

According to Regulation (EC) No 1907/2006

According to Regulation (EC) No 2020/878

Glycerol

Version number: 2
Issued: 2024-01-11
Replaces SDS: 2021-06-14



SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Trade name

Glycerol

CAS number

56-81-5

EC number

200-289-5

Synonyms

Glycerin; propan 1,2,3 triol

1.2. Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses

Research and development.

Not suitable for use in

Not suitable for human consumption or veterinary purposes.

1.3. Details of the supplier of the safety data sheet

Supplier

Molekula Group

Address

Molekula Ltd, Lingfield Way, Darlington,
DL1 4XX Darlington
United Kingdom

Telephone

+44 (0) 3302 000 333

Email

info@molekula.com

Web site

www.molekula.com

Contact person

Kevin Banks

Email

+44 (0) 7769276927

1.4. Emergency telephone number

Poison center/Additional emergency number

0344 892 0111 - National Poisons Information Service (Newcastle Centre)

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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

The product is not classified as hazardous according to Regulation (EC) No 1272/2008.

2.2. Label elements

The product does not require labelling in accordance with CLP Regulation (EC) No 1272/2008.

2.3. Other hazards

No data available

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical name	CAS No. EC No. REACH No. Index No.	Concentration	Classification	H-phrase M factor acute M factor chronic	Note
Glycerol	56-81-5 200-289-5 - -	100%	-	- - -	-

Molecular weight

92.09

Substance additional information

For the complete text of H- / EUH-statements mentioned in this section, see section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation

Move to fresh air if inhaled.

Get medical attention if any discomfort continues.

Skin contact

Rinse skin with water.

If skin irritation or rash occurs: Get medical advice/attention.

Eye contact

Remove contact lenses if present. Rinse eyes with water.

If eye irritation persists: Get medical advice/attention.

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Ingestion

Rinse mouth.

Get medical advice/attention if you feel unwell.

Information for doctors

No data available.

4.2. Most important symptoms and effects, both acute and delayed

The severity of the symptoms described will vary dependant of the concentration and the length of exposure.

Inhalation

May cause respiratory irritation.

Skin contact

Prolonged contact may cause dryness of the skin.

Eye contact

May be slightly irritating to the eyes.

Ingestion

May cause discomfort if swallowed.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically. No special treatment requirement.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Extinguish with foam, carbon dioxide, dry powder or water fog.

Unsuitable extinguishing media

No specific fire fighting procedure given.

5.2. Special hazards arising from the substance or mixture

Specific hazards:

Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

Carbon monoxide (CO). Carbon dioxide (CO₂).

Combustible.

Vapours are heavier than air and may travel along the floor and in the bottom of containers.

Forms explosive mixtures with air on intense heating.

Development of hazardous combustion gases or vapours possible in the event of fire.

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5.3. Advice for firefighters

Special protective equipment for fire-fighters

Evacuate area. Avoid breathing gas, fume, vapours or spray. Cool containers exposed to heat with water spray and remove container, if no risk is involved.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Avoid breathing dust/fume/gas/mist/vapours/spray. Provide adequate ventilation. For personal protection, see section 8.

6.2. Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

6.3. Methods and material for containment and cleaning up

Absorb spillage with suitable absorbent material. Collect spillage with shovel, broom or the like and reuse, if possible. Dispose of large amounts of spillage/waste according to agreement with local authorities.

6.4. Reference to other sections

For personal protection, see section 8. For waste disposal, see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Preventive handling precautions

Wear protective clothing, gloves, eye and face protection. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid ingestion and inhalation. For precautions see section 2.2.

General hygiene

Observe good chemical hygiene practices. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove contaminated clothing and launder thoroughly before re-use. Wash skin thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Store at ambient temperature. Store in a dry place. Store in a closed container.

Hygroscopic.

7.3. Specific end use(s)

No specific usage precautions noted.

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits

TWA. 10mg/m³. UK. EH40. WEL = Workplace Exposure Limit.

8.2. Exposure controls

Personal Protective Equipment Symbols



Eye / face protection

Wear eye protection.

Hand protection

Wear protective gloves.

Recommended gloves: Nitrile.

Glove Thickness: 0.11mm

Breakthrough time: 8 hours

No specific hygiene procedures noted, but good personal hygiene practices are always advisable, especially when working with chemicals.

Wash contaminated skin thoroughly after handling.

Other skin protection

Wash skin thoroughly after handling.

Respiratory protection

Provide adequate ventilation.

Environmental exposure controls

Avoid discharge into drains.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state

Viscous liquid

Colour

Clear.

Odour

Odourless.

Melting point / freezing point

20 °C

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Boiling point or initial boiling point and boiling range

182 °C

Flammability

No data available

Lower and upper explosion limit

2.7 - 19 %

Flash point

199 °C

Auto-ignition temperature

370 °C

Decomposition temperature

No data available

pH

5

Kinematic viscosity

No data available

Viscosity, dynamic

1,412 mPa.s at 20 °C 612 mPa.s at 30 °C 14.8 mPa.s at 100 °C

Solubility

1,000 g/l at 25 °C - miscible

Partition coefficient n-octanol/water

log Pow: -1.75 at 25 °C - Bioaccumulation is not expected.

Vapour pressure

< 0.001 hPa

Density and/or relative density

No data available

Relative vapour density

3.18

Particle characteristics

No data available

9.2. Other information

No data available

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SECTION 10: Stability and reactivity

10.1. Reactivity

Forms explosive mixtures with air on intense heating.
 15 (approx) Kelvin below the flash point is to be rated as critical.

10.2. Chemical stability

Stable under the prescribed storage conditions.

10.3. Possibility of hazardous reactions

Risk of explosion with:
 halogens
 Strong oxidising agents.
 peroxi compounds
 hydrogen peroxide
 Nitriles.
 PERCHLORIC ACID with Lead Oxides
 Nitric acid. with sulphuric acid

Risk of ignition or formation of inflammable gases or vapours with:
 potassium permanganate
 hydrides
 calcium hypochlorite
 Fluorine. with Lead Oxides

Exothermic reaction with:
 Oxides of phosphorus
 chromium(VI) oxide
 phosphorus halides
 Acetic anhydride
 with phosphorus oxichloride with nitrobenzene

10.4. Conditions to avoid

strong heating

10.5. Incompatible materials

Strong oxidising agents.

10.6. Hazardous decomposition products

See section 5.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

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Product / Substance name CAS / EC no.	Dose descriptor	Value / Dose	Exposure route	Duration of exposure	Test animals
Glycerol 56-81-5 / 200-289-5	LD50	27,200 mg/kg	Oral	-	Rat
Glycerol 56-81-5 / 200-289-5	LD50	>10,000 mg/kg	Dermal	-	Rabbit
Glycerol 56-81-5 / 200-289-5	LC50	>2.75 mg/l	Inhalation.	4 hours	Rat

Skin corrosion/irritation

Product / Substance name CAS / EC no.	Result	Duration of exposure	Species
Glycerol 56-81-5 / 200-289-5	No skin irritation.	24 hours	Rabbit

Serious eye damage/irritation

Product / Substance name CAS / EC no.	Result	Species
Glycerol 56-81-5 / 200-289-5	No eye irritation.	Rabbit

Aspiration hazard

Based on available data, the classification criteria are not met.

11.2. Information on other hazards

No data available

SECTION 12: Ecological information

12.1. Toxicity

Acute fish toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
Glycerol 56-81-5 / 200-289-5	LC50	54,000 mg/l	96 hours	Onchorhynchus mykiss (Rainbow trout)

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12.2. Persistence and degradability

Persistence and degradability

Product / Substance name CAS / EC no.	Type of test	Duration	Result	Degradation
Glycerol 56-81-5 / 200-289-5	aerobic	2 days	90%	The product is readily biodegradable.

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. Endocrine disrupting properties

This product does not contain any known or suspected endocrine disruptors.

12.7. Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal considerations

Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 14: Transport information

14.1. UN number

Not applicable

14.2. UN proper shipping name

Not applicable

14.3. Transport hazard class(es)

Not applicable

14.4. Packing group

Not applicable

14.5. Environmental hazards

Not applicable

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14.6. Special precautions for user

Not applicable

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

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

EU regulations

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

This material safety data sheet complies with the requirements of Regulation (EU) 2020/878.

National regulations

No data available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

No data available