

Glycerol 99%

Safety Data Sheet

according to Regulation (EU) 2015/830

Date of issue: 11/12/2016

Doc No: SDS-927.043/0

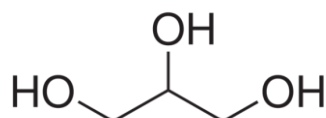


SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Substance
Substance name : Glycerol 99%
EC no : 200-289-5
CAS No : 56-81-5

Type of product : Pure substance
Formula : -
Chemical structure :



Synonyms : 1,2,3-propane triol / 1,2,3-propanetriol / 1,2,3-trihydroxypropane / 90 technical glycerine / citifluor AF 2 / glycerene / glycerin / glycerin mist / glycerin USP / glycerin, anhydrous / glycerin, synthetic / glyceritol / glycyol alcohol / glyrol / grocolene / IFP (=glycerol) / incorporation factor (=glycerol) / MOON (=glycerol) / osmoglyn / star (=glycerol) / superol (=1,2,3-propanetriol) / synthetic glycerin / trihydroxypropane

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

1.2.1. Relevant identified uses

Use of the substance/mixture : Laboratory chemicals

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

ISOLAB Laborgeräte GmbH
Am Dillhof 2 - 63863 Eschau / GERMANY
Tel: + 49 93 74 / 978 55-0
Fax: +49 93 74 / 978 55-29
prodsafe@isolab.de

1.4. Emergency telephone number

Country	Organisation/Company	Address	Emergency number	Comment
Germany	Giftnotruf der Charité CBF, Haus VIII (Wirtschaftsgebäude), UG	Hindenburgdamm 30 12203 Berlin	+49 (0) 30 19240	

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

No labelling applicable

2.3. Other hazards

No additional information available

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SECTION 3: Composition/information on ingredients

3.1. Substances

Name	Product identifier	%
Glycerol	(CAS No) 56-81-5 (EC no) 200-289-5	≥ 98.0

Full text of H-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital.
First-aid measures after inhalation	: Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.
First-aid measures after skin contact	: Rinse with water. Soap may be used. Take victim to a doctor if irritation persists.
First-aid measures after eye contact	: Rinse with water. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists.
First-aid measures after ingestion	: Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Call Poison Information Centre (www.big.be/antigif.htm). Consult a doctor/medical service if you feel unwell. Ingestion of large quantities: immediately to hospital.

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

Symptoms/injuries after inhalation	: ON HEATING: Irritation of the respiratory tract. Irritation of the nasal mucous membranes.
Symptoms/injuries after skin contact	: Dry skin.
Symptoms/injuries after eye contact	: Redness of the eye tissue. Not irritating.
Symptoms/injuries after ingestion	: Nausea. Vomiting. Diarrhoea. AFTER ABSORPTION OF HIGH QUANTITIES: Headache. Dehydration. Disturbances of heart rate. Change in the haemogramme/blood composition. Decreased renal function.
Chronic symptoms	: No effects known.

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

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Water spray. Alcohol-resistant foam. Dry chemical powder. Carbon dioxide. Dry sand.
Unsuitable extinguishing media	: Container may slop over if solid jet (water/foam) is applied.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: DIRECT FIRE HAZARD. Combustible. INDIRECT FIRE HAZARD. Temperature above flashpoint: higher fire/explosion hazard. Reactions involving a fire hazard: see "Reactivity Hazard".
Explosion hazard	: INDIRECT EXPLOSION HAZARD. Reactions with explosion hazards: see "Reactivity Hazard".

5.3. Advice for firefighters

Precautionary measures fire	: Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: seal off low-lying areas. Exposure to fire/heat: have neighbourhood close doors and windows.
Firefighting instructions	: Cool tanks/drums with water spray/remove them into safety. Do not move the load if exposed to heat. Dilute toxic gases with water spray.
Protection during firefighting	: Heat/fire exposure: compressed air/oxygen apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment	: Gloves. Protective clothing. See "Material-Handling" to select protective clothing.
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Emergency procedures : Mark the danger area. No naked flames. Wash contaminated clothes. In case of reactivity hazard: consider evacuation.

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

No additional information available

6.3. Methods and material for containment and cleaning up

For containment : Contain released substance, pump into suitable containers. Consult "Material-handling" to select material of containers. Plug the leak, cut off the supply.

Methods for cleaning up : Take up liquid spill into absorbent material, e.g.: sand, earth, vermiculite or kieselguhr, powdered limestone. Scoop absorbed substance into closing containers. See "Material-handling" for suitable container materials. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Comply with the legal requirements. Clean contaminated clothing. Thoroughly clean/dry the installation before use. Keep away from naked flames/heat. Finely divided: spark- and explosionproof appliances. Finely divided: keep away from ignition sources/sparks. Observe normal hygiene standards. Keep container tightly closed. Measure the concentration in the air regularly. Carry operations in the open/under local exhaust/ventilation or with respiratory protection.

7.2. Conditions for safe storage, including any incompatibilities

Heat and ignition sources : KEEP SUBSTANCE AWAY FROM: heat sources.

Information on mixed storage : KEEP SUBSTANCE AWAY FROM: oxidizing agents. (strong) acids. (strong) bases.

Storage area : Store in a dry area. Ventilation at floor level. Fireproof storeroom. May be stored under nitrogen. Meet the legal requirements.

Special rules on packaging : SPECIAL REQUIREMENTS: closing. dry. clean. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.

Packaging materials : SUITABLE MATERIAL: steel. aluminium. iron. synthetic material. glass. MATERIAL TO AVOID: No data available.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Glycerol (56-81-5)		
Belgium	Local name	Glycérine (brouillard) # Glycerine (nevel)
Belgium	Limit value (mg/m ³)	10 mg/m ³
Croatia	Local name	Glicerol
Croatia	GVI (granična vrijednost izloženosti) (mg/m ³)	10 mg/m ³
Czech Republic	Local name	Glycerol, mlha
Czech Republic	Expoziční limity (PEL) (mg/m ³)	10 mg/m ³
Czech Republic	Expoziční limity (PEL) (ppm)	2.4 ppm
Czech Republic	Expoziční limity (NPK-P) (mg/m ³)	15 mg/m ³
Czech Republic	Expoziční limity (NPK-P) (ppm)	3.7 ppm
Estonia	Local name	Glütseriin (glütserool, 1,2,3-propaantriool)
Estonia	OEL TWA (mg/m ³)	10 mg/m ³
Finland	Local name	Glyseroli
Finland	HTP-arvo (8h) (mg/m ³)	20 mg/m ³
France	Local name	Glycérine
France	VME (mg/m ³)	10 mg/m ³ (aérosols)
France	Note (FR)	Valeurs recommandées/admises

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Glycerol (56-81-5)		
Greece	OEL TWA (mg/m ³)	10 mg/m ³
Ireland	Local name	Glycerol, mist
Ireland	OEL (8 hours ref) (mg/m ³)	10 mg/m ³
Poland	Local name	Glicerol aerozole
Poland	NDS (mg/m ³)	10 mg/m ³
Portugal	Local name	Glicerina, névoas
Portugal	OEL TWA (mg/m ³)	10 mg/m ³
Spain	Local name	Glicerina
Spain	VLA-ED (mg/m ³)	10 mg/m ³ nieblas
United Kingdom	Local name	Glycerol
United Kingdom	WEL TWA (mg/m ³)	10 mg/m ³ mist
Switzerland	Local name	Glycerin
Switzerland	VME (mg/m ³)	50 mg/m ³
Switzerland	VLE (mg/m ³)	100 mg/m ³
Switzerland	Remark (CH)	e(mg/m ³) - SS _c - OAW ^{KT AN}
Australia	Local name	Glycerin mist
Australia	TWA (mg/m ³)	10 mg/m ³
Australia	Remark (AU)	(a) This value is for inhalable dust containing no asbestos and < 1% crystalline silica.
USA - ACGIH	Local name	Glycerin mist
USA - ACGIH	Remark (ACGIH)	URT irr

8.2. Exposure controls

Materials for protective clothing:

GIVE EXCELLENT RESISTANCE: No data available. GIVE GOOD RESISTANCE: natural rubber. neoprene. PVC. viton. GIVE LESS RESISTANCE: styrene-butadiene rubber. GIVE POOR RESISTANCE: polyurethane

Hand protection:

Gloves

Eye protection:

Safety glasses

Skin and body protection:

Protective clothing

Respiratory protection:

Mist formation: aerosol mask with filter type P1. On heating: gas mask with filter type A

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Liquid.
Molecular mass	: 92.1 g/mol
Colour	: Colourless.
Odour	: Odourless.
Odour threshold	: No data available
pH	: 5 (100 g/l, H ₂ O, 20 °C)
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: 8 - 20 °C
Freezing point	: No data available
Boiling point	: 290 °C (1013 hPa) (decomposition)
Flash point	: 199 °C
Critical temperature	: 452 °C

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Auto-ignition temperature	: > 150 °C
Decomposition temperature	: 290 °C
Flammability (solid, gas)	: No data available
Vapour pressure	: < 0,001 hPa (20°C)
Relative vapour density at 20 °C	: 3.17
Relative density	: 1.23 (20 °C)
Relative density of saturated gas/air mixture	: 1
Density	: 1.26 g/cm ³ (20 °C)
Solubility	: Soluble in water. Soluble in ethanol. Soluble in acetone. Soluble in ethylacetate. Insoluble in oils/fats. Water: 100 g/100ml (25 °C, Complete) Ethanol: miscible Ether: 0.2 g/100ml (poorly soluble)
Log Pow	: -1.75 (Experimental value; Equivalent or similar to OECD 107)
Viscosity, kinematic	: No data available
Viscosity, dynamic	: 1412 mPa·s (20 °C; 612 mPa·s; 30 °C; 14,8 mPa·s; 100 °C)
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: 2.6 - 11.3 %(V)

9.2. Other information

Specific conductivity	: 6.4 µS/m
VOC content	: 0 %
Other properties	: Gas/vapour heavier than air at 20°C. Clear. Hygroscopic. Slightly volatile.

SECTION 10: Stability and reactivity

10.1. Reactivity

May polymerize on exposure to temperature rise. Decomposes on exposure to temperature rise: release of toxic/corrosive/combustible gases/vapours (acrolein). Upon combustion: CO and CO₂ are formed. Reacts violently with (strong) oxidizers: (increased) risk of fire/explosion. Reacts with (some) acids: (increased) risk of fire/explosion.

10.2. Chemical stability

Hygroscopic.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

No additional information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Glycerol (56-81-5)	
LD50 oral rat	12600 mg/kg
LD50 dermal rabbit	> 18700 mg/kg

Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified

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STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008.

Ecology - air : Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009). Not included in the list of fluorinated greenhouse gases (Regulation (EC) No 842/2006). TA-Luft Klasse 5.2.5.

Ecology - water : Mild water pollutant (surface water). Not harmful to fishes (LC50(96h) >1000 mg/l). Not harmful to algae. Not harmful to bacteria. Not harmful to aquatic organisms (EC50 >1000 mg/l).

Glycerol (56-81-5)	
LC50 fish 1	54000 mg/l (LC50; 96 h; Salmo gairdneri; Static system; Fresh water)
LC50 fish 2	≥ 51 mg/l 96 h - Oncorhynchus mykiss
EC50 Daphnia 1	> 10000 mg/l (EC50; 24 h; Daphnia magna; Static system; Fresh water)
EC50 Daphnia 2	> 500 24 h - Daphnia magna
Threshold limit algae 1	> 10000 mg/l (EC0; 8 days; Scenedesmus quadricauda; Static system; Fresh water)

12.2. Persistence and degradability

Glycerol (56-81-5)	
Persistence and degradability	Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.87 g O ₂ /g substance
Chemical oxygen demand (COD)	1.16 g O ₂ /g substance
ThOD	1.217 g O ₂ /g substance
BOD (% of ThOD)	0.71

12.3. Bioaccumulative potential

Glycerol (56-81-5)	
Log Pow	-1.75 (Experimental value; Equivalent or similar to OECD 107)
Bioaccumulative potential	Bioaccumulation: not applicable.

12.4. Mobility in soil

Glycerol (56-81-5)	
Surface tension	0.0634 N/m (20 °C; 1000 g/l)

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations : Remove waste in accordance with local and/or national regulations. Remove to an authorized waste treatment plant. Recycle by distillation. Remove to an authorized incinerator equipped with an afterburner and a flue gas scrubber with energy recovery. Do not discharge into surface water.

Additional information : LWCA (the Netherlands): KGA category 03. Can be considered as non hazardous waste according to Directive 2008/98/EC.

European List of Waste (LoW) code : 16 03 06 - organic wastes other than those mentioned in 16 03 05

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

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ADR	IMDG	IATA	ADN	RID
14.2. UN proper shipping name				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.3. Transport hazard class(es)				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.4. Packing group				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
No supplementary information available				

14.6. Special precautions for user

- Overland transport

Not applicable

- Transport by sea

Not applicable

- Air transport

Not applicable

- Inland waterway transport

Not applicable

- Rail transport

Not applicable

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

No REACH Annex XVII restrictions

Glycerol is not on the REACH Candidate List

Glycerol is not on the REACH Annex XIV List

VOC content : 0 %

15.1.2. National regulations

Germany

VwVwS Annex reference : Water hazard class (WGK) 1, low hazard to waters (Classification according to VwVwS, Annex 1 or 2; ID No. 116)

WGK remark : Classification water polluting in compliance with Verwaltungsvorschrift wassergefährdender Stoffe (VwVwS) of 27 July 2005 (Anhang 2)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

SZW-lijst van mutagene stoffen : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : The substance is not listed

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NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Abbreviations and acronyms:

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
EC50	Median effective concentration
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
PBT	Persistent Bioaccumulative Toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
vPvB	Very Persistent and Very Bioaccumulative

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

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This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product