

# SAFETY DATA SHEET



Date of issue/Date of revision 5

Version 7.01

sion 5 April 2020

### **Section 1. Identification**

Product code : 00271500

Product name : SIGMADUR 180 HARDENER

Other means of identification

: Not available.

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 : PPG Coatings (Thailand) Co., Ltd.

15 Rama 9 Road, Kwaeng Huamark, Khet Bangkapi, Bangkok 10240 Thailand

T: 662-319-4190 #224 F: 662-319-4189

Emergency telephone number (with hours of operation)

: CHEMTREC 001-800-13-203-9987 (CCN 17704)

### Section 2. Hazards identification

Classification of the substance or mixture

: FLAMMABLE LIQUIDS - Category 3

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

SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A

RESPIRATORY SENSITIZATION - Category 1A

SKIN SENSITIZATION - Category 1A

SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract

irritation) - Category 3

SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (hearing organs)

- Category 2

ASPIRATION HAZARD - Category 1

Percentage of the mixture consisting of ingredient(s) of unknown acute toxicity: 10%

(Inhalation)

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

aquatic environment: 12.3%

#### **GHS label elements**

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**Product name SIGMADUR 180 HARDENER** 

### Section 2. Hazards identification

**Hazard pictograms** 







Signal word : Danger

**Hazard statements**: Flammable liquid and vapor.

Harmful if inhaled.

Causes serious eye irritation.

Causes skin irritation.

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause an allergic skin reaction.

May be fatal if swallowed and enters airways.

May cause respiratory irritation.

May cause damage to organs through prolonged or repeated exposure. (hearing

organs)

**Precautionary statements** 

**Prevention** 

: Wear protective gloves. Wear eye or face protection. In case of inadequate ventilation wear respiratory 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. Do not breathe vapor. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.

Response

: Get medical attention if you feel unwell. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. If experiencing respiratory symptoms: Call a POISON CENTER or physician. 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. Take off contaminated clothing. 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. If eye irritation persists: Get medical attention.

**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

: Prolonged or repeated contact may dry skin and cause irritation.

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**Product name SIGMADUR 180 HARDENER** 

### Section 3. Composition/information on ingredients

Substance/mixture : Mixture

#### **CAS** number/other identifiers

**CAS number** : Not applicable.

Ingredient name	%	CAS number
⊮examethylene diisocyanate, oligomers (Biuret type)	50-100	28182-81-2
ethylbenzene	10- <20	100-41-4
xylene	10- <20	1330-20-7
hexamethylene-di-isocyanate	0.3 - <1	822-06-0

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

SUB codes represent substances without registered CAS Numbers.

### Section 4. First aid measures

### **Description of necessary first aid measures**

**Eye contact**: Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids

apart for at least 10 minutes and seek immediate medical advice.

**Inhalation**: Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is

irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by

trained personnel.

Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and

water or use recognized skin cleanser. Do NOT use solvents or thinners.

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 irritation.

Inhalation : Harmful if inhaled. May cause respiratory irritation. May cause allergy or asthma

symptoms or breathing difficulties if inhaled.

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

**Ingestion**: May be fatal if swallowed and enters airways.

#### Over-exposure signs/symptoms

**Eye contact**: Adverse symptoms may include the following:

pain or irritation watering redness

**Inhalation** : Adverse symptoms may include the following:

respiratory tract irritation

coughing

wheezing and breathing difficulties

asthma

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**Product name SIGMADUR 180 HARDENER** 

### Section 4. First aid measures

**Skin contact**: Adverse symptoms may include the following:

irritation redness dryness cracking

**Ingestion** : Adverse symptoms may include the following:

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.

See toxicological information (Section 11)

### Section 5. Fire-fighting measures

#### **Extinguishing media**

Suitable extinguishing

media

Unsuitable extinguishing

media

: Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.

: Do not use water jet.

Specific hazards arising from the chemical

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.

Hazardous thermal decomposition products

Decomposition products may include the following materials:

carbon oxides nitrogen oxides

Cyanate and isocyanate. hydrogen cyanide

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.

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**Product name SIGMADUR 180 HARDENER** 

### 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. Avoid breathing 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.

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.

Special provisions

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). Place in a suitable container. The contaminated area should be cleaned immediately with a suitable decontaminant. One possible (flammable) decontaminant comprises (by volume): water (45 parts), ethanol or isopropyl alcohol (50 parts) and concentrated (d: 0,880) ammonia solution (5 parts), A non-flammable alternative is sodium carbonate (5 parts) and water (95 parts). Add the same decontaminant to the remnants and let stand for several days until no further reaction in an unsealed container. Once this stage is reached, close container and dispose of according to local regulations (see section 13). Do not allow to enter drains or watercourses. If the product contaminates lakes, rivers, or sewers, inform the appropriate authorities in accordance with local regulations.

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### Section 7. Handling and storage

# Precautions for safe handling

: Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not 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.

# Conditions for safe storage, including any incompatibilities

: Storage temperature: 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.

Precautions should be taken to minimize exposure to atmospheric humidity or water. CO<sub>2</sub> will be formed, which, in closed containers, could result in pressurization.

### Section 8. Exposure controls/personal protection

#### **Control parameters**

Occupational exposure limits

Ingredient name	Exposure limits
<b>e</b> thylbenzene	Ministry of Labor (Thailand, 8/2017). TWA: 100 ppm 8 hours.
xylene	Ministry of Labor (Thailand, 8/2017). TWA: 100 ppm 8 hours.
hexamethylene-di-isocyanate	Ministry of Labor (Thailand, 8/2017). TWA: 0.005 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.

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### Section 8. Exposure controls/personal protection

Appropriate engineering controls

: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, 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 evewash stations and safety showers are close to the workstation location.

Eye protection Skin protection : Chemical splash goggles.

**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 Body protection**  butyl rubber

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

By spraying: air-fed respirator. By other operations than spraying, in well ventilated areas, air-fed respirators could be replaced by a combination charcoal filter and particulate filter mask. 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.

Restrictions on use

: Persons with a history of asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used.

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**Product name SIGMADUR 180 HARDENER** 

# Section 9. Physical and chemical properties

**Appearance** 

Physical state : Liquid.

Color : Colorless.

Odor : Amine-like.

Odor threshold : Not available.

pH : insoluble in water.

Melting point : May start to solidify at the following temperature: -51.3 to -28.4°C (-60.3 to -19.1°F)

This is based on data for the following ingredient: Hexamethylene diisocyanate,

oligomers (Biuret type). Weighted average: -59.05°C (-74.3°F)

**Boiling point** : >37.78°C (>100°F)

Flash point : Closed cup: 29.5°C (85.1°F)

**Evaporation rate**: Highest known value: 0.84 (ethylbenzene) Weighted average: 0.81compared with

butyl acetate

Flammability (solid, gas) : liquid

Lower and upper explosive

(flammable) limits

: Greatest known range: Lower: 0.8% Upper: 6.7% (xylene)

Vapor pressure : Highest known value: 1.2 kPa (9.3 mm Hg) (at 20°C) (ethylbenzene). Weighted

average: 0.36 kPa (2.7 mm Hg) (at 20°C)

Vapor density : Highest known value: 4.6 (Air = 1) (2-methoxy-1-methylethyl acetate). Weighted

average: 3.93 (Air = 1)

Relative density : 1.06

**Solubility** : Insoluble in the following materials: cold water.

Partition coefficient: n-

octanol/water

: Not applicable.

**Auto-ignition temperature** : Lowest known value: 333°C (631.4°F) (2-methoxy-1-methylethyl acetate).

**Decomposition temperature**: Stable under recommended storage and handling conditions (see Section 7).

Viscosity : Kinematic (40°C): <0.14 cm<sup>2</sup>/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** : In a fire, hazardous decomposition products may be produced.

**Incompatible materials**: Keep away from: oxidizing agents, strong alkalis, strong acids, amines, alcohols,

water. Uncontrolled exothermic reactions occur with amines and alcohols.

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**Product name SIGMADUR 180 HARDENER** 

### Section 10. Stability and reactivity

Hazardous decomposition products

: Depending on conditions, decomposition products may include the following materials: Cyanate and isocyanate. carbon oxides nitrogen oxides hydrogen cyanide

### **Section 11. Toxicological information**

### Information on toxicological effects

### **Acute toxicity**

Product/ingredient name	Result	Species	Dose	Exposure
Hexamethylene diisocyanate,	LD50 Dermal	Rat	>15800 mg/	-
oligomers (Biuret type)			kg	
	LD50 Oral	Rat	>5000 mg/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	-
xylene	LD50 Dermal	Rabbit	>1.7 g/kg	-
	LD50 Oral	Rat	4.3 g/kg	-
hexamethylene-di-isocyanate	LC50 Inhalation Dusts and mists	Rat	124 mg/m <sup>3</sup>	4 hours
•	LC50 Inhalation Vapor	Rat	151 mg/m <sup>3</sup>	4 hours
	LC50 Inhalation Vapor	Rat	22 ppm	4 hours
	LD50 Dermal	Rabbit	0.57 g/kg	-
	LD50 Oral	Rat	0.71 g/kg	-

**Conclusion/Summary** 

: There are no data available on the mixture itself.

#### **Irritation/Corrosion**

Product/ingredient name	Result	Species	Score	Exposure	Observation
<b>K</b> ylene	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** 

**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)

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**Product name SIGMADUR 180 HARDENER** 

### **Section 11. Toxicological information**

Name	3 3 3	Route of exposure	Target organs
Fexamethylene diisocyanate, oligomers (Biuret type)	Category 3	Not applicable.	Respiratory tract irritation
xylene	Category 3	Not applicable.	Respiratory tract irritation
hexamethylene-di-isocyanate	Category 3	Not applicable.	Respiratory tract irritation

### Specific target organ toxicity (repeated exposure)

Name		Route of exposure	Target organs
ethylbenzene	Category 2	Not determined	hearing organs

### **Aspiration hazard**

Name	Result
	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 irritation.

Inhalation : Harmful if inhaled. May cause respiratory irritation. May cause allergy or asthma

symptoms or breathing difficulties if inhaled.

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

**Ingestion** : 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 or irritation

watering redness

**Inhalation** : Adverse symptoms may include the following:

respiratory tract irritation

coughing

wheezing and breathing difficulties

asthma

**Skin contact**: Adverse symptoms may include the following:

irritation redness dryness cracking

**Ingestion**: Adverse symptoms may include the following:

nausea or vomiting

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**Product name SIGMADUR 180 HARDENER** 

### Section 11. Toxicological information

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

effects

: Not available.

Potential delayed effects : Not available.

Potential chronic health effects

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.

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.

No known significant effects or critical hazards.

#### **Numerical measures of toxicity**

#### **Acute toxicity estimates**

Route	ATE value
Oral	12648.9 mg/kg
Dermal	8944.19 mg/kg
Inhalation (vapors)	13.28 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.

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

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. 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.

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**Product name SIGMADUR 180 HARDENER** 

### **Section 11. Toxicological information**

Based on the properties of the isocyanate components and considering toxicological data on similar mixtures, this mixture may cause acute irritation and/or sensitization of the respiratory system, leading to an asthmatic condition, wheezing and tightness of the chest. Sensitized persons may subsequently show asthmatic symptoms when exposed to atmospheric concentrations well below the OEL. Repeated exposure may lead to permanent respiratory disability. Repeated or prolonged contact with irritants may cause dermatitis.

Contains Hexamethylene diisocyanate, oligomerisation product (Biuret type), hexamethylene-di-isocyanate. May produce an allergic reaction.

# Section 12. Ecological information

#### **Toxicity**

Product/ingredient name	Result	Species	Exposure
Fexamethylene diisocyanate, oligomers (Biuret type)	Acute EC50 >1000 mg/l	Algae - scenedesmus subspicatus	72 hours
ethylbenzene	Acute EC50 >100 mg/l Acute LC50 >100 mg/l Acute LC50 150 to 200 mg/l Fresh water	Fish - Danio rerio (zebra fish)	48 hours 96 hours 96 hours

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

### Persistence/degradability

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

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Hexamethylene diisocyanate, oligomers (Biuret type)	-	-	Not readily
ethylbenzene xylene	-		Readily Readily

### **Bioaccumulative potential**

Product/ingredient name	LogPow	BCF	Potential
₩examethylene diisocyanate, oligomers (Biuret type)	-	3.2	low
ethylbenzene	3.15	79.43	low
xylene	3.16	7.4 to 18.5	low
hexamethylene-di-isocyanate	1.08	-	low

**Mobility in soil** 

Soil/water partition : Not available. coefficient (Koc)

Other adverse effects : No known significant effects or critical hazards.

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**Product name SIGMADUR 180 HARDENER** 

### 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 SIGMADUR 180 HARDENER** 

### Section 15. Regulatory information

**Harmful Chemicals List** 

Safety, health and environmental regulations specific for the product

: Listed

: 5 April 2020

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

**International regulations** 

**Montreal Protocol** 

Not listed.

### Section 16. Other information

**History** 

Date of issue/Date of

revision

Date of previous issue : 10/11/2019

Version : 7.01
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)

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.

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