

Safety Data Sheet

1. Chemical product and company identification

Product name : Glycerol

SDS code : B2-05

Company/undertaking identification :

HAYASHI PURE CHEMICAL IND.,LTD.

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Emergency number : 06-6910-7305

2. Hazards identification

GHS classification

Physical hazards	Desensitized explosives	classification not possible	
	Explosives	classification not possible	
	Flammable gases	No classification	
	Aerosol	classification not possible	
	Oxidizing gases	No classification	
	Gases under pressure	No classification	
	Flammable liquids	No classification	
	Flammable solids	No classification	
	Self-reactive substances and mixtures	classification not possible	
	Pyrophoric liquids	classification not possible	
	Pyrophoric solids	No classification	
	Self-heating substances and mixtures	classification not possible	
	Substances and mixtures which in contact with water emit flammable gases	classification not possible	
	Oxidizing liquids	classification not possible	
	Oxidizing solids	No classification	
	Organic peroxides	classification not possible	
	Corrosive to metals	classification not possible	
	Health hazards	Acute toxicity (oral)	classification not possible
		Acute toxicity (dermal)	classification not possible
		Acute toxicity (inhalation:gas)	classification not possible
Acute toxicity (inhalation:vapours)		classification not possible	
Acute toxicity (inhalation:dust/mist)		classification not possible	
Skin corrosion/irritation		classification not possible	
Serious eye damage/eye irritation		classification not possible	
Respiratory sensitization		classification not possible	
Skin sensitization		classification not possible	
Germ cell mutagenicity		classification not possible	
Carcinogenicity		classification not possible	
Reproductive toxicity		classification not possible	
Specific target organ toxicity (single exposure)	classification not possible		
Specific target organ toxicity (repeated exposure)	classification not possible		
Aspiration hazard	classification not possible		

Environmental hazards	Hazardous to Aquatic Environment - classification not possible
	Acute Hazard
	Hazardous to Aquatic Environment - classification not possible
	Chronic Hazard
	Hazardous to the ozone layer classification not possible

3. Composition/information on ingredients

Distinction of substance or mixture	: Substance
Synonyms	: Glycerol, 1,2,3-propanetriol

Name	Concentration or Concentration range	Formula	Kanpo number		CAS RN
			CSCL no	ISHL no	
Glycerol	≥95.0%, ≤ 100%	C3H8O3	(2)-242	Existing Chemical Substance	56-81-5

The above concentration or concentration range are not product specification.
All percentages listed in the above concentration or concentration range are mass%, unless otherwise specified.

4. First aid measures

First aid measures

First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Get immediate medical advice/attention.
First-aid measures after skin contact	: Remove/Take off immediately all contaminated clothing. Gently wash with plenty of soap and water. Get immediate medical advice/attention.
First-aid measures after eye contact	: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.
First-aid measures after ingestion	: Do NOT induce vomiting. Rinse mouth. Get immediate medical advice/attention.

5. Fire fighting measures

Suitable extinguishing media	: Use proper extinguishing media depending on peripheral fire, Water spray, Alcohol-resistant foam, Carbon dioxide, Dry powder, Sand.
Unsuitable extinguishing media	: Do not use a heavy water stream.
Hazardous decomposition products in case of fire	: In case of fire, product may produce irritative or toxic fumes/gases.
Firefighting instructions	: If ignited, for the initial fire-fighting, cut off combustion sources, extinguish fire at a stroke using appropriate fire-extinguishers. In the case of peripheral fire, quickly remove movable containers to safe places. If unable to be moved containers, sprinkle water to containers and surrounding equipment, etc. to cool.
Protection during firefighting	: Wear appropriate fire-resistant clothing including self contained-compressed air breathing apparatus.

6. Accidental release measures

Personal Precautions, Protective Equipment and Emergency Procedures

General measures	: Wear appropriate personal protective devices to prevent inhalation and contact with eye, skin, and clothing, and never attempt to work on the lee.
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Environmental precautions

Environmental precautions	: Avoid release to the environment. Prevent entry to sewers and public waters.
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Methods and Equipment for Containment and Cleaning up

- Methods for cleaning up : Clean up any spills as soon as possible, using an absorbent material to collect it.
Collect leaking and spilled liquid in sealable containers as far as possible.
Wash out the spilled area with large amounts of water.

7. Handling and storage

Handling

- Technical measures : Work with appropriate personal protective equipment to prevent inhalation or contact to eyes, skin, and clothing.
Handle with care to prevent leakage, overflowing, or scattering, minimize generation of mist or vapor, and thoroughly ventilate.
- Precautions for safe handling : Do not eat, drink or smoke when using this product.
Thoroughly wash your hands and gargle after handling.
Ensure good ventilation of the work station.
Do not contact, breathe or swallow.
- Prevents handling of incompatible substances or mixtures : Avoid prolonged or repeated exposure.

Storage

- Storage conditions : Store in a well-ventilated place, away from direct sunlight. Keep container tightly closed and keep away from fire and heat sources.
- Material used in packaging/containers : Light shielding airtight container.
- Technical measures : Comply with applicable regulations.
- Storage temperature : Cool and dark place

8. Exposure controls / Personal protection equipment

- Appropriate engineering controls : Cover up tightly the generation source at the handling place or install local exhaust equipment or overall ventilation equipment. Install safety showers and eye-fountains near a handling place. Clearly indicate the location.

Protective equipment

- Respiratory protection : Gas mask for organic gases
- Hand protection : Impervious protective gloves
- Eye protection : Protective glasses (general glasses, glasses with side-shields, goggles)
- Skin and body protection : Impervious aprons, Impervious work clothing, Protective long boots

9. Physical and chemical properties

- Physical state : Liquid
- Appearance : Viscous liquid
- Color : colorless transparent
- Odor : Odorless
- pH : No data available
- Melting point : 20 °C
- Freezing point : No data available
- Boiling point : 290 °C (760mmHg)
- Flash point : 177 °C
- Auto-ignition temperature : 393 °C
- Decomposition temperature : No data available
- Flammability (solid, gas) : No data available
- Vapor pressure : No data available
- Relative density : No data available
- Specific gravity / density : 1.26 g/cm³
- Relative gas density : No data available
- Solubility : Easily soluble in water. Soluble in alcohol. Sparingly soluble in diethyl ether.
- Partition coefficient n-octanol/water (Log Pow) : No data available

Explosive limits (vol %) : No data available
 Viscosity, kinematic : No data available
 Particle characteristics : No data available

10. Stability and reactivity

Reactivity : No data available
 Chemical stability : Stable under normal handling conditions. Shows hygroscopicity.
 Possibility of hazardous reactions : When heated, it forms an explosive mixture with air, which is heavier than air and crawls along the surface of the earth, producing corrosive acrolein fumes. Reacts with strong oxidising agents causing fire and explosion hazard. Reacts violently with acetic anhydride in the presence of catalysts.
 Conditions to avoid : Sunlight, heat. Ignition sources such as spark, flame and static charge. Contact with strong oxidising agents.
 Incompatible materials : Strong oxidising agents
 Hazardous decomposition products : Acrolein

11. Toxicological information

The information in this section is based on the "GHS Classification Results" by NITE.

Glycerol	
Acute toxicity (oral)	No data available
Acute toxicity (dermal)	No data available
Acute toxicity (gas)	No data available
Acute toxicity (vapour)	No data available
Acute toxicity (inhalation:dust/mist)	No data available
Skin corrosion/irritation	No data available
Serious eye damage/irritation	No data available
Respiratory sensitization	No data available
Skin sensitization	No data available
Germ cell mutagenicity	No data available
Carcinogenicity	No data available
Reproductive toxicity	No data available
STOT-single exposure	No data available
STOT-repeated exposure	No data available
Aspiration hazard	No data available

12. Ecological information

The information in this section is based on the "GHS Classification Results" by NITE.

Glycerol	
Hazardous to Aquatic Environment - Acute Hazard	No data available
Hazardous to Aquatic Environment - Chronic Hazard	No data available
Persistence and degradability	No data available
Bioaccumulative potential	No data available
Mobility in soil	No data available
Hazardous to the ozone layer	No data available

13. Disposal considerations

Ecology - waste materials : With the detail information of the waste, subcontract its disposal to a waste disposer authorized by a Prefectural Governor.
 Contaminated container and packaging : Empty the packaging completely prior to disposal.
 Empty containers should be taken for recycle, recovery or waste in accordance with local regulation.

14. Transport information

International Regulations

Transport by sea(IMDG)

UN-No. (IMDG)	:	Not applicable
Proper Shipping Name (IMDG)	:	Not applicable
Packing group (IMDG)	:	Not applicable
Transport hazard class(es) (IMDG)	:	Not applicable

Air transport(IATA)

UN-No. (IATA)	:	Not applicable
Proper Shipping Name (IATA)	:	Not applicable
Packing group (IATA)	:	Not applicable
Transport hazard class(es) (IATA)	:	Not applicable

Marine pollutant	:	Not applicable
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Regulations in Japan

Regulatory information by sea	:	Not applicable
Regulatory information by air	:	Not applicable

Special transport precautions	:	When transporting, load containers so that they do not tip over, damage, drop or collapse. Make sure there is no leak in containers.
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15. Regulatory information

National law

Industrial Safety and Health Law	:	Not applicable
Japanese Poisonous and Deleterious Substances Control Law	:	Not applicable
Fire Service Law	:	Group 4 - Flammable liquids - 3rd Class petroleums - soluble (Law Art.2 Para.7, Attached Table 1, Group 4)
Law Relating to Prevention of Marine Pollution and Maritime Disasters	:	Noxious Liquid Substances - Category Z (Law Art.3(3), Enforcement Order, Art.1-2, Attached Table No.1 Item 3)
Foreign Exchange and Foreign Trade Control Act	:	Export Trade Control Ordinance appendix 1-16
Japanese Pollutant Release and Transfer Register Law (PRTR Law)	:	Not applicable

16. Other information

Data sources	:	Handbook of 17120 Chemical Products, The Chemical Daily Co, Ltd. International Chemical Safety Cards. National Institute of Technology and Evaluation (NITE). 2016 Emergency Response Guidebook (ERG 2016).
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Other information	:	The SDS is copyrighted material of Hayashi Pure Chemical Ind, Ltd. This Safety Data Sheet is intended to be provided for business operators who handle chemical substance products of the relevant product and is not intended to assure safety in any way. The Safety Data Sheet does not verify all the information on the applicable chemical substance in the present time. With the recognition in that unknown danger constantly exists in the relevant chemical substance, the product shall be used in the principle of self-responsibility of the user with the highest priority to safety from transport and unpacking to disposal. When the relevant chemical substance is used, the user him/herself shall collect safety information and shall investigate laws and regulations at the place, organizations, countries, etc. where the substance is actually used and give the highest priority to them. The Company shall take no responsibility for investigating state and local regulations and the user shall handle this problem on his/her own responsibility. In the event that SDS in Japanese and SDS translated into other languages exist, the document described in Japanese is prior to all other documents whether or not there is any difference in contents, and documents in other languages shall be references.
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