

# SAFETY DATA SHEET



Date of issue/Date of revision 13 December 2024

Version 1.01

## Section 1. Identification of the substance/mixture and of the company/undertaking

**Product code** : 000001154122  
**Product name** : SIGMADUR 550 BASE RAL 6012  
**Other means of identification** : 00324563  
**Product type** : Liquid.

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

**Product use** : Coating.  
Professional applications, Used by spraying.  
**Uses advised against** : Product is not intended, labelled or packaged for consumer use.

**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 (dermal) - Category 5  
ACUTE TOXICITY (inhalation) - Category 4  
SKIN CORROSION/IRRITATION - Category 2  
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A  
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3  
AQUATIC HAZARD (ACUTE) - Category 3  
AQUATIC HAZARD (LONG-TERM) - Category 3  
Percentage of the mixture consisting of ingredient(s) of unknown acute dermal toxicity: 30.5%  
Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 56.2%

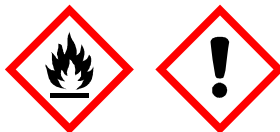
## Section 2. Hazards identification

Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 56.2%

### GHS label elements

#### Hazard pictograms

:



#### Signal word

: Warning

#### Hazard statements

: Flammable liquid and vapor.  
May be harmful in contact with skin.  
Causes skin irritation.  
Causes serious eye irritation.  
Harmful if inhaled.  
May cause respiratory irritation.  
Harmful to aquatic life with long lasting effects.

### Precautionary statements

#### Prevention

: Wear protective gloves, protective clothing and eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating or lighting equipment. Use non-sparking tools. Take action to prevent static discharges. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Avoid breathing vapor. Wash thoroughly after handling.

#### Response

: **IF INHALED:** Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell. **IF ON SKIN (or hair):** Take off immediately all contaminated clothing. Rinse skin with water. **IF ON SKIN:** Call a POISON CENTER or doctor if you feel unwell. If skin irritation occurs: Get medical advice or attention. Take off contaminated clothing and wash before reuse. **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 advice or attention.

#### Storage

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

#### Disposal

: Dispose of contents and container in accordance with all local, regional, national and international regulations.

**Other hazards which do not result in classification** : Prolonged or repeated contact may dry skin and cause irritation.

## Section 3. Composition/information on ingredients

**Substance/mixture** : Mixture

### CAS number/other identifiers

**CAS number** : Not applicable.

### Section 3. Composition/information on ingredients

Ingredient name	%	CAS number
xylene	25- <50	1330-20-7
barium sulfate	25- <50	7727-43-7
n-butyl acetate	5- <10	123-86-4
ethylbenzene	3 - <5	100-41-4
Talc , not containing asbestiform fibres	3 - <5	14807-96-6
bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate	0.1- <0.3	41556-26-7
toluene	0.1- <0.3	108-88-3

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.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

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

SUB codes represent substances without registered CAS Numbers.

### Section 4. First aid measures

#### Description of necessary first aid measures

- Eye contact** : 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.
- 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 irritation.
- Inhalation** : Harmful if inhaled. May cause respiratory irritation.
- Skin contact** : May be harmful in contact with skin. Causes skin irritation. Defatting to the skin.
- Ingestion** : No known significant effects or critical hazards.

##### 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

## Section 4. First aid measures

- Skin contact** : Adverse symptoms may include the following:  
irritation  
redness  
dryness  
cracking
- Ingestion** : No specific data.

### Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- 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** : 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:  
carbon oxides  
sulfur oxides  
metal oxide/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. 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). Water polluting material. May be harmful to 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.

## Section 7. Handling and storage

- Precautions for safe handling** : Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. 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.

## Section 7. Handling and storage

**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.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
xylene	<b>Ministry of Labor (Thailand, 8/2017)</b> <b>[xylene (o-, m-, p- isomers)]</b> TWA 8 hours: 100 ppm.
barium sulfate	<b>Ministry of Labor (Thailand, 8/2017)</b> TWA 8 hours: 5 mg/m <sup>3</sup> . Form: Respirable dust. TWA 8 hours: 15 mg/m <sup>3</sup> . Form: inhalable dust.
n-butyl acetate	<b>ACGIH TLV (United States, 7/2023) [Butyl acetates]</b> STEL 15 minutes: 150 ppm. TWA 8 hours: 50 ppm.
ethylbenzene	<b>Ministry of Labor (Thailand, 8/2017)</b> TWA 8 hours: 100 ppm.
Talc , not containing asbestiform fibres	<b>Ministry of Labor (Thailand, 8/2017)</b> TWA 8 hours: 2 mg/m <sup>3</sup> . Form: Respirable dust.
toluene	<b>Ministry of Labor (Thailand, 8/2017)</b> TWA 8 hours: 200 ppm. STEL 10 minutes: 500 ppm. CEIL: 300 ppm.

**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 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.

## Section 8. Exposure controls/personal protection

### 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. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye protection** : Chemical splash goggles.
- Skin 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.
- 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** : Blue.
- Odor** : Aromatic. [Strong]
- Odor threshold** : Not available.
- pH** : insoluble in water.
- 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 (solid, gas)** : liquid

## Section 9. Physical and chemical properties

**Lower and upper explosive (flammable) limits** : Not available.

**Vapor pressure** : Not available.

**Vapor density** : Not available.

**Relative density** : 1.34

**Solubility(ies)** :

Media	Result
cold water	Not soluble

**Partition coefficient: n-octanol/water** : Not applicable.

**Auto-ignition temperature** : Not available.

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

**Viscosity** :  Dynamic (room temperature): Not available.  
Kinematic (room temperature): >400 mm<sup>2</sup>/s  
Kinematic (40°C): >21 mm<sup>2</sup>/s

**Viscosity** : 40 - <60 s (ISO 6mm)

## 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** : Depending on conditions, decomposition products may include the following materials: carbon oxides sulfur oxides metal oxide/oxides

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity



## Section 11. Toxicological information

Product/ingredient name	Result	Species	Dose	Exposure
xylene	LD50 Dermal	Rabbit	1.7 g/kg	-
	LD50 Oral	Rat	4.3 g/kg	-
barium sulfate	LD50 Dermal	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
n-butyl acetate	LC50 Inhalation Vapor	Rat	>21.1 mg/l	4 hours
	LC50 Inhalation Vapor	Rat	2000 ppm	4 hours
	LD50 Dermal	Rabbit	>17600 mg/kg	-
ethylbenzene	LD50 Oral	Rat	10.768 g/kg	-
	LC50 Inhalation Vapor	Rat	17.8 mg/l	4 hours
	LD50 Dermal	Rabbit	17.8 g/kg	-
bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate	LD50 Oral	Rat	3.5 g/kg	-
	LD50 Oral	Rat	3.125 g/kg	-
toluene	LC50 Inhalation Vapor	Rat	49 g/m <sup>3</sup>	4 hours
	LD50 Dermal	Rabbit	8.39 g/kg	-
	LD50 Oral	Rat	5580 mg/kg	-

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

### Irritation/Corrosion

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

### Conclusion/Summary

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

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

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

### Sensitization

#### 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)

## Section 11. Toxicological information

Name	Category	Route of exposure	Target organs
xylene	Category 3	-	Respiratory tract irritation
n-butyl acetate	Category 3	-	Narcotic effects
Talc , not containing asbestiform fibres	Category 3	-	Respiratory tract irritation
toluene	Category 3	-	Narcotic effects

### Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
ethylbenzene	Category 2	-	hearing organs
toluene	Category 2	-	-

### Aspiration hazard

Name	Result
xylene	ASPIRATION HAZARD - Category 1
ethylbenzene	ASPIRATION HAZARD - Category 1
toluene	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.
- Skin contact** : May be harmful in contact with skin. Causes skin irritation. Defatting to the skin.
- Ingestion** : No known significant effects or critical hazards.

### 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
- Skin contact** : Adverse symptoms may include the following:  
irritation  
redness  
dryness  
cracking
- Ingestion** : No specific data.

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

## Section 11. Toxicological information

### Short term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

### Potential chronic health effects

**General** : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.

**Carcinogenicity** : No known significant effects or critical hazards.

**Mutagenicity** : No known significant effects or critical hazards.

**Reproductive toxicity** : No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

Route	ATE value
Oral	9863.37 mg/kg
Dermal	2712.5 mg/kg
Inhalation (vapors)	16.64 mg/l
Inhalation (dusts and mists)	2.14 mg/l

#### Other information

Prolonged or repeated contact may dry skin and cause irritation. Sanding and grinding dusts may be harmful if inhaled. 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. Avoid contact with skin and clothing.

## Section 12. Ecological information

### Toxicity

Product/ingredient name	Result	Species	Exposure
n-butyl acetate	Acute LC50 18 mg/l	Fish	96 hours
ethylbenzene	Acute EC50 1.8 mg/l Fresh water	Daphnia	48 hours
	Chronic NOEC 1 mg/l Fresh water	Daphnia - <i>Ceriodaphnia dubia</i>	-

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

### Persistence/degradability

## Section 12. Ecological information

Product/ingredient name	Test	Result	Dose	Inoculum
n-butyl acetate	TEPA and OECD 301D	83 % - Readily - 28 days	-	-
ethylbenzene	-	79 % - Readily - 10 days	-	-

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

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
xylene	-	-	Readily
n-butyl acetate	-	-	Readily
ethylbenzene	-	-	Readily
toluene	-	-	Readily

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
xylene	3.12	7.4 to 18.5	Low
n-butyl acetate	2.3	-	Low
ethylbenzene	3.6	79.43	Low
toluene	2.73	8.32	Low

### Mobility in soil

**Soil/water partition coefficient (K<sub>oc</sub>)** : 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
Environmental hazards	No.	No.	No.
Marine pollutant substances	Not applicable.	Not applicable.	Not applicable.

### 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.

**Transport in bulk according to IMO instruments** : Not applicable.

## Section 15. Regulatory information

**Harmful Chemicals List** : Listed

**Safety, health and environmental regulations specific for the product** : No known specific national and/or regional regulations applicable to this product (including its ingredients).

### International regulations

#### Montreal Protocol

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

Not listed.

## Section 16. Other information

### History

Date of issue/Date of revision : 13 December 2024

Date of previous issue : 7/8/2024

Version : 1.01

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.