

13930 Jakarta Indonesia

Tel +62 21 4605710 PMC.Safety@PPG.com

Emergency telephone

number

: CHEMTREC 001-803-017-9114 (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 1

SKIN SENSITIZATION - Category 1

SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract

irritation) - Category 3

SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) -

Category 3

AQUATIC HAZARD (LONG-TERM) - Category 3

Percentage of the mixture consisting of ingredient(s) of unknown acute toxicity:

43.5% (Oral), 43.5% (Dermal), 47% (Inhalation)

Percentage of the mixture consisting of ingredient(s) of unknown hazards to the

aquatic environment: 44.7%

GHS label elements, including precautionary statements

Hazard pictograms :







Signal word : Danger

Indonesia Page: 1/14

Date of issue 17 February 2020 **Version 1**

Product name SIGMACOVER 435 HARDENER

Section 2. Hazards identification

Hazard statements

Product code 00427560

: Flammable liquid and vapor.

Harmful if inhaled.

Causes serious eye damage.

Causes skin irritation.

May cause an allergic skin reaction. May cause respiratory irritation. May cause drowsiness or dizziness.

Harmful 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, 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 release to the environment. 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 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. 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

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

Section 3. Composition/information on ingredients

Substance/mixture Other means of identification

: Mixture : Not available.

CAS number/other identifiers

CAS number : Not applicable. **EC** number : Mixture.

| Ingredient name | % | CAS number |
|--|---------|------------|
| 2-methylpropan-1-ol | 25- <50 | 78-83-1 |
| xylene | 20- <25 | 1330-20-7 |
| Fatty acids, C18-unsatd., dimers, reaction products with | 20- <25 | 68410-23-1 |
| polyethylenepolyamines | | |
| ethylbenzene | 3- <5 | 100-41-4 |
| 2,4,6-tris(dimethylaminomethyl)phenol | 1- <3 | 90-72-2 |
| 3,6-diazaoctanethylenediamin | 1- <3 | 112-24-3 |

There are no 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.

Indonesia ² Page: 2/14

Product name SIGMACOVER 435 HARDENER

Section 3. Composition/information on ingredients

SUB codes represent substances without registered CAS Numbers.

Occupational exposure limits, if available, are listed in Section 8.

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. Can cause central nervous system (CNS) depression. May

cause drowsiness or dizziness. May cause respiratory irritation.

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

Ingestion : Corrosive to the digestive tract. Causes burns. Can cause central nervous system

(CNS) depression.

Over-exposure signs/symptoms

Eye contact: Adverse symptoms may include the following:

watering redness

Inhalation : Adverse symptoms may include the following:

respiratory tract irritation

coughing

nausea or vomiting

headache

drowsiness/fatigue dizziness/vertigo unconsciousness

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

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.

Indonesia Page: 3/14

Date of issue 17 February 2020 Version 1

Product name SIGMACOVER 435 HARDENER

Section 4. First aid measures

Protection of first-aiders

Product code 00427560

: 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. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

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

Unsuitable extinguishing media

: Do not use water jet.

Specific hazards arising from the chemical

: Flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. This material is harmful 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 spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders: If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions

: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

Methods and materials for containment and cleaning up

Indonesia Page: 4/14

Date of issue 17 February 2020 Version 1

Product code 00427560

Product name SIGMACOVER 435 HARDENER

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 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 noncombustible, 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). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid release to the environment. 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 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.

Indonesia Page: 5/14

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

| Ingredient name | Exposure limits |
|---------------------|--|
| 2-methylpropan-1-ol | Minister of Labor of the Republic of Indonesia (Indonesia, 4/2018). Absorbed through skin. TWA: 152 mg/m³ 8 hours. |
| xylene | TWA: 50 BDS 8 hours. Minister of Labor of the Republic of Indonesia (Indonesia, 4/2018). TWA: 434 mg/m³ 8 hours. TWA: 100 BDS 8 hours. STEL: 651 mg/m³ 15 minutes. |
| | STEL: 150 BDS 15 minutes. Ministry of Employment and Labor (Indonesia, 2/1997). STEL: 651 mg/m³ 15 minutes. STEL: 150 BDS 15 minutes. |
| ethylbenzene | Minister of Labor of the Republic of Indonesia (Indonesia, 4/2018). TWA: 20 BDS 8 hours. Ministry of Employment and Labor (Indonesia, 2/1997). STEL: 543 mg/m³ 15 minutes. STEL: 125 BDS 15 minutes. |

Recommended monitoring procedures

: If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Appropriate engineering controls

: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures

: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection **Skin protection**

: Chemical splash goggles and face shield.

Indonesia Page: 6/14

Product name SIGMACOVER 435 HARDENER

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 : 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 : Not available.

Odor : Aromatic. [Strong]

Odor threshold : Not available.

pH : Not available.

Melting point : Not available.

Boiling point : >37.78°C (>100°F)

Flash point : Closed cup: 28°C (82.4°F)

Evaporation rate : Not available.

Flammability/Combustible : Not available.

Flammability/Combustible properties (solid, gas)

properties (solid, gas)

(flammable) limits

Lower and upper explosive : Greatest known range: Lower: 1.7% Upper: 10.9% (2-methylpropan-1-ol)

Vapor pressure : Not available.

Vapor density : Not available.

Relative density : 0.95

Solubility : Insoluble in the following materials: cold water.

Partition coefficient: n-

octanol/water

: Not available.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Indonesia [:] Page: 7/14

Product name SIGMACOVER 435 HARDENER

Section 9. Physical and chemical properties

: Kinematic (room temperature): >4 cm²/s **Viscosity**

Kinematic (40°C): >0.21 cm²/s

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

: Decomposition products may include the following materials: carbon monoxide,

carbon dioxide, smoke, oxides of nitrogen.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

| Product/ingredient name | Result | Species | Dose | Exposure |
|------------------------------|-----------------------|---------|------------|----------|
| 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 | - |
| 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 | - |
| 2,4,6-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 | 805 mg/kg | - |
| | LD50 Oral | Rat | 2500 mg/kg | - |

Conclusion/Summary

: There are no data available on the mixture itself.

Irritation/Corrosion

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|-------------------------|--------|------------------|-------|-------------------------------|-------------|
| | | Rabbit Rabbit | | 24 hours 500 mg 4 hours | 7 days |

Conclusion/Summary

Indonesia ² Page: 8/14

Product name SIGMACOVER 435 HARDENER

Section 11. Toxicological information

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

Sensitization

| Product/ingredient name | Route of exposure | Species | Result |
|---|-------------------|------------|-------------|
| Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines | skin | Mouse | Sensitizing |
| 2,4,6-tris (dimethylaminomethyl) phenol | skin | Guinea pig | Sensitizing |
| 3,6-diazaoctanethylenediamin | skin | Guinea pig | Sensitizing |

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

Carcinogenicity

: There are no data available on the mixture itself.

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

Specific target organ toxicity (repeated exposure)

| Name | 31 7 | Route of exposure | Target organs |
|--------------|------------|-------------------|----------------|
| ethylbenzene | Category 2 | Not determined | hearing organs |

Aspiration hazard

| Name | Result |
|------------------------|---|
| xylene ethylbenzene | 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.

Page: 9/14 Indonesia

Product name SIGMACOVER 435 HARDENER

Section 11. Toxicological information

Inhalation : Harmful if inhaled. Can cause central nervous system (CNS) depression. May

cause drowsiness or dizziness. May cause respiratory irritation.

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

Ingestion : Corrosive to the digestive tract. Causes burns. Can cause central nervous system

(CNS) depression.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact: Adverse symptoms may include the following:

pain watering redness

Inhalation : Adverse symptoms may include the following:

respiratory tract irritation

coughing

nausea or vomiting

headache

drowsiness/fatigue dizziness/vertigo unconsciousness

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

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

Short term exposure

Potential immediate

effects

: There are no data available on the mixture itself.

: There are no data available on the mixture itself.

Potential delayed effects

Potential immediate

Long term exposure

effects

: There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Potential chronic health effects

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

Indonesia Page: 10/14

Product name SIGMACOVER 435 HARDENER

Section 11. Toxicological information

Acute toxicity estimates

| Route | ATE value |
|------------------------------|---------------|
| Oral | 27120 mg/kg |
| Dermal | 2381.37 mg/kg |
| Inhalation (vapors) | 22.91 mg/l |
| Inhalation (dusts and mists) | 2.94 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, 2,4,6-tris (dimethylaminomethyl)phenol, 3,6-diazaoctanethylenediamin. May produce an allergic reaction.

Section 12. Ecological information

Toxicity

| Product/ingredient name | Result | Species | Exposure |
|---|--|---------|----------|
| 2-methylpropan-1-ol | Acute EC50 1100 mg/l | Daphnia | 48 hours |
| 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 |
| 2,4,6-tris (dimethylaminomethyl)phenol | Acute LC50 175 mg/l | Fish | 96 hours |

Persistence/degradability

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

Indonesia Page: 11/14

Product name SIGMACOVER 435 HARDENER

Section 12. Ecological information

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

Bioaccumulative potential

| Product/ingredient name | LogP _{ow} | BCF | Potential |
|------------------------------|--------------------|-------------|-----------|
| 2-methylpropan-1-ol | 0.76 | - | low |
| xylene | 3.16 | 7.4 to 18.5 | low |
| ethylbenzene | 3.15 | 79.43 | low |
| 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 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 | PAINT | PAINT |
| Transport hazard class(es) | 3 | 3 | 3 |
| Packing group | III | III | III |
| | | | |

Indonesia Page: 12/14

Product name SIGMACOVER 435 HARDENER

Section 14. Transport information

Environmental No. No. No.

hazards

Marine pollutant Not applicable. Not applicable. Not applicable.

substances

Additional information

UN : This class 3 viscous liquid is not subject to regulation in packagings up to 450 L according to

2.3.2.5.1.

IMDG : This class 3 viscous liquid is not subject to regulation in packagings up to 450 L according to

2.3.2.5.

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.

Section 15. Regulatory information

Safety, health and environmental regulations specific for the product

: No known specific national and/or regional regulations applicable to this product (including its ingredients).

Law No. 74/2001 - Banned

None of the components are listed.

Law No. 74/2001 - Restricted

None of the components are listed.

Law No. 74/2001 - : Not determined

Chemicals that may be used

Section 16. Other information

History

Date of issue/Date of

revision

: 17 February 2020

Date of previous issue

: No previous validation

Version

: 1

Prepared by

: EHS

Key to abbreviations

: ADN = European Provisions concerning the International Carriage of Dangerous

Goods by Inland Waterway

ADR = The European Agreement concerning the International Carriage of

Dangerous Goods by Road ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

IATA = International Air Transport Association IMDG = International Maritime Dangerous Goods

LogPow = logarithm of the octanol/water partition coefficient

MARPOL = International Convention for the Prevention of Pollution From Ships,

1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)

Indonesia Page: 13/14

Product name SIGMACOVER 435 HARDENER

Section 16. Other information

RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail

UN = United Nations

Indicates information that has changed from previously issued version.

Notice to reader

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.

Indonesia Page: 14/14