

Most important symptoms/effects, acute and delayed	Direct contact with eyes may cause temporary irritation. May cause respiratory irritation.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Use fire-extinguishing media appropriate for surrounding materials.
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	By heating and fire, harmful vapors/gases may be formed.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	Will burn if involved in a fire.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Ensure adequate ventilation. Avoid prolonged exposure. Keep unnecessary personnel away. In case of spills, beware of slippery floors and surfaces. Wear appropriate protective equipment and clothing during clean-up. For personal protection, see section 8 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.
Methods and materials for containment and cleaning up	Stop the flow of material, if this is without risk. Wipe up with absorbent material (e.g. cloth, fleece). After cleaning, flush away traces with water. For waste disposal, see Section 13 of the SDS.

7. Handling and storage

Precautions for safe handling	Provide adequate ventilation. Avoid prolonged exposure. Avoid breathing mist or vapor. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store in closed original container at temperatures between 18°C and 54°C. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Control parameters/Occupational exposure limits	No exposure limits noted for ingredient(s).
Appropriate engineering control measures	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.
Individual protection measures, such as personal protective equipment	
Eye/face protection	If contact is likely, safety glasses with side shields are recommended. Eye wash fountain is recommended.
Skin protection	
Hand protection	For prolonged or repeated skin contact use suitable protective gloves. Suitable gloves can be recommended by the glove supplier.
Other	Wear suitable protective clothing.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	
Physical state	Liquid.
Form	Viscous.
Color	Clear.

Odor	Mild.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	67.73 °F (19.85 °C)
Initial boiling point and boiling range	554 °F (290 °C)
Flash point	390.0 °F (198.9 °C) Closed Cup
Evaporation rate	> 1 (Ether (anhydrous) =1)
Flammability (solid, gas)	Not applicable.
Flammability limit - lower (%)	2.6
Flammability limit - upper (%)	11.3
Vapor pressure	< 0.13 kPa
Vapor density	3.1 (Air = 1)
Relative density	1.4 - 1.6
Solubility(ies)	
Solubility (water)	Soluble in water.
Partition coefficient (n-octanol/water)	-1.76
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other data	
Explosive properties	Not explosive.
Molecular formula	C3-H8-O3
Molecular weight	92.09 g/mol
Oxidizing properties	Not oxidizing.

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport. Hygroscopic.
Chemical stability	Material is stable under normal conditions..
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Excessive heat. Ignition sources.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Hygroscopic

11. Toxicological information

Information on likely routes of exposure

Inhalation	High mist concentrations may cause irritation of respiratory tract.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Expected to be a low ingestion hazard.

Acute toxicity Not expected to be acutely toxic.

Product	Species	Test Results
Glycerin (CAS 56-81-5)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 10 g/kg
<i>Oral</i>		
LD50	Rat	12600 mg/kg

Symptoms	Direct contact with eyes may cause temporary irritation. May cause respiratory irritation.
Skin corrosion/irritation	No adverse effects due to skin contact are expected.

Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.
Respiratory or skin sensitization	
Respiratory sensitization	Due to lack of data the classification is not possible.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	May cause respiratory irritation.
Specific target organ toxicity - repeated exposure	Based on available data, the classification criteria are not met.
Aspiration hazard	Not an aspiration hazard.
Chronic effects	Not available.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Product	Species	Test Results
Glycerin (CAS 56-81-5)		
Aquatic		
Fish	LC50 Fish	54000 mg/l, 96 hours
Persistence and degradability	The product is readily biodegradable.	
Bioaccumulative potential	The product is not bioaccumulating.	
Mobility in soil	No data available.	
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.	

13. Disposal considerations

Disposal methods/information Collect and reclaim or dispose in sealed containers at licensed waste disposal site.

Special precautions Dispose in accordance with all applicable regulations.

14. Transport information

ADR

RID

ADN

IATA

IMDG

Not regulated as dangerous goods.

Not regulated as dangerous goods.

Not regulated as dangerous goods.

Not regulated as dangerous goods.

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

15. Regulatory information

Safety, health and environmental regulations specific for the product in question

Controlled Narcotic Drugs (Misuse of Drugs Act, First Schedule, Part I, II & III)
Not regulated.

Controlled Specified Drugs (Misuse of Drugs Act, Fourth Schedule)
Not regulated.

Prior Informed Consent (PIC) Substances (Environment Protection and Management Act, 2nd Schedule, Part 1, Jul. 1, 2013)

Not regulated.

Chemical Weapons Prohibition (Act)
Not applicable.

Environmental Protection and Management (Hazardous Substances) Regulations

Not applicable.

Environmental Public Health Act

Not applicable.

International regulations**Montreal Protocol**

Not applicable.

Stockholm Convention

Not applicable.

Rotterdam Convention

Not applicable.

Kyoto protocol

Not applicable.

Basel Convention

Not applicable.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information

References	Not available.
Issued by	
Company name	Olympus
Prepared by	
Title	Olympus
Disclaimer	Olympus cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.
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