

**Trade name:** Monoethyleneglycol (MEG)**Current version :** 2.0.1, issued: 14.04.2020**Replaced version:** 2.0.0, issued: 03.05.2018**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 :** 2.0.1, issued: 14.04.2020**Replaced version:** 2.0.0, issued: 03.05.2018**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**

No data available.

**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

**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 mouth thoroughly with water.

**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**

**Trade name:** Monoethyleneglycol (MEG)

**Current version :** 2.0.1, issued: 14.04.2020

**Replaced version:** 2.0.0, issued: 03.05.2018

**Region:** GB

**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 (CO<sub>2</sub>); 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
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**Storage stability**

Value	12	months
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**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.

Trade name: Monoethyleneglycol (MEG)

Current version : 2.0.1, issued: 14.04.2020

Replaced version: 2.0.0, issued: 03.05.2018

Region: GB

**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 <sup>3</sup> 40 ppm
	WEL long-term (8-hr TWA reference period)	52	mg/m <sup>3</sup> 20 ppm
	Skin resorption / sensibilisation	Skin	
	<b>List of approved workplace exposure limits (WELs) / EH40</b>		
	Ethane-1,2-diol vapour		
	WEL short-term (15 min reference period)	104	mg/m <sup>3</sup> 40 ppm
	WEL long-term (8-hr TWA reference period)	52	mg/m <sup>3</sup> 20 ppm
	Comments	Sk	
	<b>List of approved workplace exposure limits (WELs) / EH40</b>		
	Ethane-1,2-diol particulate		
	WEL long-term (8-hr TWA reference period)	10	mg/m <sup>3</sup>
	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 <sup>3</sup>

**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 <sup>3</sup>

**PNEC values**

No	Substance name	CAS / EC no	
	ecological compartment	Type	Value
1	ethanediol		107-21-1 203-473-3
	water	fresh water	10 mg/L
	water	marine water	1 mg/L
	water	Aqua intermittent	10 mg/L
	water	fresh water sediment	37 mg/kg dry weight
	water	marine water sediment	3.7 mg/kg dry weight
	soil	-	1.53 mg/kg dry weight
	sewage treatment plant	-	199.5 mg/L

**8.2 Exposure controls**

**Appropriate engineering controls**

No data available.

**Trade name:** Monoethyleneglycol (MEG)

**Current version :** 2.0.1, issued: 14.04.2020

**Replaced version:** 2.0.0, issued: 03.05.2018

**Region:** GB

**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)

**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**

<b>Form/Colour</b>			
viscous liquid			
colourless, clear			
<b>Odour</b>			
odourless			
<b>Odour threshold</b>			
No data available			
<b>pH value</b>			
Value	6	-	7.5
Reference temperature			20 °C
Concentration			100 g/l
<b>Boiling point / boiling range</b>			
Value			197.4 °C
<b>Melting point / melting range</b>			
Value			-13 °C
<b>Decomposition point / decomposition range</b>			
No data available			
<b>Flash point</b>			
Value			111 °C
<b>Auto-ignition temperature</b>			
Value			398 °C
<b>Oxidising properties</b>			
No data available			
<b>Explosive properties</b>			
No data available			
<b>Flammability (solid, gas)</b>			
No data available			
<b>Lower flammability or explosive limits</b>			

**Trade name:** Monoethyleneglycol (MEG)

**Current version :** 2.0.1, issued: 14.04.2020

**Replaced version:** 2.0.0, issued: 03.05.2018

**Region:** GB

No data available	
<b>Upper flammability or explosive limits</b>	
No data available	
<b>Vapour pressure</b>	
Value	0.123 hPa
Reference temperature	25 °C
<b>Vapour density</b>	
No data available	
<b>Evaporation rate</b>	
No data available	
<b>Relative density</b>	
No data available	
<b>Density</b>	
Value	1.11 g/cm <sup>3</sup>
Reference temperature	20 °C
<b>Solubility in water</b>	
Comments	miscible in all proportions
<b>Solubility(ies)</b>	
No data available	
<b>Partition coefficient: n-octanol/water</b>	
<b>No</b>	<b>Substance name</b>
<b>1</b>	<b>ethanediol</b>
	<b>CAS no.</b>
	<b>107-21-1</b>
	<b>EC no.</b>
	<b>203-473-3</b>
log Pow	-1.36
Source	CSR
<b>Viscosity</b>	
Value	16.1 mPa*s
Reference temperature	25 °C

**9.2 Other information**

<b>Other information</b>
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 toxicological effects**

**Trade name:** Monoethyleneglycol (MEG)

**Current version :** 2.0.1, issued: 14.04.2020

**Replaced version:** 2.0.0, issued: 03.05.2018

**Region:** GB

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			
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			

**Trade name:** Monoethyleneglycol (MEG)

**Current version :** 2.0.1, issued: 14.04.2020

**Replaced version:** 2.0.0, issued: 03.05.2018

**Region:** GB

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.	

Aspiration hazard	
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.



**Trade name:** Monoethyleneglycol (MEG)

**Current version :** 2.0.1, issued: 14.04.2020

**Replaced version:** 2.0.0, issued: 03.05.2018

**Region:** GB

<b>1</b>	<b>ethanediol</b>	<b>107-21-1</b>	<b>203-473-3</b>
Source Evaluation		CSR readily biodegradable	

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

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			
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**

No data available.

**12.6 Other adverse effects**

No data available.

**12.7 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**

Residuals 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 Transport in bulk according to Annex II of Marpol and the IBC Code**

Not relevant

**SECTION 15: Regulatory information**

**Trade name:** Monoethyleneglycol (MEG)

**Current version :** 2.0.1, issued: 14.04.2020

**Replaced version:** 2.0.0, issued: 03.05.2018

**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, PREPARATIONS AND ARTICLES**

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

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### Sources of key data used to compile the data sheet:

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

EC Directives 2000/39/EC, 2006/15/EC, 2009/161/EU

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 chapter.

### 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.

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