SAFETY DATA SHEET

pPG

Version1.03

Date of issue/Date of revision 16 October 2023

Section 1. Identification

Product code	: 00454855
Product name	: SIGMADUR 2800 BASE RAL 7037
CAS number	: Not applicable.
EC number	: Mixture.
Product type	: Liquid.
Relevant identified uses of	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 Yung Chi Coatings Co. Ltd Lot 219, Amata Street, Long Binh IZ Bien Hoa City, Dong Nai Province Vietnam Tel : +84 61 3936121/22
Emergency telephone number (with hours of operation)	: CHEMTREC +(84)-444581938 (CCN 17704)

Section 2. Hazards identification

Classification of the substance or mixture	 FLAMMABLE LIQUIDS - Category 3 SKIN SENSITIZATION - Category 1 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 59.4%
GHS label elements	
Hazard pictograms	
Signal word	: Warning
Hazard statements	: Flammable liquid and vapor. May cause an allergic skin reaction. May cause drowsiness or dizziness.
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 only outdoors or in a well-ventilated area. Avoid breathing vapor. Contaminated work clothing should not be allowed out of the workplace.

Section 2. Hazards identification

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: 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.
Routes of entry	:	Not available.
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.
EC number	: Mixture.
Ingredient name	

Ingredient name	CAS number	Chemical formula	%
barium sulfate	7727-43-7	O4-S.Ba	≥25 - ≤32
n-butyl acetate	123-86-4	C6-H12-O2	≥10 - <25
2-methoxy-1-methylethyl acetate	108-65-6	C6-H12-O3	≥10 - ≤25
bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate	41556-26-7	C30H56N2O4	<1
maleic anhydride	108-31-6	C4-H2-O3	<0.1

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.

SUB codes represent substances without registered CAS Numbers.

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

Section 4. First aid measures

Description of necessary first aid measures

Eye contact	 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	<u>effects</u>
Eye contact	: No known significant effects or critical hazards.
Inhalation	 Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.
Skin contact	: Defatting to the skin. May cause skin dryness and irritation. May cause an allergic skin reaction.

Section 4. First aid measures

Ingestion : C

: Can cause central nervous system (CNS) depression.

<u>Over-exposure signs/symptoms</u>		
Eye contact	: No specific data.	
Inhalation	: Adverse symptoms may include the following: nausea or vomiting headache drowsiness/fatigue dizziness/vertigo unconsciousness	
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 ₂ , 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.
Hazardous thermal decomposition products	 Decomposition products may include the following materials: carbon oxides sulfur oxides halogenated compounds metal oxide/oxides The fluoropolymer resins used in this coating begin to decompose, very slowly, at temperatures above 625°F (330°C). Thermal decomposition is more rapid at temperatures above 750°F (400°C). Above 800°F (425°C) fluoropolymer resins give off small amounts of tetrafluoroethylene / hexafluoropropylene / perisofluorobutylene / carbonyl fluoride / hydrogen fluoride. These are toxic and if inhaled, in sufficient quantities, may be harmful. The actual decomposition products depend on temperature and the amount of oxygen.

Section 5. Fire-fighting measures

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, protec	tiv	<u>e equipment and emergency procedures</u>
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 co	<u>ont</u>	ainment 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	
Protective measures	: Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not 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 only non-sparking tools. Take precautionary measures against

Section 7. Handling and storage

		electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.
Advice on general occupational hygiene	•	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Conditions for safe storage, including any incompatibilities	:	Store between the following temperatures: 0 to 35°C (32 to 95°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name		Exposure limits	
barium sulfate		ACGIH TLV (United States, 1/2022). TWA: 5 mg/m ³ 8 hours. Form: Inhalable fraction	
n-butyl acetate		Ministry of Health (Viet Nam, 6/2019). STEL: 700 mg/m ³ 15 minutes. TWA: 500 mg/m ³ 8 hours.	
maleic anhydride		ACGIH TLV (United States, 1/2022). Skin sensitizer. Inhalation sensitizer. TWA: 0.01 mg/m ³ 8 hours. Form: Inhalable fraction and vapor	
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	ventilation or other engineering con contaminants below any recommen also need to keep gas, vapor or due	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	they comply with the requirements of cases, fume scrubbers, filters or en	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

Section 8. Exposure controls/personal protection

Hygiene measures	:	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.	
Eye/face protection	:	Safety glasses with side shields.	
Skin protection			
Hand protection	:	hemical-resistant, impervious gloves complying with an approved standard should e worn at all times when handling chemical products if a risk assessment indicates is is necessary. Considering the parameters specified by the glove manufacturer, neck during use that the gloves are still retaining their protective properties. It nould be noted that the time to breakthrough for any glove material may be fferent for different glove manufacturers. In the case of mixtures, consisting of everal substances, the protection time of the gloves cannot be accurately stimated.	
Gloves	:	butyl rubber	
Body protection	:	Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.	
Other skin protection	:	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.	
Respiratory protection	:	Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.	

Section 9. Physical and chemical properties

<u>Appearance</u>	
Physical state	: Liquid.
Color	: Not available.
Odor	: Characteristic.
Odor threshold	: Not available.
рН	Not applicable.
Melting point	: Not available.
Boiling point	: >37.78°C (>100°F)
Flash point	: Closed cup: 26°C (78.8°F)
Evaporation rate	: Not available.
Flammability (solid, gas)	: Not available.
Lower and upper explosive (flammable) limits	: Greatest known range: Lower: 1.4% Upper: 7.6% (n-butyl acetate)
Vapor pressure	: Not available.
Vapor density	: Not available.
Relative density	: 1.35

Section 9. Physical and chemical properties

Solubility/ico)		Media	Result
Solubility(ies)	•	cold water	Not soluble
Partition coefficient: n- octanol/water	:	Not applicable.	
Auto-ignition temperature	1	Not available.	
Decomposition temperature	1	Not available.	
Viscosity	÷	Kinematic (40°C): >21 mm	1 ² /s

Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: When exposed to high temperatures may produce hazardous decomposition products.
Incompatible materials	: Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.
Hazardous decomposition products	 Depending on conditions, decomposition products may include the following materials: carbon oxides sulfur oxides halogenated compounds metal oxide/ oxides The fluoropolymer resins used in this coating begin to decompose, very slowly, at temperatures above 625°F (330°C). Thermal decomposition is more rapid at temperatures above 750°F (400°C). Above 800°F (425°C) fluoropolymer resins give off small amounts of tetrafluoroethylene / hexafluoropropylene / perisofluorobutylene / carbonyl fluoride / hydrogen fluoride. These are toxic and if inhaled, in sufficient quantities, may be harmful. The actual decomposition products depend on temperatures.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
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
5	LC50 Inhalation Vapor	Rat	2000 ppm	4 hours
	LD50 Dermal	Rabbit	>17600 mg/kg	-
	LD50 Oral	Rat	10.768 g/kg	-
2-methoxy-1-methylethyl acetate	LC50 Inhalation Vapor	Rat	30 mg/l	4 hours
	LD50 Dermal	Rabbit	>5 g/kg	-
	LD50 Oral	Rat	6190 mg/kg	-
bis(1,2,2,6,6-pentamethyl-	LD50 Oral	Rat	3.125 g/kg	-

Version 1.03

Section 11. Toxicological information

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4-piperidyl) sebacate maleic anhydride	LD50 Dermal LD50 Oral	Rabbit Rat	2620 mg/kg 400 mg/kg	-
Conclusion/Summary	: There are no data availa	ble on the mixture	itself.	
Irritation/Corrosion				
Conclusion/Summary				
Skin	: There are no data availa	ble on the mixture	itself.	
Eyes	: There are no data availa	ble on the mixture	itself.	
Respiratory	: There are no data availa	ble on the mixture	itself.	
Sensitization				
Skin	: There are no data availa	ble on the mixture	itself.	
Respiratory	: There are no data availa	ble on the mixture	itself.	
Mutagenicity				
Conclusion/Summary	: There are no data availa	ble on the mixture	itself.	
Carcinogenicity				
Conclusion/Summary	: There are no data availa	ble on the mixture	itself.	
Reproductive toxicity				
Conclusion/Summary	: There are no data availa	ble on the mixture	itself.	
<u>Teratogenicity</u>				
Conclusion/Summary	: There are no data availa	ble on the mixture	itaalf	
			ilsen.	
Specific target organ toxic	<u>sity (single exposure)</u>	Category	Route of	Target organs
Name		Category	exposure	rarget organs
n-butyl acetate		Category 3	-	Narcotic effects
2-methoxy-1-methylethyl ad	cetate	Category 3	-	Narcotic effects
Specific target organ toxic	<u>city (repeated exposure)</u>			
Name		Category	Route of exposure	Target organs
maleic anhydride		Category 1	inhalation	respiratory system
Aspiration hazard Not available.				
Information on the likely routes of exposure	: Not available.			
Potential acute health effec	e <u>ts</u>			
Eye contact	: No known significant effe	ects or critical haza	ards.	
Inhalation	: Can cause central nervo dizziness.	us system (CNS)	depression. May ca	ause drowsiness or
Skin contact	: Defatting to the skin. Ma skin reaction.	ay cause skin dryn	ess and irritation. N	May cause an allergic
Ingestion	: Can cause central nervous system (CNS) depression.			
Symptoms related to the pl	nysical, chemical and toxicol	ogical character	i <u>stics</u>	
Eye contact	: No specific data.			
•				

Section 11. Toxicological information

Inhalation	: Adverse symptoms may include the following: nausea or vomiting headache drowsiness/fatigue dizziness/vertigo unconsciousness	
Skin contact	: Adverse symptoms may include the following: irritation redness dryness cracking	
Ingestion	: No specific data.	

Delayed and immediate effec	ts	and also chronic effects from short and long term exposure
<u>Short term exposure</u>		
Potential immediate effects	:	There are no data available on the mixture itself.
Potential delayed effects	:	There are no data available on the mixture itself.
Long term exposure		
Potential immediate effects	:	There are no data available on the mixture itself.
Potential delayed effects	:	There are no data available on the mixture itself.
Potential chronic health effe	ect	<u>s</u>
General	:	Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/ or dermatitis. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
Carcinogenicity	1	No known significant effects or critical hazards.
Mutagenicity	1	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
Dermal	6518.09 mg/kg

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

<u>Toxicity</u>

Product/ingredient name	Result	Species	Exposure
n-butyl acetate 2-methoxy-1-methylethyl acetate	Acute LC50 18 mg/l Acute LC50 134 mg/l Fresh water	Fish Fish - Oncorhynchus mykiss	96 hours 96 hours

Persistence and degradability

Product/ingredient name	Test	Result		Dose		Inoculum
n-butyl acetate	TEPA and OECD 301D	83 % - Rea	idily - 28 days	-		-
2-methoxy-1-methylethyl acetate	-	83 % - Rea	dily - 28 days	-		-
Product/ingredient name	Aquatic half-life)	Photolysis		Biodeg	ıradability
n-butyl acetate 2-methoxy-1-methylethyl acetate	-		-		Readily Readily	

Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
n-butyl acetate 2-methoxy-1-methylethyl acetate	2.3 1.2	-	Low Low
maleic anhydride	-2.78	-	Low

Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

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

Section 13. Disposal considerations

Disposal methods The generation of waste should be avoided or minimized wherever possible. с. 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	ΙΑΤΑ
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	: 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.

Transport in bulk according : Not applicable.

to IMO instruments

Safety, health and

Section 15. Regulatory information

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

Circular no. 05/1999/TT-BYT

environmental regulations

specific for the product

Ingredient name	Category	Notes	
1,4-dioxane	Category 2		
Formaldehyde, solution	Category 2		
ethylene oxide	Category 2		
chloromethane	Category 2		
benzene	Category 1		
toluene	Category 2		
xylene	Category 2		
lead massive	Category 2		
Cadmium (Non-pyrophoric)	Category 2		
arsenic	Category 1		
antimony	Category 2		
chromium	Category 2		
mercury	Category 2		
selenium	Category 1		

Toxic classification (TCVN : 4

3164-79)

International regulations

Section 15. Regulatory information

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Section 16. Other information

History	
Date of issue/Date of revision	: 16 October 2023
Date of previous issue	: 8/18/2023
Version	: 1.03
Prepared by	: EHS
Key to abbreviations	 ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = Internediate Bulk Container IMDG = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) UN = United Nations
References	: Not available.

V 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.