

Trade name: Monoethyleneglycol (MEG)**Current version :** 2.1.0, issued: 20.12.2022**Replaced version:** 2.0.2, issued: 27.10.2022**Region:** GB**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier****Trade name****Monoethyleneglycol (MEG)**

Substance name ethanediol
REACH registration no. 01-2119456816-28-0063

Identification numbers

CAS no. 107-21-1
EC no. 203-473-3
Index no. 603-027-00-1

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

The substance is used as:
- antifreeze agent and cooling agent in engine-cooling systems
The substance is used for the production of:
- polyesters (e.g. PET)

Uses advised against

pharmaceuticals

1.3 Details of the supplier of the safety data sheet**Address**

LIQUICHEM Handelsgesellschaft mbH
Kajen 6 – 8
D-20459 Hamburg
Telephone no. 040 89 97 89 0
Fax no. 040 89 97 89 9
e-mail hamburg@liquichem.de

Advice on Safety Data Sheet

sdb_info@umco.de

1.4 Emergency telephone number

For medical advice (in German and English):
+49 (0)551 192 40 (Giftinformationszentrum Nord)

SECTION 2: Hazards identification**2.1 Classification of the substance or mixture****Classification in accordance with Regulation (EC) No 1272/2008 (CLP)**

Acute Tox. 4; H302
STOT RE 2; H373o

Classification information

This product is assessed and classified using the methods and criteria below referred to in Article 9 of Regulation (EC) n° 1272/2008:

Physical hazards: determined through assessment data based on the methods or standards referred to in part 2 of Annex I to CLP

Health hazards and environmental hazards: determined through toxicological and ecotoxicological assessment data based on the methods or standards referred to in Part 3 and 4 of Annex I to CLP.

2.2 Label elements**Labelling according to Regulation (EC) No 1272/2008 (CLP Regulation)****Product identifier**

107-21-1 (ethanediol)

Hazard pictograms

Trade name: Monoethyleneglycol (MEG)

Current version : 2.1.0, issued: 20.12.2022

Replaced version: 2.0.2, issued: 27.10.2022

Region: GB



GHS07



GHS08

Signal word

Warning

Hazard statement(s)

H302

Harmful if swallowed.

H373

May cause damage to kidneys through prolonged or repeated exposure by ingestion.

Precautionary statement(s)

P301+P312

IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

P330

Rinse mouth.

P501

Dispose of contents/container to hazardous or special waste collection point.

2.3 Other hazards

This product does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

PBT assessment

The product is not considered to be a PBT.

vPvB assessment

The product is not considered to be a vPvB.

SECTION 3: Composition/information on ingredients**3.1 Substances****Chemical characterization**

Substance name ethanediol

Identification numbers

CAS no. 107-21-1

EC no. 203-473-3

Index no. 603-027-00-1

Acute toxicity estimate (ATE) values

oral	dermal	inhalative
500 mg/kg bodyweight		

3.2 Mixtures

Not applicable. The product is not a mixture.

SECTION 4: First aid measures**4.1 Description of first aid measures****General information**

Poisonous symptoms can first be observed after several hours, therefore medical observation for at least 48 hours is necessary. Remove contaminated clothing and shoes immediately, and launder thoroughly before reusing. In case of persisting adverse effects, consult a physician.

After inhalation

Remove affected person from the immediate area. Ensure supply of fresh air.

After skin contact

Wash off immediately with soap and water.

After eye contact

Remove contact lenses. Rinse eye thoroughly under running water keeping eyelids wide open and protecting the unaffected eye (at least 10 to 15 minutes). Seek medical assistance.

After ingestion

Call a doctor immediately. Never give anything by mouth to an unconscious person. Rinse the mouth thoroughly with water.

Trade name: Monoethyleneglycol (MEG)

Current version : 2.1.0, issued: 20.12.2022

Replaced version: 2.0.2, issued: 27.10.2022

Region: GB

4.2 Most important symptoms and effects, both acute and delayed

No data available.

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

Alcohol-resistant foam; Carbon dioxide; Dry chemical extinguisher; Water spray jet

Unsuitable extinguishing media

High power water jet

5.2 Special hazards arising from the substance or mixture

 In the event of fire, the following can be released: Carbon dioxide (CO₂); Carbon monoxide (CO); carbonyl compounds; Risk of formation of toxic pyrolyse products:

5.3 Advice for firefighters

Fire-fighting operations, rescue and clearing work under effect of combustion and smoulder gases just may be done with breathing apparatus. Wear protective clothing.

SECTION 6: Accidental release measures
6.1 Personal precautions, protective equipment and emergency procedures
For non-emergency personnel

Refer to protective measures listed in sections 7 and 8. Ensure adequate ventilation.

For emergency responders

No data available. Personal protective equipment (PPE) - see Section 8.

6.2 Environmental precautions

Do not discharge into the drains/surface waters/groundwater. Do not discharge into the subsoil/soil.

6.3 Methods and material for containment and cleaning up

Pick up with absorbent material. When collected, handle material as described under the section heading "Disposal considerations".

6.4 Reference to other sections

No data available.

SECTION 7: Handling and storage
7.1 Precautions for safe handling
Advice on safe handling

Provide good ventilation at the work area (local exhaust ventilation, if necessary). Avoid formation of aerosols. Avoid eye, skin and clothing contact.

General protective and hygiene measures

Avoid contact with eyes and skin. Keep away from food, drink and animal feeding stuffs. Wash hands before breaks and after work. Do not inhale aerosols. Do not eat, drink or smoke during work time.

Advice on protection against fire and explosion

Keep away from sources of heat and ignition.

7.2 Conditions for safe storage, including any incompatibilities
Technical measures and storage conditions

Keep container tightly closed and dry in a cool, well-ventilated place.

Recommended storage temperature

Value < 40 °C

Storage stability

Value 12 months

Trade name: Monoethyleneglycol (MEG)

Current version : 2.1.0, issued: 20.12.2022

Replaced version: 2.0.2, issued: 27.10.2022

Region: GB

Requirements for storage rooms and vessels

Keep in original packaging, tightly closed.

Appropriate Material HDPE; stainless steel

Incompatible products

Do not store together with: oxidizing agents

7.3 Specific end use(s)

No data available.

SECTION 8: Exposure controls/personal protection**8.1 Control parameters****Occupational exposure limit values**

No	Substance name	CAS no.	EC no.
1	ethanediol	107-21-1	203-473-3
	2000/39/EC		
	Ethylene glycol		
	WEL short-term (15 min reference period)	104	mg/m ³ 40 ppm
	WEL long-term (8-hr TWA reference period)	52	mg/m ³ 20 ppm
	Skin resorption / sensibilisation	Skin	
	List of approved workplace exposure limits (WELs) / EH40		
	Ethane-1,2-diol vapour		
	WEL short-term (15 min reference period)	104	mg/m ³ 40 ppm
	WEL long-term (8-hr TWA reference period)	52	mg/m ³ 20 ppm
	Comments	Sk	
	List of approved workplace exposure limits (WELs) / EH40		
	Ethane-1,2-diol particulate		
	WEL long-term (8-hr TWA reference period)	10	mg/m ³
	Comments	Sk	

DNEL, DMEL and PNEC values**DNEL values (worker)**

No	Substance name	CAS / EC no		
	Route of exposure	Exposure time	Effect	Value
1	ethanediol	107-21-1 203-473-3		
	dermal	Long term (chronic)	systemic	106 mg/kg/day
	inhalative	Long term (chronic)	local	35 mg/m ³

DNEL value (consumer)

No	Substance name	CAS / EC no		
	Route of exposure	Exposure time	Effect	Value
1	ethanediol	107-21-1 203-473-3		
	dermal	Long term (chronic)	systemic	53 mg/kg/day
	inhalative	Long term (chronic)	local	7 mg/m ³

8.2 Exposure controls**Appropriate engineering controls**

No data available.

Personal protective equipment**Respiratory protection**

If ventilation insufficient, use a respiratory protection apparatus. In case of aerosol and mist formation, take appropriate measures for breathing protection in the event workplace threshold values are not specified.

Respirator A

Eye / face protection

Safety glasses (EN 166)

Trade name: Monoethyleneglycol (MEG)

Current version : 2.1.0, issued: 20.12.2022

Replaced version: 2.0.2, issued: 27.10.2022

Region: GB

Hand protection

Protective gloves (EN 374); Sufficient protection is given wearing suitable protective gloves checked according to i.e. EN 374, in the event of risk of skin contact with the product. Before use, the protective gloves should be tested in any case for its specific work-station suitability (i.e. mechanical resistance, product compatibility and antistatic properties). Adhere to the manufacturer's instructions and information relating to the use, storage, care and replacement of protective gloves. Protective gloves shall be replaced immediately when physically damaged or worn. Design operations thus to avoid permanent use of protective gloves.

Other

Normal chemical work clothing.

Environmental exposure controls

No data available.

SECTION 9: Physical and chemical properties
9.1 Information on basic physical and chemical properties

State of aggregation	
liquid	
Form	
viscous liquid	
Colour	
colourless, clear	
Odour	
odourless	
pH value	
Value	6 - 7.5
Reference temperature	20 °C
Concentration	100 g/l
Boiling point / boiling range	
Value	197.4 °C
Melting point/freezing point	
Value	-13 °C
Decomposition temperature	
No data available	
Flash point	
Value	111 °C
Ignition temperature	
No data available	
Auto-ignition temperature	
Value	398 °C
Flammability	
No data available	
Lower explosion limit	
No data available	
Upper explosion limit	
No data available	
Vapour pressure	
Value	0.123 hPa
Reference temperature	25 °C
Relative vapour density	
No data available	

Trade name: Monoethyleneglycol (MEG)**Current version :** 2.1.0, issued: 20.12.2022**Replaced version:** 2.0.2, issued: 27.10.2022**Region:** GB

Relative density			
No data available			
Density			
Value	1.11	g/cm ³	
Reference temperature	20	°C	
Solubility in water			
Comments	miscible in all proportions		
Solubility			
No data available			
Partition coefficient n-octanol/water (log value)			
No	Substance name	CAS no.	EC no.
1	ethanediol	107-21-1	203-473-3
log Pow		-1.36	
Source	CSR		
Kinematic viscosity			
Value	16.1	mPa*s	
Reference temperature	25	°C	
Particle characteristics			
No data available			

9.2 Other information

Other information
No data available.

SECTION 10: Stability and reactivity**10.1 Reactivity**

No data available.

10.2 Chemical stability

Stable under recommended storage and handling conditions (See section 7).

10.3 Possibility of hazardous reactions

No data available.

10.4 Conditions to avoid

Temperatures > 40°C; Protect against humidity.

10.5 Incompatible materials

Oxidizing agents

10.6 Hazardous decomposition products

Carbon monoxide and carbon dioxide; carbonyl compounds; Toxic gases/vapours

SECTION 11: Toxicological information**11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**

Acute oral toxicity			
No	Substance name	CAS no.	EC no.
1	ethanediol	107-21-1	203-473-3
LD50		7712	mg/kg bodyweight
Species	rat		
Source	CSR		
Acute dermal toxicity			
No data available			
Acute inhalational toxicity			

Trade name: Monoethyleneglycol (MEG)

Current version : 2.1.0, issued: 20.12.2022

Replaced version: 2.0.2, issued: 27.10.2022

Region: GB

No	Substance name	CAS no.	EC no.
1	ethanediol	107-21-1	203-473-3
LC50	>	2.5	mg/l
Duration of exposure		6	h
State of aggregation	Vapour		
Species	rat		
Source	CSR		
Evaluation/classification	Based on available data, the classification criteria are not met.		

Skin corrosion/irritation			
No	Substance name	CAS no.	EC no.
1	ethanediol	107-21-1	203-473-3
Species	rabbit		
Source	CSR		
Evaluation	non-irritant		

Serious eye damage/irritation			
No	Substance name	CAS no.	EC no.
1	ethanediol	107-21-1	203-473-3
Species	rabbit		
Source	CSR		
Evaluation	non-irritant		

Respiratory or skin sensitisation			
No	Substance name	CAS no.	EC no.
1	ethanediol	107-21-1	203-473-3
Route of exposure	Skin		
Species	guinea pig		
Source	CSR		
Evaluation	non-sensitizing		

Germ cell mutagenicity			
No	Substance name	CAS no.	EC no.
1	ethanediol	107-21-1	203-473-3
Source	CSR		
Evaluation/classification	Based on available data, the classification criteria are not met.		

Reproduction toxicity			
No	Substance name	CAS no.	EC no.
1	ethanediol	107-21-1	203-473-3
Source	CSR		
Evaluation/classification	Based on available data, the classification criteria are not met.		

Carcinogenicity			
No	Substance name	CAS no.	EC no.
1	ethanediol	107-21-1	203-473-3
Source	CSR		
Evaluation/classification	Based on available data, the classification criteria are not met.		

STOT - single exposure			
No data available			

STOT - repeated exposure			
No	Substance name	CAS no.	EC no.
1	ethanediol	107-21-1	203-473-3
Route of exposure	oral		
NOAEL		150	mg/kg bw/d
Duration of exposure		12	months
Species	rat		
Target organ	kidneys		
Method	OECD 452		
Source	ECHA		
Evaluation/classification	Based on available data, the classification criteria are met.		

Trade name: Monoethyleneglycol (MEG)

Current version : 2.1.0, issued: 20.12.2022

Replaced version: 2.0.2, issued: 27.10.2022

Region: GB

Aspiration hazard
No data available

11.2 Information on other hazards

Endocrine disrupting properties
No data available.

Other information
No data available.

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish (acute)			
No	Substance name	CAS no.	EC no.
1	ethanediol	107-21-1	203-473-3
LC50		72860	mg/l
Duration of exposure		96	h
Species	Pimephales promelas		
Source	CSR		

Toxicity to fish (chronic)			
No data available			

Toxicity to Daphnia (acute)			
No	Substance name	CAS no.	EC no.
1	ethanediol	107-21-1	203-473-3
EC50	>	100	mg/l
Duration of exposure		48	h
Species	Daphnia magna		
Source	CSR		

Toxicity to Daphnia (chronic)			
No data available			

Toxicity to algae (acute)			
No	Substance name	CAS no.	EC no.
1	ethanediol	107-21-1	203-473-3
EC50	6500 - 13000		mg/l
Duration of exposure		96	h
Species	Pseudokirchneriella subcapitata		
Source	CSR		

Toxicity to algae (chronic)			
No data available			

Bacteria toxicity			
No	Substance name	CAS no.	EC no.
1	ethanediol	107-21-1	203-473-3
EC20	>	1995	mg/l
Duration of exposure		30	min
Species	activated sludge		
Source	CSR		

12.2 Persistence and degradability

Biodegradability			
No	Substance name	CAS no.	EC no.
1	ethanediol	107-21-1	203-473-3
Source	CSR		
Evaluation	readily biodegradable		

Behaviour in sewers [waste treatment plants]			
---	--	--	--

Trade name: Monoethyleneglycol (MEG)**Current version :** 2.1.0, issued: 20.12.2022**Replaced version:** 2.0.2, issued: 27.10.2022**Region:** GB

When low concentrations are discharged correctly into adapted biological sewage treatment plants, disturbance of the degradation activity of activated sludge is not likely.
--

12.3 Bioaccumulative potential

Partition coefficient n-octanol/water (log value)			
No	Substance name	CAS no.	EC no.
1	ethanediol	107-21-1	203-473-3
log Pow		-1.36	
Source		CSR	

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

Results of PBT and vPvB assessment	
PBT assessment	The product is not considered to be a PBT.
vPvB assessment	The product is not considered to be a vPvB.

12.6 Endocrine disrupting properties

No data available.

12.7 Other adverse effects

No data available.

12.8 Other information

Other information
Do not discharge product unmonitored into the environment.

SECTION 13: Disposal considerations**13.1 Waste treatment methods****Product**

Allocation of a waste code number, according to the European Waste Catalogue, should be carried out in agreement with the regional waste disposal company.

Packaging

Residues must be removed from packaging and when emptied completely disposed of in accordance with the regulations for waste removal. Incompletely emptied packaging must be disposed of in the form of disposal specified by the regional disposer.

SECTION 14: Transport information**14.1 Transport ADR/RID/ADN**

The product is not subject to ADR/RID/ADN regulations.

14.2 Transport IMDG

The product is not subject to IMDG regulations.

14.3 Transport ICAO-TI / IATA

The product is not subject to ICAO-TI / IATA regulations.

14.4 Other information

No data available.

14.5 Environmental hazards

Information on environmental hazards, if relevant, please see 14.1 - 14.3.

14.6 Special precautions for user

No data available.

14.7 Maritime transport in bulk according to IMO instruments

Not relevant

SECTION 15: Regulatory information

Trade name: Monoethyleneglycol (MEG)

Current version : 2.1.0, issued: 20.12.2022

Replaced version: 2.0.2, issued: 27.10.2022

Region: GB

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

EU regulations

Regulation (EC) No 1907/2006 (REACH) Annex XIV (List of substances subject to authorisation)

In accordance with the REACH regulation (EC) 1907/2006, the product does not contain any substances that are considered as subject to listing in annex XIV, inventory of substances requiring authorisation.

REACH candidate list of substances of very high concern (SVHC) for authorisation

In accordance with article 57 and article 59 of the Reach regulation (EC) 1907/2006, this substance is not considered as subject to listing in annex XIV, inventory of substances requiring authorisation ("Authorization list").

Regulation (EC) No 1907/2006 (REACH) Annex XVII: RESTRICTIONS ON THE MANUFACTURE, PLACING ON THE MARKET AND USE OF CERTAIN DANGEROUS SUBSTANCES, MIXTURES AND ARTICLES

The product is considered being subject to REACH regulation (EC) 1907/2006 annex XVII. No 3

Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances

This substance is not subject to Part 1 or 2 of Annex I

15.2 Chemical safety assessment

A chemical safety assessment has been carried out for this substance.

SECTION 16: Other information

Further information

The information is based on our current knowledge however it does not represent a guarantee of product properties nor does it create any legal obligation.

Authors responsible for the compilation of the material safety data sheet: UMCO GmbH - D-21107 Hamburg, Georg-Wilhelm-Strasse 187, Tel.: +49(40)555 546 300, Fax: +49(40)555 546 357, e-mail: umco@umco.de.

Sources of key data used to compile the data sheet:

Regulation (EC) No 1907/2006 (REACH), 1272/2008 (CLP) as amended in each case.

Directives 2000/39/EC, 2006/15/EC, 2009/161/EU, (EU) 2017/164.

National Threshold Limit Values of the corresponding countries as amended in each case.

Transport regulations according to ADR, RID, IMDG, IATA as amended in each case.

The data sources used to determine physical, toxic and ecotoxic data, are indicated directly in the corresponding section.

Full text of the H- and EUH- phrases drawn up in sections 2 and 3 (provided not already drawn up in these sections)

H373o May cause damage to organs through prolonged or repeated exposure if swallowed.

Alterations/supplements:

Alterations to the previous edition are marked in the left-hand margin.

Document protected by copyright. Alterations or reproductions require the express written permission of UMCO GmbH.

Prod-ID 622030