SAFETY DATA SHEET

SIGMAGUARD 603 HARDENER



Date of issue 22 September 2022

Version 13

1. Product and	company identification
Product name	: SIGMAGUARD 603 HARDENER
Product code	: 00358516
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/ mixture	: Coating.
Uses advised against	: Not applicable.
Supplier's details	: ₱PG PMC Japan Co., Ltd., 8F, Shintetsu Bldg., 1-1, Daikaidori 1-chome, Kobe 652-0803 Japan; Tel: +81-78-574-2777
Emergency telephone number	: 078 574 2777

2. Hazards identification

NGLE EXPOSURE) - Category 1 PEATED EXPOSURE) - Category 1 IMENT - ACUTE HAZARD - Category 3 IMENT - CHRONIC HAZARD -
2 7 <u>2</u>
system (CNS), kidneys) d or repeated exposure. (central

2. Hazards identification

Toxic 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. Avoid release to the environment. Do not breathe vapor. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.
Response	:	Collect spillage. IF exposed or concerned: Call a POISON CENTER or doctor. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor. IF SWALLOWED: Immediately call a POISON CENTER or doctor. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or doctor. Wash contaminated clothing before reuse. IF ON SKIN: Call a POISON CENTER or doctor if you feel unwell. 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	1	Store locked up.
Disposal	:	Dispose of contents and container in accordance with all local, regional, national and international regulations.
Other hazards which do not	:	None known.

result in classification

3. Composition/information on ingredients

Substance/mixture

: Mixture

CAS number/other identifiers

CAS number	: Not applicable.
CSCL number	: Not available.

Ingredient name	%	CAS number	CSCL
Propylidynetrimethanol, propoxylated, reaction products with ammonia	50 - 100	39423-51-3	Not available.
3-aminomethyl-3,5,5-trimethylcyclohexylamine	20 - <25	2855-13-2	3-2286
benzyl alcohol	12.5 - <15	100-51-6	3-1011
Epoxy Amine Resin	7 - <10	SUB114180	Not available.
2,4,6-Tris(dimethylaminomethyl)phenol	3 - <5	90-72-2	3-714; 3-762; 3-776
Salicylic acid	1 - <2	69-72-7	3-1640

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

Description of necess	sary 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 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/e	ffe	cts, acute and delayed
Potential acute health effect	<u>:ts</u>	
Eye contact	:	Causes serious eye damage.
Inhalation	1	No known significant effects or critical hazards.
Skin contact	:	Causes severe burns. Harmful in contact with skin. Causes damage to organs following a single exposure in contact with skin. May cause an allergic skin reaction.
Ingestion	:	Harmful if swallowed. Causes damage to organs following a single exposure if swallowed.
<u>Over-exposure signs/symp</u>	ton	<u>15</u>
Eye contact	:	Adverse symptoms may include the following: pain watering redness
Inhalation	1	No specific data.
Skin contact	:	Adverse symptoms may include the following: pain or irritation redness blistering may occur
Ingestion	:	Adverse symptoms may include the following: stomach pains
Indication of immediate med	lica	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. The exposed person may need to be kept under medical surveillance for 48 hours.
Specific treatments	:	No specific treatment.
Protection of first-aiders	:	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

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	: Combustible liquid. 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 toxic 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 nitrogen 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.

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. Do not breathe 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".
	: 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. Collect spillage.
Methods and materials for co	ntainment 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

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6. Accidental release measures

material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

7. Handling and storage

Precautions for safe handling	: 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 vapor or mist. Do not ingest. 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. Empty containers retain product
	residue and can be hazardous. Do not reuse container.

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.

8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name		Exposure limits
penzyl alcohol		Japan Society for Occupational Health (Japan, 9/2021). Skin sensitizer. OEL-C: 25 mg/m ³
Recommended monitoring procedures		ay be required to determine the effectiveness ures and/or the necessity to use respiratory Id be made to appropriate monitoring ance documents for methods for the
Appropriate engineering controls	or other engineering controls to keep w below any recommended or statutory li	e process enclosures, local exhaust ventilation vorker exposure to airborne contaminants mits. The engineering controls also need to below any lower explosive limits. Use
Environmental exposure controls	they comply with the requirements of e	cess equipment should be checked to ensure nvironmental protection legislation. In some eering modifications to the process equipment to acceptable levels.

Individual protection measures

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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 protection	: Chemical splash goggles and face shield.
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.
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.
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.

9. Physical and chemical properties

Appearance			
Physical state	: Liquid.		
Odor	: Amine-like. [Strong]		
Boiling point	: >37.78°C (>100°F)		
Flash point	: Closed cup: 80°C (76°F)	
Relative density	: 0.98		
	Media	Result	
Solubility(ies)	sold water	Not soluble	

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.

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10. Stability and	reactivity
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 : Depending on conditions, decomposition products may include the following materials: carbon oxides nitrogen oxides

11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Propylidynetrimethanol, propoxylated, reaction products with ammonia	LD50 Dermal	Rabbit	0.4 g/kg	-
	LD50 Oral	Rat	0.22 g/kg	-
3-aminomethyl- 3,5,5-trimethylcyclohexylamine	LC50 Inhalation Dusts and mists	Rat	>5.01 mg/l	4 hours
	LD50 Dermal	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	1030 mg/kg	-
benzyl alcohol	LC50 Inhalation Dusts and mists	Rat	>4178 mg/m ³	4 hours
-	LD50 Dermal	Rabbit	2000 mg/kg	-
	LD50 Oral	Rat	1.23 g/kg	-
2,4,6-Tris	LD50 Dermal	Rabbit	1.28 g/kg	-
(dimethylaminomethyl)				
phenol				
-	LD50 Dermal	Rat	1280 mg/kg	-
	LD50 Oral	Rat	1200 mg/kg	-
Salicylic acid	LD50 Oral	Rat	0.891 g/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
₹,4,6-Tris (dimethylaminomethyl) phenol	Skin - Visible necrosis	Rabbit	-	4 hours	7 days

Sensitization

••••••	Route of exposure	Species	Result
3 -aminomethyl- 3,5,5-trimethylcyclohexylamine	skin	Guinea pig	Sensitizing

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

11. Toxicological information

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
benzyl alcohol	Category 1		central nervous system (CNS), kidneys
Salicylic acid	Category 3 Category 1	-	Narcotic effects central nervous system (CNS)

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
3-aminomethyl-3,5,5-trimethylcyclohexylamine benzyl alcohol	Category 2 Category 1		respiratory system central nervous system (CNS)
Salicylic acid	Category 1	-	central nervous system (CNS)

Aspiration hazard

Not available.

Information on the likely routes of exposure	: Not available.
Potential acute health effec	<u>ts</u>
Eye contact	: Causes serious eye damage.
Inhalation	: No known significant effects or critical hazards.
Skin contact	: Causes severe burns. Harmful in contact with skin. Causes damage to organs following a single exposure in contact with skin. May cause an allergic skin reaction.
Ingestion	: Harmful if swallowed. Causes damage to organs following a single exposure if swallowed.
Symptoms related to the pl	nysical, 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 blistering may occur
Ingestion	: Adverse symptoms may include the following: stomach pains
Delayed and immediate effect	cts and also chronic effects from short and long term exposure
Short term exposure	
Potential immediate effects	: Not available.
Potential delayed effects	: Not available.
Long term expecture	

Long term exposure

11. Toxicological information

Potential immediate effects	:	Not available.
Potential delayed effects	:	Not available.
Potential chronic health effe	<u>ect</u>	<u>s</u>
General	:	Causes damage to organs through prolonged or repeated exposure. 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

Product/ingredient name	Oral (mg/ kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
GMAGUARD 603 HARDENER Propylidynetrimethanol, propoxylated, reaction products with ammonia	711.5 500	1528 1100	N/A N/A	N/A N/A	N/A N/A
3-aminomethyl-3,5,5-trimethylcyclohexylamine benzyl alcohol 2,4,6-Tris(dimethylaminomethyl)phenol Salicylic acid	1030 1230 1200 891	2500 2000 1280 N/A	N/A N/A N/A N/A	N/A N/A N/A N/A	N/A N/A N/A N/A

Other information

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.

12. Ecological information

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Product/ingredient name	Result	Species	Exposure
2,4,6-Tris (dimethylaminomethyl)phenol	Acute LC50 175 mg/l	Fish	96 hours
Salicylic acid	Acute EC50 1147.57 mg/l Fresh water	Daphnia - Daphnia longispina - Neonate	48 hours
	Chronic NOEC 5.6 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	21 days

Persistence/degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
benzyl alcohol	-	-	Readily

Bioaccumulative potential

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12. Ecological information

Product/ingredient name	LogPow	BCF	Potential
Propylidynetrimethanol, propoxylated, reaction products with ammonia	-1.13	-	low
3-aminomethyl- 3,5,5-trimethylcyclohexylamine	0.99	-	low
benzyl alcohol	0.87	-	low
2,4,6-Tris (dimethylaminomethyl)phenol	0.219	-	low
Salicylic acid	2.21 to 2.26	-	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. 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.

14. Transport information

shipping nameTransport hazard class(es)8Packing groupIIIIIIEnvironmental hazardsYes. The environmentally hazardous substance mark is not required.	IATA	IMDG	UN	
shipping nameTransport hazard class(es)8Packing groupIIIIIIEnvironmental hazardsYes. The environmentally hazardous substance mark is not required.	UN3066	UN3066	UN3066	UN number
class(es) II Packing group II Environmental hazards Yes. The environmentally hazardous substance mark is not required.	PAINT RELATED MATERIAL	PAINT RELATED MATERIAL	PAINT RELATED MATERIAL	
Environmental hazardsYes. The environmentally hazardous substance mark is not required.Yes.	8	8	8	
hazards hazardous substance mark is not required.	II	II	II	Packing group
	Yes. The environmentally hazardous substance mark is not required.	Yes.	hazardous substance mark is	
Marine pollutant Not applicable. (Polyoxy propylene diamine) substances	Not applicable.	(Polyoxy propylene diamine)	Not applicable.	Marine pollutant substances

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14. Transport information

Additional information

UN	: None identified.
IMDG	: The marine pollutant mark is not required when transported in sizes of \leq 5 L or \leq 5 kg.
ΙΑΤΑ	: The environmentally hazardous substance mark may appear if required by other transportation regulations.

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 category	Signal word	Designated quantity
Category IV	Class III petroleums	III	Flammable - Keep Fire Away	2000 L

Pollutant Release and Transfer Registers (PRTR)

None of the components are listed.

ISHL

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 number
₿enzyl alcohol	≥10 - ≤20	Listed	530-2

Chemicals requiring notification

Ingredient name	%		Reference number
₿enzyl alcohol	≥10 - ≤20	Listed	530-2

Carcinogen

None of the components are listed.

Mutagen

None of the components are listed.

: Not listed

Occupational Safety and Health Law

Corrosive liquid

: Not applicable.

15. Regulatory information

Regulations on the Prevention of Tetraalkyl Lead Poisoning	: Not listed
Harmful Substances Subject to Obtaining Permission for Manufacturing	: Not listed
Harmful Substances, Prohibited for Manufacturing	: Not listed
Lead regulation	: Not listed
Organic solvents poisoning prevention	: Not applicable.

Poisonous and Deleterious Substances

Ingredient name	%		Reference number
3-aminomethyl-3,5,5-trimethylcyclohexylamine	20.5	Deleterious	2-1-4-8

Chemical Substances Control Law (CSCL)

None of the components are listed.

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.

: Not listed
: Not listed
: All components are listed or exempted.
: Not available.

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16. Other information

<u>History</u>	
Date of issue/Date of revision	: 22 September 2022
Date of previous issue	: 5/20/2021
Version	: 13
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
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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.