

Safety Data Sheet

According to EC Directive 91/155/EEC

Date of issue: 16.02.2004
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1. Identification of the substance/preparation and of the company/undertaking

Identification of the product

Catalogue No.: 104092
Product name: Glycerol GR for analysis ACS, Reag. Ph Eur

Use of the substance/preparation

Reagent for analysis
Chemical production
Pharmaceutical production and analysis

Company/undertaking identification

Company: Merck KGaA * 64271 Darmstadt * Germany * Phone: +49 6151 72-0
Emergency telephone No.: Please contact the regional Merck representation
in your country.

2. Composition/information on ingredients

Synonyms

1,2,3-Propanetriol

CAS-No.: 56-81-5
M: 92.09 g/mol
Formula Hill: $C_3H_8O_3$
EC-No.: 200-289-5

3. Hazards identification

No hazardous product as specified in Directive 67/548/EEC.

4. First aid measures

After inhalation: fresh air. Consult doctor if feeling unwell.
After skin contact: wash off with water. Remove contaminated clothing.
After eye contact: rinse out with plenty of water.
After swallowing: make victim drink plenty of water. Consult doctor if feeling unwell.

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5. Fire-fighting measures

Suitable extinguishing media:
CO₂, foam, powder.

Special risks:
Combustible. Vapours heavier than air. Forms explosive mixtures with air on intense heating. The following may develop in event of fire: Acrolein.

Special protective equipment for fire fighting:
Do not stay in dangerous zone without self-contained breathing apparatus.

Other information:
Cool container with spray water from a safe distance. Contain escaping vapours with water.
Prevent fire-fighting water from entering surface water or groundwater.

6. Accidental release measures

Person-related precautionary measures:
Do not inhale vapours/aerosols.

Environmental-protection measures:
Do not allow to enter sewerage system.

Procedures for cleaning / absorption:
Take up with liquid-absorbent material (e.g. Chemizorb®). Forward for disposal. Clean up affected area.

7. Handling and storage

Handling:

No further requirements.

Storage:

Tightly closed. At +5°C to +30°C.

8. Exposure controls/personal protection

Personal protective equipment:

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier.

Respiratory protection: required when vapours/aerosols are generated.

Eye protection: required

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Hand protection:

In full contact:
Glove material: nitrile rubber
Layer thickness: 0.11 mm
Breakthrough time: > 480 Min.

In splash contact:
Glove material: nitrile rubber
Layer thickness: 0.11 mm
Breakthrough time: > 480 Min.

The protective gloves to be used must comply with the specifications of EC directive 89/686/EEC and the resultant standard EN374, for example KCL 740 Dermatril® (full contact), 740 Dermatril® (splash contact). The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

This recommendation applies only to the product stated in the safety data sheet and supplied by us as well as to the purpose specified by us. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Industrial hygiene:
Change contaminated clothing. Wash hands after working with substance.

9. Physical and chemical properties

Form:	liquid
Colour:	colourless
Odour:	almost odourless
pH value at 100 g/l H ₂ O	(20 °C) ~ 5
Viscosity dynamic	(20 °C) 1412 mPa*s
Melting point	18 °C
Boiling point	(1013 hPa) 290 °C (decomposition)
Ignition temperature	400 °C
Flash point	~ 180 °C o.c. 199 °C c.c. c.c.
Explosion limits	lower 0.9 Vol% upper not available
Vapour pressure	(20 °C) < 0.001 hPa
Relative vapour density	3.18
Density	(20 °C) 1.26 g/cm ³
Solubility in water	(20 °C) soluble
Thermal decomposition	> 290 °C
log Pow:	-2.66 (calculated)

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10. Stability and reactivity

Conditions to be avoided

Strong heating.

Substances to be avoided

strong oxidizing agents, nitric acid / conc. sulfuric acid, phosphorus oxides, peroxy compounds, hydrogen peroxide, halogens.

Hazardous decomposition products

in the event of fire: See chapter 5.

Further information

hygroscopic;
Explosible with air in a vaporous/gaseous state when heated.

11. Toxicological information

Acute toxicity

LD₅₀ (dermal, rabbit): >18700 mg/kg.
LD₅₀ (oral, rat): 12600 mg/kg.

Specific symptoms in animal studies:
Eye irritation test (rabbit): Slight irritations.
Skin irritation test (rabbit): Slight irritations.

Subacute to chronic toxicity

Sensitization:
Sensitization test (guinea pig): negative.

Further toxicological information

After inhalation: Slight irritations of: respiratory tract, lungs.
Slight irritations of: skin, mucous membranes.
After swallowing of large amounts: vomiting, gastric pain, headache, drowsiness, diarrhoea, cyanosis.

Further data

Naturally occurring substance.
The product should be handled with the care usual when dealing with chemicals.

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12. Ecological information

Biologic degradation:

Biodegradation: >60 % /28 d (closed bottle test).

Readily biodegradable (reduction: DOC >70 %; BOD >60 %; BOD₅ to COD >50 %).

Behavior in environmental compartments:

Distribution: log p(o/w): -2.66 (calculated).

No bioaccumulation is to be expected (log P(o/w) <1).

Ecotoxic effects:

Biological effects:

Fish toxicity: *L.idus* LC₅₀: >10000 mg/l. *C.auratus* LC₅₀: >5000 mg/l /24 h.

Daphnia toxicity: *Daphnia magna* EC₅₀: >10000 mg/l /24 h.

Maximum permissible toxic concentration:

Algeal toxicity: *Sc.quadricauda* IC₅: >10000 mg/l /7 d.

Bacterial toxicity: *Ps.putida* EC₅: >10000 mg/l /16 h.

Protozoa: *E.sulcatum* EC₅: 3200 mg/l /72 h.

Further ecologic data:

BOD 71 % from TOD /5 d.

COD 95 % from TOD.

TOD: 1.217 g/g.

No ecological problems are to be expected when the product is handled and used with due care and attention.

13. Disposal considerations

Product:

Chemicals must be disposed of in compliance with the respective national regulations. Under www.retrologistik.de you will find country- and substance-specific information as well as contact partners.

Packaging:

Merck product packaging must be disposed of in compliance with the country-specific regulations or must be passed to a packaging return system. Under www.retrologistik.de you will find special information on the respective national conditions as well as contact partners.

14. Transport information

Not subject to transport regulations.

15. Regulatory information

Labelling according to EC Directives

Symbol: ---

R-phrases: ---

S-phrases: ---

16. Other information

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Reason for alteration

Chapter 5: fire-fighting measures.

General update.

Regional representation:

This information is given on the authorised Safety Data Sheet for your country.

The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to the appropriate safety precautions. It does not represent a guarantee of the properties of the product.