SAFETY DATA SHEET



Date of issue/Date of revision27 October 2023Version 1

Section 1. Identification			
Product code	: 6L2946098/4L		
Product name	: SIGMALINE 780 BASE RAL 1004		
Product type	: Liquid.		
Relevant identified uses of the substance or mixture and uses advised against			
Product use	Coating. Industrial applications.		
Supplier's details	: PPG Industries (Singapore) Pte. Ltd., No. 1 Tuas Basin Close, Singapore 638803. Tel +65 68653737		
Emergency telephone number (with hours of operation)	: CHEMTREC +(65)-31581349 (CCN 17704)		

Section 2. Hazards identification

Classification of the	: FLAMMABLE LIQUIDS - Category 3
substance or mixture	ACUTE TOXICITY (inhalation) - Category 4
	SKIN CORROSION/IRRITATION - Category 2
	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
	SKIN SENSITISATION - Category 1
	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2

GHS label elements, including precautionary statements

Hazard pictograms	
Signal word	: Danger
Hazard statements	 Flammable liquid and vapour. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye damage. Harmful if inhaled. May cause damage to organs through prolonged or repeated exposure.
Precautionary statements	

Singapore	English (GB)
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Section 2. Hazards identification

Prevention	Wear protective gloves. Wear eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not breathe vapour. Wash thoroughly after handling.
Response	: Get medical advice/attention if you feel unwell. IF INHALED: Call a POISON CENTER or doctor if you feel unwell. Take off contaminated clothing and wash it before reuse. IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice or attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing Immediately call a POISON CENTER or doctor.
Storage	: Not applicable.
Disposal	: Not applicable.

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

Section 3. Composition/information on ingredients

Substance/mixture	÷	Mixture

CAS number/other identifiers

CAS number EC number	Not applicable.Mixture.		
Ingredient name		%	CAS number
xylene 2-methylpropan-1-ol crystalline silica, respirable po ethylbenzene	whyde, glycidyl ether (MW<=700) wder (<10 microns) y-, reaction products with ethylenediamine	20 - <25 10 - <20 3 - <5 3 - <5 1 - <3 0.1 - <0.3	28064-14-4 1330-20-7 78-83-1 14808-60-7 100-41-4 100545-48-0

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	 Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention. 		
Inhalation	 Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. 		
Skin contact	: Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognised skin cleanser. Do NOT use solvents or thinners.		

Singapore English (GB)	Page: 2/13
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Section 4. First aid measures

Ingestion

: If swallowed, seek medical advice immediately and show the container or label. Keep person warm and at rest. Do NOT induce vomiting.

Most important symptoms/effects, acute and delayed

most important symptoms/c	<u>icis, acute and delayed</u>	
Potential acute health effect		
Eye contact	: Causes serious eye damage.	
Inhalation	: Harmful if inhaled.	
Skin contact	: Causes skin irritation. Defatting to the skin. May cause an allergic skin reaction.	
Ingestion	: No known significant effects or critical hazards.	
<u>Over-exposure signs/symp</u>	<u>ms</u>	
Eye contact	: Adverse symptoms may include the following: pain watering redness	
Inhalation	: No specific data.	
Skin contact	: Adverse symptoms may include the following: pain or irritation redness dryness cracking blistering may occur	
Ingestion	Adverse symptoms may include the following: stomach pains	
Indication of immediate med	al 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 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.	it

See toxicological information (Section 11)

Section 5. Firefighting measures

Extinguishing media	
Suitable extinguishing media	: Use dry chemical, CO ₂ , water spray (fog) or foam.
Unsuitable extinguishing media	: Do not use water jet.

Singapore	English (GB)	
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Section 5. Firefighting measures

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Specific hazards arising from the chemical	: Flammable liquid and vapour. 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
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, protect	ive 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 spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
For emergency responders	: If specialised 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 spilt 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 material for cont	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 the 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 spill product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures	: Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.
Advice on general occupational hygiene	: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Conditions for safe storage, including any incompatibilities	: Store between the following temperatures: 0 to 35°C (32 to 95°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidising 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 unlabelled 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	Workplace Safety and Health Act (Singapore, 2/2006). [Xylene] PEL (short term): 651 mg/m ³ 15 minutes. PEL (short term): 150 ppm 15 minutes. PEL (long term): 434 mg/m ³ 8 hours.
2-methylpropan-1-ol	PEL (long term): 100 ppm 8 hours. Workplace Safety and Health Act
	(Singapore, 2/2006). PEL (long term): 152 mg/m ³ 8 hours. PEL (long term): 50 ppm 8 hours.
crystalline silica, respirable powder (<10 microns)	ACGIH TLV (United States, 1/2022). [Silica, crystalline] TWA: 0.025 mg/m ³ 8 hours. Form: Respirable

Section 8. Exposure controls/personal protection

ethylbenzene			orkplace Safety and Health Act
		(S	Singapore, 2/2006).
			PEL (short term): 543 mg/m³ 15 minutes.
			PEL (short term): 125 ppm 15 minutes. PEL (long term): 434 mg/m³ 8 hours.
			PEL (long term): 404 mg/m 8 hours.
De server de des selfectos			
Recommended monitoring procedures	:	Reference should be made to appropriate national guidance documents for method substances will also be required.	
Appropriate engineering controls	:	Use only with adequate ventilation. Use ventilation or other engineering controls to	
controls			or statutory limits. The engineering controls oncentrations below any lower explosive
Environmental exposure	:	Emissions from ventilation or work proces	ess equipment should be checked to ensure
controls		they comply with the requirements of env cases, fume scrubbers, filters or enginee equipment will be necessary to reduce en	
Individual protection measur	<u>es</u>		
Hygiene measures	:	eating, smoking and using the lavatory ar	o remove potentially contaminated clothing. be allowed out of the workplace. Wash nsure that eyewash stations and safety
Eye/face protection	:	Chemical splash goggles and face shield	1.
Skin protection			
Hand protection	:	be worn at all times when handling chem	ough for any glove material may be s. In the case of mixtures, consisting of
Gloves	1	butyl rubber	
Body protection	:	Personal protective equipment for the bob being performed and the risks involved a before handling this product. When there wear anti-static protective clothing. For the discharges, clothing should include anti-static	nd should be approved by a specialist e is a risk of ignition from static electricity, he greatest protection from static
Other skin protection	:	Appropriate footwear and any additional s selected based on the task being perform approved by a specialist before handling	ned and the risks involved and should be

Product name SIGMALINE 780 BASE RAL 1004

Section 8. Exposure controls/personal protection

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.
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Section 9. Physical and chemical properties

<u>Appearance</u>				
Physical state	uid.			
Colour	Yellow.			
Odour	omatic.			
рН	oluble in water.			
Boiling point	7.78°C (>100°F)			
Flash point	osed cup: 23.7°C (74.7°F)			
Evaporation rate	hest known value: 0.84 (ethylbenzene) Weighted aver yl acetate	rage: 0.75compared with		
Flammability (solid, gas)	lid			
Vapour pressure	Highest known value: <1.6 kPa (<12 mm Hg) (at 20°C) (2-methylpropan-1-ol). Veighted average: 1.04 kPa (7.8 mm Hg) (at 20°C)			
Vapour density	Highest known value: 3.7 (Air = 1) (xylene). Weighted average: 3.47 (Air = 1)			
Relative density	5			
	edia Result			
Solubility(ies)	d water Not soluble			
Auto-ignition temperature	D°C			
Viscosity	ematic (room temperature): >400 mm²/s (>400 cSt) ematic (40°C (104°F)): >21 mm²/s (>21 cSt)			
Viscosity	- 100 s (ISO 6mm)			
Section 10. Stabil	nd reactivity			
Reactivity	specific test data related to reactivity available for this	product or its ingredients.		
Chemical stability	e product is stable.			
Possibility of hazardous reactions	der normal conditions of storage and use, hazardous re	eactions 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:
-	oxidising agents, strong alkalis, strong acids.

Singapore	English (GB)	Page: 7/13
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Product code 6L2946098/4L Product name SIGMALINE 780 BASE RAL 1004

Section 10. Stability and reactivity

Hazardous decomposition products

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

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure	
xylene	LD50 Dermal	Rabbit	1.7 g/kg	-	
-	LD50 Oral	Rat	4.3 g/kg	-	
2-methylpropan-1-ol	LC50 Inhalation Vapour	Rat	24.6 mg/l	4 hours	
	LD50 Dermal	Rabbit	2460 mg/kg	-	
	LD50 Oral	Rat	2830 mg/kg	-	
ethylbenzene	LC50 Inhalation Vapour	Rat	17.8 mg/l	4 hours	
-	LD50 Dermal	Rabbit	17.8 g/kg	-	
	LD50 Oral	Rat	3.5 g/kg	-	
Octadecanoic acid, 12-hydroxy-, reaction products with ethylenediamine	LC50 Inhalation Dusts and mists	Rat	5.05 mg/l	4 hours	
	LD50 Oral	Rat	>2000 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.

Sensitisation

Product/ingredient name	Route of exposure	Species	Result
Octadecanoic acid, 12-hydroxy-, reaction products with ethylenediamine	skin	Guinea pig	Sensitising
Conclusion/Summary			
Skin :	There are no data	a available on the mixture itself.	
Respiratory :	There are no data	a available on the mixture itself.	
Mutagenicity			
Conclusion/Summary :	There are no dat	a available on the mixture itself	
Carcinogenicity			
	There are no dat	a available on the mixture itself	
Singapore English (GB)			Page: 8/13

Section 11. Toxicological information

Reproductive toxicity

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

Teratogenicity

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

Specific target organ toxicity (single exposure)

Name	•••	Route of exposure	Target organs
xylene	Category 3		Respiratory tract irritation
2-methylpropan-1-ol	Category 3		Respiratory tract irritation
	Category 3		Narcotic effects

Specific target organ toxicity (repeated exposure)

Name		Route of exposure	Target organs
	Category 1	inhalation	-
	Category 2	-	hearing organs

Aspiration hazard

Name	Result
	ASPIRATION HAZARD - Category 1 ASPIRATION HAZARD - Category 1

Potential acute health effectsEye contact: Cause	
Eve contact	
Eye contact . Cause	es serious eye damage.
Inhalation : Harm	nful if inhaled.
Skin contact : Cause	es skin irritation. Defatting to the skin. May cause an allergic skin reaction.
Ingestion : No kn	nown significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact	Adverse symptoms may include the following: pain watering redness
Inhalation	No specific data.
Skin contact	Adverse symptoms may include the following: pain or irritation redness dryness cracking blistering may occur

Product code 6L2946098/4L Product name SIGMALINE 780 BASE RAL 1004

Section 11. Toxicological information

Ingestion

: Adverse symptoms may include the following: stomach pains

Delayed and immediate effe	cts	as well as chronic effects from short and long-term exposure
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 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	:	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	7997.27 mg/kg
Inhalation (vapours)	21.72 mg/l
Inhalation (dusts and mists)	2.79 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 vapour/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

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Toxicity

Section 12. Ecological information

Product/ingredient name	Result	Species	Exposure
2-methylpropan-1-ol	Acute EC50 1100 mg/l	Daphnia	48 hours
ethylbenzene	Acute EC50 1.8 mg/l Fresh water	Daphnia	48 hours
-	Chronic NOEC 1 mg/l Fresh water	Daphnia - Ceriodaphnia dubia	-
Octadecanoic acid, 12-hydroxy-, reaction products with ethylenediamine	Acute EC50 >100 mg/l	Algae - Pseudokirchneriella subcapitata	72 hours
y	Acute EC50 >10 mg/l	Daphnia - <i>Daphnia magna</i>	48 hours
	Acute LC50 >10 mg/l	Fish - Oncorhynchus mykiss	96 hours
Conclusion/Summary	: There are no data available on the	mixture itself.	•

Persistence/degradability

Product/ingredient name	Test	Result		Dose	Inoculum
ethylbenzene Octadecanoic acid, 12-hydroxy-, reaction products with ethylenediamine	- 301D Ready Biodegradability - Closed Bottle Test	79 % - Readily - 10 22 % - 28 days	days	-	-
Conclusion/Summary	: There are no d	lata available on the	mixture itse	elf.	·
Product/ingredient name	Aquatic half-life		Photolysi	s	Biodegradability
xylene ethylbenzene Octadecanoic acid, 12-hydroxy-, reaction products with ethylenediamine	-		-		Readily Readily Inherent

Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
xylene 2-methylpropan-1-ol ethylbenzene Octadecanoic acid, 12-hydroxy-, reaction products with ethylenediamine	3.12 1 3.6 >5.86	7.4 to 18.5 - 79.43 -	Low Low Low High

Mobility in soil		
Soil/water partition coefficient (K _{oc})	: Not available.	

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

Singapore English (GB)	Page: 11/13
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Section 13. Disposal considerations

Disposal methods

: The generation of waste should be avoided or minimised 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. Vapour 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 spilt 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 PAINT P shipping name		PAINT	PAINT
Transport hazard class(es)			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.
ΙΑΤΑ	: None identified.
Special prec	autions for user : Transport within user's premises: always transport in closed containers that are

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

Singapore	English (GB)		Page: 12/13
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Section 15. Regulatory information

Singapore - hazardous chemicals under government control

None.

International regulations Montreal Protocol Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

1. Catalon

Section 16. Other information

<u>History</u>	
Date of issue/Date of revision	: 27 October 2023
Date of previous issue	: No previous validation
Version	: 1
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

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.