# SAFETY DATA SHEET

**SIGMADUR 550H HARDENER** 



### Date of issue 25 March 2024

Version 4

# 1. Product and company identification

| Product name  | : SIGMADUR 550H HARDENER |  |
|---|--------------------------|--|
| Product code  | : 00441843               |  |
| Product type  | : Liquid.                |  |
| Relevant identified uses of the substance or mixture and uses advised against |                          |  |

| Product use                      | : Professional applications, Used by spraying.   |
|----------------------------------|--|
| Use of the substance/<br>mixture | : Coating.   |
| Uses advised against             | : Not applicable.  |
| Supplier's details               | : PPG PMC Japan Co., Ltd., 8F, Shintetsu Bldg., 1-1, Daikaidori 1-chome, Kobe 652-0803 Japan; Tel: +81-78-574-2777 |
| Emergency telephone<br>number    | : 078 574 2777   |

### 2. Hazards identification **GHS** Classification : FLAMMABLE LIQUIDS - Category 3 ACUTE TOXICITY (inhalation) - Category 4 **RESPIRATORY SENSITIZATION - Category 1** SKIN SENSITIZATION - Category 1 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2 HAZARDOUS TO THE AQUATIC ENVIRONMENT - ACUTE HAZARD - Category 3 HAZARDOUS TO THE AQUATIC ENVIRONMENT - CHRONIC HAZARD -Category 3 **GHS** label elements Hazard pictograms Signal word : Danger Fammable liquid and vapor. **Hazard statements** 2 May cause an allergic skin reaction. Harmful if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause respiratory irritation. May cause damage to organs through prolonged or repeated exposure. (central nervous system (CNS), respiratory organs) Harmful to aquatic life with long lasting effects. **Precautionary statements**

| Product code 00441843                               | Date of issue 25 March 2024 Version 4   |  |
|---|---|--|
| Product name SIGMADUR 550H HARDENER                 |   |  |
| 2. Hazards identifi                                 | cation  |  |
| Prevention  | : Wear protective gloves, protective clothing and eye or face protection. Wear respiratory protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Do not breathe vapor. Contaminated work clothing should not be allowed out of the workplace.  |  |
| Response  | : Set medical advice or attention if you feel unwell. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell. If experiencing respiratory symptoms: Call a POISON CENTER or doctor. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice or attention. |  |
| Storage   | : Store locked up. Store in a well-ventilated place. Keep container tightly closed.   |  |
| 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.  |  |

# 3. Composition/information on ingredients

Substance/mixture

: Mixture

### CAS number/other identifiers

| CAS number: Not applicableCSCL number: Not available.        |            |            |                |
|--|------------|------------|----------------|
| Ingredient name  | %          | CAS number | CSCL           |
| Hexamethylene diisocyanate, oligomers<br>(isocyanurate type) | 50 - 100   | 28182-81-2 | 7-873          |
| Butyl acetate  | 3 - <5     | 123-86-4   | 2-731          |
| Solvent naphtha (petroleum), light aromatic                  | 2 - <3     | 64742-95-6 | Not available. |
| 1,2,4-Trimethylbenzene                                       | 1 - <2     | 95-63-6    | 3-3427; 3-7    |
| Hexamethylene diisocyanate (Hexane, 1,6-diisocyanato-)       | 0.1 - <0.2 | 822-06-0   | 2-2863         |
| Xylene   | <0.1       | 1330-20-7  | 3-3; 3-60      |

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.

# 4. First aid measures

| r <u>y first aid measures</u>  |
|--|
| <ul> <li>Remove contact lenses, irrigate copiously with clean, fresh water, holding the<br/>eyelids apart for at least 10 minutes and seek immediate medical advice.</li> </ul>  |
| <ul> <li>Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is<br/>irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by<br/>trained personnel.</li> </ul> |
| <ul> <li>Remove contaminated clothing and shoes. Wash skin thoroughly with soap and<br/>water or use recognized skin cleanser. Do NOT use solvents or thinners.</li> </ul>   |
| : If swallowed, seek medical advice immediately and show this container or label.<br>Keep person warm and at rest. Do NOT induce vomiting.   |
|  |

### Product name SIGMADUR 550H HARDENER

# 4. First aid measures

| Most important symptoms/e     | ffec        | ts, acute and delayed   |
|-------------------------------|-------------|---|
| Potential acute health effect | <u>cts</u>  |   |
| Eye contact                   | 1           | No known significant effects or critical hazards.   |
| Inhalation                    | :           | Harmful if inhaled. May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.  |
| Skin contact                  | :           | Defatting to the skin. May cause skin dryness and irritation. May cause an allergic skin reaction.  |
| Ingestion                     | :           | No known significant effects or critical hazards.   |
| Over-exposure signs/symp      | otom        | <u>15</u>   |
| Eye contact                   | 1           | No specific data.   |
| Inhalation                    | :           | Adverse symptoms may include the following:<br>respiratory tract irritation<br>coughing<br>wheezing and breathing difficulties<br>asthma  |
| Skin contact                  | :           | Adverse symptoms may include the following:<br>irritation<br>redness<br>dryness<br>cracking   |
| Ingestion                     | 1           | No specific data.   |
| Indication of immediate med   | <u>lica</u> | l attention and special treatment needed, if necessary  |
| Notes to physician            | :           | In case of inhalation of decomposition products in a fire, symptoms may be delayed.<br>The exposed person may need to be kept under medical surveillance for 48 hours.  |
| Specific treatments           | 1           | 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)

# 5. Fire-fighting measures

| Extinguishing media                        |   |
|--|---|
| Suitable extinguishing media               | : Use dry chemical, CO <sub>2</sub> , 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:<br>carbon oxides<br>nitrogen oxides<br>Cyanate and isocyanate.<br>hydrogen cyanide  |

# **Special protective** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

# 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

| For non-emergency<br>personnel | : No action shall be taken involving any personal risk or without suitable training.<br>Evacuate surrounding areas. Keep unnecessary and unprotected personnel from<br>entering. Do not touch or walk through spilled material. Shut off all ignition sources.<br>No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide<br>adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put<br>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<br>and sewers. Inform the relevant authorities if the product has caused environmental<br>pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to<br>the environment if released in large quantities.   |

### 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 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.  |
| 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. |

## 7. Handling and storage

| Precautions for safe       | : Put on appropriate personal protective equipment (see Section 8). Persons with a   |
|----------------------------|--|
| handling                   | history of skin sensitization problems or asthma, allergies or chronic or recurrent<br>respiratory disease should not be employed in any process in which this product is<br>used. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not<br>ingest. Avoid release to the environment. Use only with adequate ventilation. Wear<br>appropriate respirator when ventilation is inadequate. Do not enter storage areas and<br>confined spaces unless adequately ventilated. Keep in the original container or an<br>approved alternative made from a compatible material, kept tightly closed when not in<br>use. Store and use away from heat, sparks, open flame or any other ignition source.<br>Use explosion-proof electrical (ventilating, lighting and material handling) equipment.<br>Use only non-sparking tools. Take precautionary measures against electrostatic<br>discharges. Empty containers retain product residue and can be hazardous. Do not<br>reuse container. |
| Conditions for safe storag | e : 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   |

Conditions for safe storage : 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.

Precautions should be taken to minimize exposure to atmospheric humidity or water.  $CO_2$  will be formed, which, in closed containers, could result in pressurization.

# 8. Exposure controls/personal protection

### Control parameters

### **Occupational exposure limits**

| Ingredient name  | Exposure limits   |
|--|---|
| Butyl acetate  | Japan Society for Occupational Health<br>(Japan, 9/2022).<br>OEL-M: 475 mg/m <sup>3</sup> 8 hours.<br>OEL-M: 100 ppm 8 hours.<br>Industrial Safety and Health Act (Japan,<br>6/2020).                                 |
| 1,2,4-Trimethylbenzene                                 | TWA: 150 ppm 8 hours.<br>Japan Society for Occupational Health<br>(Japan, 9/2022).<br>OEL-M: 120 mg/m <sup>3</sup> 8 hours.<br>OEL-M: 25 ppm 8 hours.   |
| Hexamethylene diisocyanate (Hexane, 1,6-diisocyanato-) | Japan Society for Occupational Health<br>(Japan, 9/2022). Inhalation sensitizer.<br>OEL-M: 0.034 mg/m <sup>3</sup> 8 hours.<br>OEL-M: 0.005 ppm 8 hours.  |
| Xylene   | Industrial Safety and Health Act (Japan,<br>6/2020). [xylene]<br>TWA: 50 ppm 8 hours.<br>Japan Society for Occupational Health<br>(Japan, 9/2022).<br>OEL-M: 50 ppm 8 hours.<br>OEL-M: 217 mg/m <sup>3</sup> 8 hours. |

### Q Experience controlo/personal protection

| 8. Exposure controls/personal protection |   |  |
|--|---|--|
| Recommended monitoring procedures        | : 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<br>they comply with the requirements of environmental protection legislation. In some<br>cases, fume scrubbers, filters or engineering modifications to the process equipment<br>will be necessary to reduce emissions to acceptable levels.   |  |
| Individual protection measu              | <u>res</u>  |  |
| Hygiene measures                         | : Wash hands, forearms and face thoroughly after handling chemical products, before<br>eating, smoking and using the lavatory and at the end of the working period.<br>Appropriate techniques should be used to remove potentially contaminated clothing.<br>Contaminated work clothing should not be allowed out of the workplace. Wash<br>contaminated clothing before reusing. Ensure that eyewash stations and safety<br>showers are close to the workstation location. |  |
| Eye protection                           | : Safety glasses with side shields.   |  |
| Skin protection                          |   |  |

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

# 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** : Use an air-fed respirator unless a site-specific assessment determines that an air-fed respirator is not necessary, in which case the results of the risk assessment should be utilized to determine whether respiratory protection is necessary and what type of protection is appropriate. 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.

# 9. Physical and chemical properties

| Solubility(ies)   | : Media<br>cold water       | Result<br>Not soluble |  |  |  |
|-------------------|-----------------------------|-----------------------|--|--|--|
| Relative density  | : 1.12                      |                       |  |  |  |
| Flash point       | : Closed cup: 29°C (84.2°F) |                       |  |  |  |
| Boiling point     | : >37.78°C (>100°F)         |                       |  |  |  |
| Odor              | : Characteristic.           |                       |  |  |  |
| Physical state    | : Liquid.                   |                       |  |  |  |
| <u>Appearance</u> |                             |                       |  |  |  |

| 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.                            |  |  |
| Hazardous decomposition products   | <ul> <li>Depending on conditions, decomposition products may include the following<br/>materials: Cyanate and isocyanate. carbon oxides nitrogen oxides hydrogen<br/>cyanide</li> </ul> |  |  |

# **11. Toxicological information**

### Information on toxicological effects

| <u>Acu</u> | te t | oxi | icity |  |
|------------|------|-----|-------|--|
|            |      |     |       |  |

| Product/ingredient name  | gredient name Result Species    |              | Dose                    | Exposure |  |
|--|---------------------------------|--------------|-------------------------|----------|--|
| examethylene<br>diisocyanate, oligomers<br>(isocyanurate type) | LD50 Dermal                     | Rabbit       | >2000 mg/kg             | -        |  |
|  | LD50 Oral                       | Rat - Female | >2500 mg/kg             | -        |  |
| Butyl acetate  | LC50 Inhalation Vapor           | Rat          | >21.1 mg/l              | 4 hours  |  |
| 5  | LC50 Inhalation Vapor           | Rat          | 2000 ppm                | 4 hours  |  |
|  | LD50 Dermal                     | Rabbit       | >17600 mg/kg            | -        |  |
|  | LD50 Oral                       | Rat          | 10.768 g/kg             | -        |  |
| Solvent naphtha (petroleum),<br>light aromatic                 | LD50 Dermal                     | Rabbit       | 3.48 g/kg               | -        |  |
| 5  | LD50 Oral                       | Rat          | 8400 mg/kg              | -        |  |
| 1,2,4-Trimethylbenzene   | LC50 Inhalation Vapor           | Rat          | 18000 mg/m <sup>3</sup> | 4 hours  |  |
|  | LD50 Oral                       | Rat          | 5 g/kg                  | -        |  |
| Hexamethylene<br>diisocyanate (Hexane,<br>1,6-diisocyanato-)   | LC50 Inhalation Dusts and mists | Rat          | 124 mg/m <sup>3</sup>   | 4 hours  |  |
| i,e alleeeyallate y  | LC50 Inhalation Vapor           | Rat          | 151 mg/m³               | 4 hours  |  |
|  | LD50 Dermal                     | Rabbit       | 0.57 g/kg               | -        |  |
|  | LD50 Oral                       | Rat          | 0.71 g/kg               | -        |  |

### Irritation/Corrosion

| Product/ingredient name | Result                   | Species | Score | Exposure           | Observation |
|-------------------------|--------------------------|---------|-------|--------------------|-------------|
| ₩ylene                  | Skin - Moderate irritant | Rabbit  | -     | 24 hours 500<br>mg | -           |

### **Sensitization**

Not available.

### **Mutagenicity**

Not available.

#### **Carcinogenicity**

Not available.

### **Reproductive toxicity**

Not available.

### **Teratogenicity**

### Not available.

### Specific target organ toxicity (single exposure)

| Name  | Category   | Route of exposure | Target organs   |
|---|------------|-------------------|---|
| Hexamethylene diisocyanate, oligomers (isocyanurate type) | Category 3 | -                 | Respiratory tract irritation  |
| Butyl acetate   | Category 3 | -                 | Respiratory tract irritation  |
|   | Category 3 |                   | Narcotic effects  |
| Solvent naphtha (petroleum), light aromatic               | Category 3 | -                 | Narcotic effects  |
| 1,2,4-Trimethylbenzene                                    | Category 3 | -                 | Respiratory tract<br>irritation   |
|   | Category 3 |                   | Narcotic effects  |
| Hexamethylene diisocyanate (Hexane, 1,6-diisocyanato-)    | Category 1 | -                 | respiratory organs  |
| Xylene  | Category 1 | -                 | central nervous<br>system (CNS),<br>kidneys, liver,<br>respiratory organs |
|   | Category 3 |                   | Narcotic effects  |

### Specific target organ toxicity (repeated exposure)

| Name   | Category                 | Route of exposure | Target organs   |
|--|--------------------------|-------------------|---|
| 7,2,4-Trimethylbenzene   | Category 1               | -                 | central nervous<br>system (CNS),<br>respiratory organs      |
| Hexamethylene diisocyanate (Hexane, 1,6-diisocyanato-)<br>Xylene | Category 1<br>Category 1 | -                 | respiratory organs<br>nervous system,<br>respiratory organs |

### **Aspiration hazard**

| Name                   | Result   |
|------------------------|--|
| 1,2,4-Trimethylbenzene | ASPIRATION HAZARD - Category 1<br>ASPIRATION HAZARD - Category 1<br>ASPIRATION HAZARD - Category 1 |

-

# 11. Toxicological information

| Information on the likely routes of exposure | :   | Not available.  |
|--|-----|---|
| Potential acute health effec                 | te  |   |
| Eye contact                                  |     | No known significant effects or critical hazards.   |
| Inhalation                                   |     | Harmful if inhaled. May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.  |
| Skin contact                                 | :   | Defatting to the skin. May cause skin dryness and irritation. May cause an allergic skin reaction.  |
| Ingestion                                    | :   | No known significant effects or critical hazards.   |
| Symptoms related to the ph                   | iys | ical, chemical and toxicological characteristics  |
| Eye contact                                  |     | No specific data.   |
| Inhalation                                   | :   | Adverse symptoms may include the following:<br>respiratory tract irritation<br>coughing   |
|  |     | wheezing and breathing difficulties<br>asthma   |
| Skin contact                                 | :   | Adverse symptoms may include the following:<br>irritation<br>redness<br>dryness<br>cracking   |
| Ingestion                                    | :   | No specific data.   |
| Delayed and immediate effect                 | ts  | and also chronic effects from short and long term exposure  |
| Short term exposure                          |     |   |
| Potential immediate effects                  | :   | Not available.  |
| Potential delayed effects                    | :   | Not available.  |
| <u>Long term exposure</u>                    |     |   |
| Potential immediate<br>effects               | :   | Not available.  |
| Potential delayed effects                    | :   | Not available.  |
| Potential chronic health eff                 | ect | <u>s</u>  |
| General                                      | :   | May cause damage to organs through prolonged or repeated exposure. Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels. |
| Carcinogenicity                              | :   | No known significant effects or critical hazards.   |
| Mutagenicity                                 | 1   | No known significant effects or critical hazards.   |
| Reproductive toxicity                        | 1   | No known significant effects or critical hazards.   |
| Numerical measures of toxic                  | ity |   |
| Acute toxicity estimates                     |     |   |

### Acute toxicity estimates

| Product/ingredient name                     | Oral (mg/<br>kg) | Dermal<br>(mg/kg) | Inhalation<br>(gases)<br>(ppm) | Inhalation<br>(vapors)<br>(mg/l) | Inhalation<br>(dusts<br>and mists)<br>(mg/l) |  |
|---|------------------|-------------------|--------------------------------|----------------------------------|--|--|
| SIGMADUR 550H HARDENER                      | 2783.3           | 2726.4            | N/A                            | 1200.0                           | 1.7  |  |
| Hexamethylene diisocyanate, oligomers       | 2500             | 2500              | N/A                            | N/A                              | 1.5  |  |
| (isocyanurate type)                         |                  |                   |                                |                                  |  |  |
| Butyl acetate                               | 10768            | N/A               | N/A                            | N/A                              | N/A  |  |
| Solvent naphtha (petroleum), light aromatic | 8400             | 3480              | N/A                            | N/A                              | N/A  |  |
| 1,2,4-Trimethylbenzene                      | 5000             | N/A               | N/A                            | 18                               | N/A  |  |
| Hexamethylene diisocyanate (Hexane,         | 710              | 570               | N/A                            | 0.151                            | 0.124  |  |
| 1,6-diisocyanato-)                          |                  |                   |                                |                                  |  |  |
| Xylene                                      | 4300             | 1700              | N/A                            | 11                               | N/A  |  |

### **Other information**

Prolonged or repeated contact may dry skin and cause irritation. Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. 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. Persons with a history of skin sensitization problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Repeated exposure may lead to permanent respiratory disability. Moisturesensitive material. Avoid contact with skin and clothing.

# 12. Ecological information

### **Toxicity**

| Product/ingredient name                                   | Result                                     | Species  | Exposure             |
|---|--|--|----------------------|
| Hexamethylene diisocyanate, oligomers (isocyanurate type) |  | Algae - scenedesmus<br>subspicatus             | 72 hours             |
|   | Acute EC50 >100 mg/l                       | Daphnia - <i>daphnia magna</i>                 | 48 hours             |
| Butyl acetate   | Acute LC50 >100 mg/l<br>Acute LC50 18 mg/l | Fish - <i>Danio rerio (zebra fish)</i><br>Fish | 96 hours<br>96 hours |
| Solvent naphtha (petroleum), light aromatic               |  | Fish   | 96 hours             |

### Persistence/degradability

| Product/ingredient name   | Test                  | Result     |                | Dose |                               | Inoculum   |
|---|-----------------------|------------|----------------|------|-------------------------------|------------|
| Butyl acetate   | TEPA and<br>OECD 301D | 83 % - Rea | dily - 28 days | -    |                               | -          |
| Product/ingredient name   | Aquatic half-life     |            | Photolysis     |      | Biodeg                        | radability |
| Fexamethylene diisocyanate,<br>oligomers (isocyanurate type)<br>Butyl acetate<br>Xylene |                       |            | -              |      | Not rea<br>Readily<br>Readily | ,          |

### **Bioaccumulative potential**

| Product code 00441843 Product name SIGMADUR 550H HARDENER |        | Date of issue 2 | 5 March 2024 Version 4 |
|---|--------|-----------------|------------------------|
| 12. Ecological information                                |        |                 |                        |
| Product/ingredient name                                   | LogPow | BCF             | Potential              |
| Rexamethylene diisocyanate, oligomers (isocyanurate type) |        | 3.2             | Low                    |
| Butyl acetate   | 2.3    | -               | Low                    |
| 1,2,4-Trimethylbenzene                                    | 3.63   | 120.23          | Low                    |
| Hexamethylene diisocyanate<br>(Hexane, 1,6-diisocyanato-) | 0.02   | -               | Low                    |
| Xylene  | 3.12   | 7.4 to 18.5     | Low                    |

| <u>Mobility in soil</u>                |   |
|--|---|
| Soil/water partition coefficient (Koc) | : Not available.                                    |
| Mobility                               | : Not available.                                    |
| Other adverse effects                  | : No known significant effects or critical hazards. |

# 13. Disposal considerations

| Disposal methods | : The generation of waste should be avoided or minimized wherever possible.<br>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<br>products via a licensed waste disposal contractor. Waste should not be disposed of<br>untreated to the sewer unless fully compliant with the requirements of all authorities<br>with jurisdiction. Waste packaging should be recycled. Incineration or landfill<br>should only be considered when recycling is not feasible. This material and its<br>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<br>liners may retain some product residues. Vapor from product residues may create a<br>highly flammable or explosive atmosphere inside the container. Do not cut, weld or<br>grind used containers unless they have been cleaned thoroughly internally. Avoid<br>dispersal of spilled material and runoff and contact with soil, waterways, drains and  |
|                  | sewers.   |

| 14. Transport information      |                 |                 |                 |  |
|--------------------------------|-----------------|-----------------|-----------------|--|
|                                | UN              | IMDG            | IATA            |  |
| UN number                      | UN1263          | UN1263          | UN1263          |  |
| UN proper<br>shipping name     | PAINT           | PAINT           | PAINT           |  |
| Transport hazard class(es)     | 3               | 3               | 3               |  |
| Packing group                  | III             |                 | III             |  |
| Environmental<br>hazards       | No.             | No.             | No.             |  |
| Marine pollutant<br>substances | Not applicable. | Not applicable. | Not applicable. |  |

### Additional information

UN : 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.

Transport in bulk according : Not applicable. to IMO instruments

# 15. Regulatory information

### Fire Service Law

| Category    | Substance name/Type | Danger<br>category | Signal word                | Designated quantity |
|-------------|---------------------|--------------------|----------------------------|---------------------|
| Category IV | Class II petroleums | III                | Flammable - Keep Fire Away | 1000 L              |

### Pollutant Release and Transfer Registers (PRTR)

| Ingredient name  | %   | Status  | Reference<br>number |
|------------------|-----|---------|---------------------|
| Trimethylbenzene | 2.0 | Class 1 | 691                 |

### **Industrial Safety and Health Act**

### Ordinance on the Prevention of the Hazard due to Specified Chemical Substances

None of the components are listed.

### Substance(s) requiring labelling

| Ingredient name   | %   |        | Reference<br>number |
|-------------------|-----|--------|---------------------|
| Butyl acetate     | ≤10 | Listed | 181                 |
| Petroleum naphtha | ≤10 | Listed | 330                 |
| Trimethylbenzene  | ≤10 | Listed | 404                 |

### **Chemicals requiring notification**

| Ingredient name            | %   | Status | Reference<br>number |
|----------------------------|-----|--------|---------------------|
| Butyl acetate              | ≤10 | Listed | 181                 |
| Petroleum naphtha          | ≤10 | Listed | 330                 |
| Trimethylbenzene           | ≤10 | Listed | 404                 |
| Hexamethylene diisocyanate | ≤10 | Listed | 519                 |
| Xylene                     | ≤10 | Listed | 136                 |

Carcinogens based on Article 577-2 of the Ordinance on ISH

None of the components are listed.

### <u>Mutagen</u>

None of the components are listed.

### **Corrosive liquid**

: Not listed

Occupational Safety and Health Law

: Inflammable

# 15. Regulatory information

| • •   |               |
|---|---------------|
| Regulations on the<br>Prevention of Tetraalkyl<br>Lead Poisoning              | : Not listed  |
| Harmful Substances<br>Subject to Obtaining<br>Permission for<br>Manufacturing | : Not listed  |
| Harmful Substances,<br>Prohibited for<br>Manufacturing                        | : Not listed  |
| ISHL Enforcement Order<br>Appendix 1 - Dangerous<br>Substances                | : Inflammable |
| Lead regulation   | : Not listed  |
| Organic solvents poisoning prevention   | : Class 2     |

### Poisonous and Deleterious Substances

None of the components are listed.

### **Chemical Substances Control Law (CSCL)**

| Ingredient name        | %   | Status              | Reference<br>number |
|------------------------|-----|---------------------|---------------------|
| 7,2,4-Trimethylbenzene | ≤10 | Priority assessment | 49                  |
| 1,3,5-Trimethylbenzene | ≤10 | Priority assessment | 201                 |
| Xylene                 | ≤10 | Priority assessment | 125                 |
| Cumene                 | ≤10 | Priority assessment | 126                 |
| Ethylbenzene           | ≤10 | Priority assessment | 50                  |
| Toluene                | ≤10 | Priority assessment | 46                  |
| Naphthalene            | ≤10 | Priority assessment | 76                  |
| Benzene                | ≤10 | Priority assessment | 45                  |

High Pressure Gas Control : Not available. Law

#### **Explosives Control Law**

None of the components are listed.

Law concerning prevention : Not available. of pollution of the ocean

### Maritime Safety Law

### Notification Regulating Transportation of Dangerous Materials by Sea

None of the components are listed.

### **Container class**

None of the components are listed.

| JSOH Carcinogen                                  | : Not listed                             |
|--|--|
| List of Specially Controlled<br>Industrial Waste | : Not listed                             |
| Japan inventory                                  | : All components are listed or exempted. |
| Road law   | : Not available.                         |
|  |  |

# 16. Other information

| <u>History</u>                 |   |
|--------------------------------|---|
| Date of issue/Date of revision | : 25 March 2024   |
| Date of previous issue         | : 5/21/2023   |
| Version                        | : 4   |
| Prepared by                    | : EHS   |
| Key to abbreviations           | <ul> <li>ADN = European Provisions concerning the International Carriage of Dangerous<br/>Goods by Inland Waterway<br/>ADR = The European Agreement concerning the International Carriage of<br/>Dangerous Goods by Road<br/>ATE = Acute Toxicity Estimate<br/>BCF = Bioconcentration Factor<br/>GHS = Globally Harmonized System of Classification and Labelling of Chemicals<br/>IATA = International Air Transport Association<br/>IMDG = International Maritime Dangerous Goods<br/>LogPow = logarithm of the octanol/water partition coefficient<br/>MARPOL = International Convention for the Prevention of Pollution From Ships,<br/>1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)<br/>RID = The Regulations concerning the International Carriage of Dangerous Goods<br/>by Rail<br/>UN = United Nations</li> </ul> |

✓ 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.