

MATERIAL SAFETY DATA SHEET (COSHH)**1. IDENTIFICATION OF THE PRODUCT AND COMPANY**

Product Name	Glycerol
MSDS#	15523
CAS Number:	56-81-5
Synonyms	
Company identification:	Sigma-Aldrich Company Ltd. The Old Brickyard New Road, Gillingham, Dorset SP8 4XT UNITED KINGDOM
For information, call:	+44 (0)1747 833000
For emergencies, call:	+44 (0)1747 833100

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2. COMPOSITION/INFORMATION ON INGREDIENTS

CAS No.	Chemical Name	Synonyms	Formula	Molecular Weight	EINECS No.
56-81-5	Glycerol	1,2,3-Propanetriol Glycerine	C ₃ H ₈ O ₃	92.09 g/mol	200-289-5

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3. HAZARDS IDENTIFICATION**3.1 Classification of the substance or mixture**

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

This substance is not classified as dangerous according to Directive 67/548/EEC.

3.2 Label elements

The product does not need to be labelled in accordance with EC directives or respective national laws.

3.3 Other hazards

None

4. FIRST-AID MEASURES

Consult a physician. Show this safety data sheet to the doctor in attendance.

4.1	Inhalation	If inhaled, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
4.2	Eye contact	Rinse eyes with water copiously for at least 15 minutes. Seek medical advice as necessary.
4.3	Skin contact	Wash off with soap and plenty of water. Consult a physician.
4.4	Ingestion	Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Most important symptoms and effects, both acute and delayed prolonged or repeated exposure can cause:

Possible Nausea, Headache, Vomiting

Indication of any immediate medical attention and special treatment needed

No data available

5. FIRE-FIGHTING MEASURES

This is not a flammable solution.

5.1	Extinguishing media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
5.2	Explosive quality	Nil.
5.3	Specific hazard	Carbon oxides.
5.4	Specific protective measures for fire fighters	Wear self-contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES**6.1 *Personal precautions, protective equipment and emergency procedures***

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation.

6.2 *Environmental precautions*

Do not let product enter drains.

6.3 *Methods and materials for containment and cleaning up*

Soak up with inert absorbent material and dispose of as hazardous waste.

Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

7.1	Handling guidelines	Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.
7.2	Storage guidelines	Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Hygroscopic.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**8.1 Control parameters**

Components with workplace control parameters

Component	CAS Number	Value	Control parameters	Basis
Glycerol	56-81-5	TWA	10 mg/m ³	UK. EH40 WEL - Workplace Exposure Limits

Remarks : Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used

8.2 Exposure controls***Appropriate engineering controls***

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

8.3 Personal protective equipment***Eye/face protection***

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices.

Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Body Protection

Impervious to clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Liquid
Odour	odourless
Odour threshold	No data available
pH	5.5 - 8.0 at 25 °C
Melting point	20.0 °C
Boiling point	182 °C at 27 hPa
Flash point	160 °C - closed cup
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Ignition temperature	No data available
Lower explosion limit	0.9 % (V)
Upper explosion limit	No data available
Vapour pressure	0.0033 hPa at 50 °C
Vapour density	3.18 - (Air = 1.0)
Relative density	1.25 g/mL >= 1.257 g/mL at 25 °C 1.258 - 1.2644 g/mL at 20 °C
Water solubility	soluble
Partition coefficient:n-octanol/water	No data available
Autoignition temperature	No data available
Decomposition temperature	No data available
Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	No data available

Other safety information

Surface tension	63.4 mN/m at 20 °C
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10. STABILITY AND REACTIVITY**10.1 Reactivity**

No data available

10.2 Chemical stability

No data available

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

No data available

10.5 Incompatible materials

Strong bases, Strong oxidizing agents

10.6 Hazardous decomposition products

Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION

Acute toxicity	LD50 Oral - rat - 12,600 mg/kg LD50 Dermal - rabbit - > 10,000 mg/kg
Skin corrosion/irritation	Skin - rabbit - Mild skin irritation - 24 h
Serious eye damage/eye irritation	Eyes - rabbit - Mild eye irritation - 24 h
Respiratory or skin sensitisation	No data available
Germ cell mutagenicity	No data available
Carcinogenicity	IARC: No components of this product present at levels greater than or equal to 0.1% are identified as probable, possible or confirmed human carcinogen by IARC.
Reproductive toxicity	No data available
Specific target organ toxicity - single exposure	No data available
Specific target organ toxicity - repeated exposure	No data available
Aspiration hazard	No data available
Potential health effects	Inhalation : May be harmful if inhaled. May cause respiratory tract irritation. Ingestion : May be harmful if swallowed. Skin : May be harmful if absorbed through skin. May cause skin irritation. Eyes : Causes eye irritation.
Signs and Symptoms of exposure	Prolonged or repeated exposure can cause: Nausea, Headache, Vomiting
Additional Information	RTECS: MA8050000

12. ECOLOGICAL INFORMATION

12.1	Toxicity	Toxicity to fish LC50 - Carassius auratus (goldfish) - > 5,000 mg/l LC50 - Pimephales promelas (fathead minnow) - 44,000 mg/l LC50 - other fish - > 100,100 mg/l LC50 - Oncorhynchus mykiss (rainbow trout) - 67,500 mg/l - 96 h
12.2	Persistence and degradability	No data available
12.3	Bioaccumulative potential	No data available
12.4	Mobility in soil	No data available
12.5	Results of PBT and vPvB assessment	No data available
12.6	Other adverse effects	No data available

13. DISPOSAL CONSIDERATIONS

13.1	Packaging	Can be disposed of as normal waste in accordance with local authority regulations.
13.2	Contaminated Packaging	Dispose of as unused product.
13.3	Product	Offer surplus and non-recyclable solutions to a licensed disposal company.

14. TRANSPORT INFORMATION

No special conditions apply. Not dangerous.

15. REGULATORY INFORMATION

Labelling according to EC Directives

Further information:

This substance is not classified as dangerous according to Directive 67/548/EEC

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

No data available

15.2 Chemical Safety Assessment

No data available

16. OTHER INFORMATION

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.