

# **SAFETY DATA SHEET**

Version 6.9 Revision Date 01/15/2020 Print Date 02/21/2020

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

#### **1.1 Product identifiers**

Product name : Glycerol

Product Number	:	G9012
Brand	:	Sigma-Aldrich
CAS-No.	:	56-81-5

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

Identified uses : Laboratory chemicals, Synthesis of substances

#### 1.3 Details of the supplier of the safety data sheet

Company	: Sigma-Aldrich Inc. 3050 Spruce Street ST. LOUIS MO 63103 UNITED STATES
Telephone	: +1 314 771-5765

Fax :	H	+1 800 325-5052

#### **1.4 Emergency telephone number**

Emergency Phone # : +1-703-527-3887

#### **SECTION 2: Hazards identification**

## 2.1 Classification of the substance or mixture

Not a hazardous substance or mixture.

#### 2.2 GHS Label elements, including precautionary statements

Not a hazardous substance or mixture.

#### 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

#### SECTION 3: Composition/information on ingredients

3.1	Substances		
	Synonyms	:	1,2,3-Propanetriol Glycerin

Formula	:	C3H8O3
Molecular weight	:	92.09 g/mol

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Glycerol			<= 100 %
Component		Classification	Concentration
CAS-No. EC-No.	: 56-81-5 : 200-289-5		

#### **SECTION 4: First aid measures**

#### 4.1 Description of first aid measures

#### General advice

Move out of dangerous area.

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration.

#### In case of skin contact

Wash off with soap and plenty of water.

#### In case of eye contact

Flush eyes with water as a precaution.

#### If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water.

- **4.2 Most important symptoms and effects, both acute and delayed** The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11
- **4.3 Indication of any immediate medical attention and special treatment needed** No data available

#### **SECTION 5: Firefighting measures**

#### 5.1 Extinguishing media

#### Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

#### Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

- **5.2** Special hazards arising from the substance or mixture Carbon oxides Combustible.
- **5.3 Advice for firefighters** Wear self-contained breathing apparatus for firefighting if necessary.
- **5.4 Further information** No data available

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## **SECTION 6:** Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures** Avoid breathing vapours, mist or gas. For personal protection see section 8.
- **6.2 Environmental precautions** No special environmental precautions required.
- **6.3 Methods and materials for containment and cleaning up** Keep in suitable, closed containers for disposal.
- **6.4** Reference to other sections For disposal see section 13.

## **SECTION 7: Handling and storage**

- **7.1 Precautions for safe handling** For precautions see section 2.2.
- **7.2** Conditions for safe storage, including any incompatibilities Keep container tightly closed in a dry and well-ventilated place. hygroscopic

Storage class (TRGS 510): 10: Combustible liquids

## 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

## SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

#### **Components with workplace control parameters**

components with workplace control parameters				
Component	CAS-No.	Value	Control parameters	Basis
Glycerol	56-81-5	TWA	5 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		TWA	15 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		PEL	10 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
		PEL	5 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
	Remarks	The concentration and percentage of the particulate used for this limit are determined from the fraction passing a size		

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selector with the following characteristics: Aerodynamic Diameter in Micrometers (unit density sphere) Percent Passing Selector 0 $100 \ 1$ $97 \ 2$ $91 \ 3$ $74 \ 4$ $50 \ 5$ $30 \ 6$ $17 \ 7$ $98$ $100 \ 1$ $1 \ 1$
See Appendix D - Substances with No Established RELs

#### 8.2 Exposure controls

#### Appropriate engineering controls

General industrial hygiene practice.

#### Personal protective equipment

#### Eye/face protection

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.

Full contact Material: Nitrile rubber Minimum layer thickness: 0.11 mm Break through time: 480 min Material tested:Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Splash contact Material: Nitrile rubber Minimum layer thickness: 0.11 mm Break through time: 480 min Material tested:Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

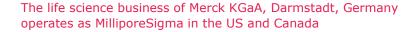
If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

#### **Body Protection**

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

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## **Respiratory protection**

Respiratory protection not required. For nuisance exposures use type OV/AG (US) or type ABEK (EU EN 14387) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

## **Control of environmental exposure**

No special environmental precautions required.

## SECTION 9: Physical and chemical properties

## 9.1 Information on basic physical and chemical properties

a)	Appearance	Form: viscous Colour: colourless
b)	Odour	odourless
c)	Odour Threshold	No data available
d)	рН	5.5 - 8
e)	Melting point/freezing point	Melting point/range: 20 °C (68 °F)
f)	Initial boiling point and boiling range	182 °C 360 °F at 27 hPa
g)	Flash point	199 °C (390 °F) at ca.1013.0 hPa - Pensky-Martens closed cup
h)	Evaporation rate	No data available
i)	Flammability (solid, gas)	No data available
j)	Upper/lower flammability or explosive limits	Upper explosion limit: 19 %(V) at 1013 hPa Lower explosion limit: 2.7 %(V) at 1013 hPa
k)	Vapour pressure	0.004 hPa at 50 °C (122 °F) 0.260 hPa at 100 °C(212 °F) 5.7 hPa at 150 °C(302 °F)
I)	Vapour density	3.18 - (Air = 1.0)
m)	Relative density	1.25 g/mL
n)	Water solubility	miscible
o)	Partition coefficient: n-octanol/water	log Pow: -1.75 at 25 °C (77 °F)
p)	Auto-ignition temperature	370 °C (698 °F)
q)	Decomposition temperature	No data available
r)	Viscosity	No data available
s)	Explosive properties	No data available
t)	Oxidizing properties	No data available
Otł	ner safety informatio	n
	Surface tension	ca.63.4 mN/m at 20 °C (68 °F)

Surface tension ca.63.4 mN/m at 20 °C (68 °F)

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#### **SECTION 10: Stability and reactivity**

10.1 Reactivity

No data available

- **10.2 Chemical stability** Stable under recommended storage conditions.
- **10.3 Possibility of hazardous reactions** No data available
- **10.4 Conditions to avoid** No data available
- **10.5 Incompatible materials** Strong oxidizing agents

#### **10.6 Hazardous decomposition products**

Hazardous decomposition products formed under fire conditions. - Carbon oxides Other decomposition products - No data available In the event of fire: see section 5

#### **SECTION 11: Toxicological information**

#### 11.1 Information on toxicological effects

#### **Acute toxicity**

LD50 Oral - Rat - 27,200 mg/kg Remarks: (ECHA) Inhalation: No data available LD50 Dermal - Rabbit - > 10,000 mg/kg No data available

#### Skin corrosion/irritation

# Serious eye damage/eye irritation (ECHA)

**Respiratory or skin sensitisation** No data available

#### Germ cell mutagenicity

No data available No data available

#### Carcinogenicity

- IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
- OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

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## **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

## Additional Information

RTECS: MA8050000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Kidney - Irregularities - Based on Human Evidence Kidney - Irregularities - Based on Human Evidence

## **SECTION 12: Ecological information**

#### 12.1 Toxicity

Toxicity to fish	static test LC50 - Oncorhynchus mykiss (rainbow trout) - 54,000 mg/l - 96 h Remarks: (ECHA)
Toxicity to daphnia and other aquatic invertebrates	Remarks: No data available(Glycerol)
Toxicity to algae	Remarks: No data available(Glycerol)
<b>–</b> • • • • •	

## 12.2 Persistence and degradability

Biodegradability aerobic - Exposure time 2 d Result: 90 % - Readily biodegradable. Remarks: (ECHA)

#### **12.3 Bioaccumulative potential** No data available

#### **12.4 Mobility in soil** No data available

## 12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects

No data available

## SECTION 13: Disposal considerations

## **13.1 Waste treatment methods**

#### Product

Offer surplus and non-recyclable solutions to a licensed disposal company.

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## Contaminated packaging

Dispose of as unused product.

#### **SECTION 14: Transport information**

#### DOT (US)

Not dangerous goods

## IMDG

Not dangerous goods

#### ΙΑΤΑ

Not dangerous goods

#### **SECTION 15: Regulatory information**

#### SARA 302 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

## SARA 313 Components

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

## SARA 311/312 Hazards

Chronic Health Hazard

#### **Massachusetts Right To Know Components**

No components are subject to the Massachusetts Right to Know Act.

## Pennsylvania Right To Know Components

Glycerol	CAS-No.	Revision Date
	56-81-5	2007-03-01

## **SECTION 16: Other information**

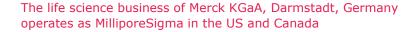
#### **Further information**

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