SAFETY DATA SHEET



Date of issue/Date of revision 3 June 2024 Version 5

Section 1. Identification		
Product code	: 00333764	
Product name	: AMERSHIELD NAVY 27 HAZE GRAY F/S 26270	
Product type	: Liquid.	
Relevant identified uses o	f the substance or mixture and uses advised against	
Product use	Coating. Industrial applications, Used by spraying.	
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 substance or mixture	 FLAMMABLE LIQUIDS - Category 3 RESPIRATORY SENSITISATION - Category 1 SKIN SENSITISATION - Category 1 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Narcotic effects) - Category 3

GHS label elements, includin Hazard pictograms	g precautionary statements
Signal word Hazard statements	 Danger Fammable liquid and vapour. May cause an allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause drowsiness or dizziness.
Precautionary statements	
Prevention	: Wear protective gloves. Wear respiratory protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Avoid breathing vapour.

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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 experiencing respiratory symptoms: Call a POISON CENTER or doctor. 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.
Storage	: Store in a well-ventilated place. Keep container tightly closed.
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
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CAS number/other identifiers

CAS number	: Not applicable.
EC number	: Mixture.

Ingredient name	%	CAS number
p-butyl acetate	10 - <20	123-86-4
2-methoxy-1-methylethyl acetate	5 - <10	108-65-6
pentane-2,4-dione	0.3 - <1	123-54-6
bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate	0.3 - <1	41556-26-7
4-isocyanatosulphonyltoluene	0.1 - <0.3	4083-64-1
2-hydroxyethyl methacrylate	0.1 - <0.3	868-77-9
methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	0.1 - <0.3	82919-37-7

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 recognised skin cleanser. Do NOT use solvents or thinners.
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

Potential acute health effects

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Section 4. First aid measures

Eye contact	: No known significant effects or critical hazards.
Inhalation	:
Skin contact	: Defatting to the skin. May cause skin dryness and irritation. May cause an allergic skin reaction.
Ingestion	: 🖉an cause central nervous system (CNS) depression.
Over-exposure signs/sym	<u>otoms</u>
Eye contact	: No specific data.
Inhalation	: Adverse symptoms may include the following: wheezing and breathing difficulties asthma 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 me	dical 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. 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.
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.

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Section 5. Firefighting measures

Hazardous thermal decomposition products	: Decomposition products may include the following materials: carbon 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 spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing 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 con	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 spilt product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 6. Accidental release measures

Special provisions
 Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Place in a suitable container. The contaminated area should be cleaned immediately with a suitable decontaminant. One possible (flammable) decontaminant comprises (by volume): water (45 parts), ethanol or isopropyl alcohol (50 parts) and concentrated (d: 0,880) ammonia solution (5 parts). A non-flammable alternative is sodium carbonate (5 parts) and water (95 parts). Add the same decontaminant to the remnants and let stand for several days until no further reaction in an unsealed container. Once this stage is reached, close container and dispose of according to local regulations (see section 13). Do not allow to enter drains or watercourses. If the product contaminates lakes, rivers, or sewers, inform the appropriate authorities in accordance with local regulations.

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Section 7. Handling and storage

Precautions for safe handling	9	
Protective measures	:	Fut on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitisation problems or asthma, allergies or chronic or recurrent respiratory disease 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 vapour 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 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	:	To not store above the following temperature: $50^{\circ}C$ (122°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. Precautions should be taken to minimise exposure to atmospheric humidity or water. CO_2 will be formed, which, in closed containers, could result in pressurisation.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name			Exposure limits
P-butyl acetate pentane-2,4-dione			Workplace Safety and Health Act (Singapore, 2/2006). PEL (short term): 950 mg/m ³ 15 minutes. PEL (short term): 200 ppm 15 minutes. PEL (long term): 713 mg/m ³ 8 hours. PEL (long term): 150 ppm 8 hours. ACGIH TLV (United States, 7/2023). Absorbed through skin. TWA: 25 ppm 8 hours.
Recommended monitoring procedures	:		riate monitoring standards. Reference to nods for the determination of hazardous
Appropriate engineering controls	:	contaminants below any recommende	Is to keep worker exposure to airborne ed or statutory limits. The engineering controls concentrations below any lower explosive
Environmental exposure controls	:		
ndividual protection measur	<u>'es</u>		
Hygiene measures		eating, smoking and using the lavator Appropriate techniques should be use Contaminated work clothing should no	bughly after handling chemical products, before y and at the end of the working period. In the the end of the working period. In the
		Safety glasses with side shields.	
Eye/face protection	1	Salety glasses with side shields.	
Eye/face protection Skin protection		Salety glasses with side sillerus.	
		Chemical-resistant, impervious gloves be worn at all times when handling ch this is necessary. Considering the pa check during use that the gloves are s should be noted that the time to break	s complying with an approved standard should emical products if a risk assessment indicates rameters specified by the glove manufacturer, still retaining their protective properties. It through for any glove material may be rers. In the case of mixtures, consisting of the of the gloves cannot be accurately

Section 8. Exposure controls/personal protection

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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	: Use an air-fed respirator unless a site-specific assessment determines that an air- fed respirator is not necessary, in which case the results of the risk assessment should be utilized to determine whether respiratory protection is necessary and what type of protection is appropriate. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
Restrictions on use	 Persons with a history of asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used.

Section 9. Physical and chemical properties

<u>Appearance</u>			
Physical state	Liquid.		
Colour	Grey.		
Odour	racteristic.		
рН	luble in water.		
Boiling point	.78°C (>100°F)		
Flash point	ed cup: 43.33°C (110°F)		
Evaporation rate	0.9 (butyl acetate = 1)		
Flammability (solid, gas)	: liquid		
Vapour pressure	2.2 kPa (16.6 mm Hg) (at 20°C)		
Vapour density	Highest known value: 4.6 (Air = 1) (2-methoxy-1-methylethyl acetate). Weighted average: 4.19 (Air = 1)		
Relative density			
	dia Result		
Solubility(ies)	I water Not soluble		
Auto-ignition temperature	est known value: 333°C (631.4°F) (2-methoxy-1-methylethy	yl acetate).	
Viscosity	ematic (40°C (104°F)): >21 mm²/s (>21 cSt)		

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	: In a fire, hazardous decomposition products may be produced.
Incompatible materials	: Keep away from: oxidising agents, strong alkalis, strong acids, amines, alcohols, water. Uncontrolled exothermic reactions occur with amines and alcohols.
Hazardous decomposition products	: Depending on conditions, decomposition products may include the following materials: carbon oxides metal oxide/oxides
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Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
<mark>p-</mark> butyl acetate	LC50 Inhalation Vapour	Rat	>21.1 mg/l	4 hours
-	LC50 Inhalation Vapour	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 Vapour	Rat	30 mg/l	4 hours
	LD50 Dermal	Rabbit	>5 g/kg	-
	LD50 Oral	Rat	6190 mg/kg	-
pentane-2,4-dione	LC50 Inhalation Vapour	Rat	5.1 mg/l	4 hours
	LD50 Dermal	Rat	790 mg/kg	-
	LD50 Oral	Rat	570 mg/kg	-
bis(1,2,2,6,6-pentamethyl-	LD50 Oral	Rat	3.125 g/kg	-
4-piperidyl) sebacate				
4-isocyanatosulphonyltoluene	LD50 Oral	Rat	2234 mg/kg	-
2-hydroxyethyl methacrylate	LD50 Dermal	Rabbit	>5 g/kg	-
	LD50 Oral	Rat	5050 mg/kg	-
methyl	LD50 Oral	Rat	3.125 g/kg	-
1,2,2,6,6-pentamethyl- 4-piperidyl sebacate				
Conclusion/Summary : T	here are no data available on	the mixture itself.		
ritation/Corrosion				
Conclusion/Summary				

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	

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Section 11. Toxicological information

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)

Name	Category	Route of exposure	Target organs
P-butyl acetate 2-methoxy-1-methylethyl acetate	Category 3 Category 3	-	Narcotic effects Narcotic effects
4-isocyanatosulphonyltoluene	Category 3	-	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

. No known significant effects of childa hazards.
: Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
: Defatting to the skin. May cause skin dryness and irritation. May cause an allergic skin reaction.
: 🖉 an cause central nervous system (CNS) depression.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact

: No specific data.

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Section 11. Toxicological information

Inhalation	Adverse symptoms may include the following: wheezing and breathing difficulties asthma 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 effe Short term exposure	as well as chronic effects from short and long-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	<u>></u>	
General	Prolonged or repeated contact can defat the skin and lead to irritation, cracking an or dermatitis. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.	ıd/
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
	57017.09 mg/kg 646.29 mg/l

Other information

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Section 11. Toxicological 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. Based on the properties of the isocyanate components and considering toxicological data on similar mixtures, this mixture may cause acute irritation and/or sensitisation of the respiratory system, leading to an asthmatic condition, wheezing and tightness of the chest. Sensitised persons may subsequently show asthmatic symptoms when exposed to atmospheric concentrations well below the OEL. Persons with a history of skin sensitisation problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Repeated exposure may lead to permanent respiratory disability. Moisture-sensitive material. Avoid contact with skin and clothing.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
 P-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
Conclusion/Summary	: There are no data available on the mixture itself.		

Persistence/degradability

Product/ingredient name	Test	Result	Dose	Inoculum
-butyl acetate	TEPA and OECD 301D	83 % - Readily - 28 days	-	-
2-methoxy-1-methylethyl acetate	-	83 % - Readily - 28 days	-	-

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

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
 butyl acetate 2-methoxy-1-methylethyl acetate 	-		Readily Readily

Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
p -butyl acetate	2.3	-	Low
2-methoxy-1-methylethyl acetate	1.2	-	Low
pentane-2,4-dione	0.68	-	Low
2-hydroxyethyl methacrylate	0.42	-	Low

Mobility in soil

Soil/water partition coefficient (Koc)

: Not available.

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Section 12. Ecological information

Other adverse effects

: No known significant effects or critical hazards.

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.
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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.
ΙΑΤΑ	: 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

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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.

Section 16. Other information

<u>History</u>	
Date of issue/Date of revision	: 3 June 2024
Date of previous issue	: 8/13/2020
Version	: 5
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.