MONOETHYLENE GLYCOL (MEG)

Safety Data Sheet

Date of issue: 18/12/2023 Revision date: 18/12/2023 Version: #2

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

1.1. Product identifier

Product form	: Substance
Trade name	: Monoethylene Glycol (MEG)
Chemical name	: ethanediol; ethylene glycol
IUPAC name	: Ethylene glycol
EC Index-No.	: 603-027-00-1
EC-No.	: 203-473-3
CAS-No.	: 107-21-1
REACH registration No	: 01-2119456816-28-XXXX
Type of product	: glycol
Formula	: $HO-CH_2-CH_2-OH$
Synonyms	: 1,2-ethanediol

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

1.2.1. Relevant identified uses

Industrial/Professional use spec	: Industrial For professional use only
Use of the substance/mixture	: Coolant, Anti-freeze.

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

FARSA Group Ltd

Sales@farsagroup.az

1.4. Emergency telephone number

Emergency number : **+994512707856**

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Acute toxicity (oral), Category 4	H302
Specific target organ toxicity — Repeated exposure, Category 2	H373

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

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

2.2. Label elements

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

Hazard pictograms (CLP) :

GHS07 GHS08

Signal word (CLP)	: Warning
Hazard statements (CLP)	: H302 - Harmful if swallowed. H373 - May cause damage to organs (kidneys) through prolonged or repeated exposure (oral).
Precautionary statements (CLP)	: P260 - Do not breathe vapours, spray, mist. P264 - Wash hands thoroughly after handling. P270 - Do not eat, drink or smoke when using this product. P301+P312 - IF SWALLOWED: Call a doctor if you feel unwell. P314 - Get medical advice/attention if you feel unwell. P330 - Rinse mouth. P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type : Mono-constituent

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
ethanediol; ethylene glycol	(CAS-No.) 107-21-1 (EC-No.) 203-473-3 (EC Index-No.) 603-027-00-1 (REACH-no) 01-2119456816-28-XXXX	<= 100	Acute Tox. 4 (Oral), H302 STOT RE 2, H373

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 : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible). Call a poison center or a doctor if you feel unwell.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Allow affected person to breathe fresh air. Allow the victim to rest.

First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Wash skin with plenty of water.

First-aid measures after eye contact : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists. Rinse eyes with water as a precaution.

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. Call a POISON CENTER/doctor if you feel unwell. Give 2-3 glasses of water to drink. Call a poison center or a doctor if you feel unwell.

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

Symptoms/effects : Causes damage to organs (kidneys) (if swallowed). The ethylene glycol present in this formulation may cause intoxication, central nervous system depression (incoordination, dizziness), respiratory failure,liver and kidney damage.

Symptoms/effects after inhalation : May cause drowsiness or dizziness.

Symptoms/effects after skin contact : Prolonged or repeated contact may cause dermatitis by loss of natural skin fats.

Symptoms/effects after eye contact : May cause slight irritation.

Symptoms/effects after ingestion : Swallowing a small quantity of this material will result in serious health hazard. Damage to kidneys.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Dry powder. Carbon dioxide. Water spray. Sand. Alcohol resistant foam.

Unsuitable extinguishing media : Do not use a heavy water stream. Use of heavy stream of water may spread fire.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Combustible if heated.

Hazardous decomposition products in case of fire : Carbon monoxide. Carbon dioxide. particulates and dust.

5.3. Advice for firefighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. Evacuate unnecessary personnel. Do not breathe

dust/fume/gas/mist/vapours/spray.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. Equip cleanup crew with proper protection. For further information refer to section 8: "Exposure controls/personal protection".

Emergency procedures : Ventilate area.

6.2. Environmental precautions

Avoid release to the environment. Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Small spillages: Soak up with inert absorbent material (for example sand, sawdust, a universal binder, silica gel). Collect spillage. Store away from other materials. In case of large spillages: Pump up the product into a suitably labelled spare container.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection. For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment. Provide good ventilation in process area to prevent formation of vapour. Do not breathe dust/fume/gas/mist/vapours/spray.

Hygiene measures : Do not eat, drink or smoke when using this product. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep only in the original container in a cool, well ventilated place away from: Direct sunlight. Keep container closed when not in use.

Incompatible products : Strong bases. Strong acids. Strong oxidizing agents.

Incompatible materials : Sources of ignition. Direct sunlight.

Maximum storage period : 12 months

Storage temperature : < 40 °C

Storage area : Store in a dry place.

Packaging materials : Store in High density polyethylene (HDPE), High- Purity Polymer, Stainless Steel.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Monoethylene Glycol (MEG) (107-21-1)		
EU	Local name	Ethylene glycol
EU	IOELV TWA (mg/m³)	52 mg/m³
EU	IOELV TWA (ppm)	20 ppm
EU	IOELV STEL (mg/m³)	104 mg/m³
EU	IOELV STEL (ppm)	40 ppm
EU	Notes	Skin
EU	Regulatory reference	COMMISSION DIRECTIVE 2000/39/EC
United Kingdom	Local name	Ethane-1,2-diol
United Kingdom	WEL TWA (mg/m³)	10 mg/m³ particulate 52 mg/m³ vapour
United Kingdom	WEL TWA (ppm)	20 ppm vapour

Monoethylene Glycol (MEG) (107-21-1)		
United Kingdom	WEL STEL (mg/m³)	104 mg/m³ vapour
United Kingdom	WEL STEL (ppm)	40 ppm vapour
United Kingdom	Remark (WEL)	Sk (Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity)
United Kingdom	Regulatory reference	EH40/2005 (Third edition, 2018). HSE

Monoethylene Glycol (MEG) (107-21-1)	
DNEL/DMEL (Workers)	
Long-term - systemic effects, dermal	106 mg/kg bodyweight/day
Long-term - local effects, inhalation	35 mg/m³
DNEL/DMEL (General population)	
Long-term - systemic effects, dermal	53 mg/kg bodyweight/day
Long-term - local effects, inhalation	7 mg/m³
PNEC (Water)	
PNEC aqua (freshwater)	10 mg/l
PNEC aqua (marine water)	1 mg/l
PNEC aqua (intermittent, freshwater)	10 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	37 mg/kg dwt
PNEC sediment (marine water)	3.7 mg/kg dwt
PNEC (Soil)	
PNEC soil	1.53 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	199.5 mg/l

8.2. Exposure controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

Personal protective equipment:

Avoid all unnecessary exposure. Gloves. Protective goggles. High gas/vapour concentration: gas mask with filter type A.

Hand protection:
Wear protective gloves. Standard EN 374 - Protective gloves against chemicals.
Eye protection:
Chemical goggles or safety glasses. Standard EN 166 - Personal eye-protection.
Skin and body protection:
Wear suitable protective clothing
Respiratory protection:
Wear appropriate mask

Personal protective equipment symbol(s):

Environmental exposure controls:

Avoid release to the environment.

Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Colorless, syrupy liquid.
Molecular mass	: 62.07 g/mol
Colour	: Colourless.
Odour	: odourless.
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: 197.4 °C
Flash point	: 111 °C
Auto-ignition temperature	: 398 °C
Decomposition temperature	: No data available
Flammability (solid, gas)	: Combustible liquid
Vapour pressure	: 0.123 hPa
Relative vapour density at 20 °C	: 2.14
Relative density	: No data available
Density	: 1.11 g/cm³
Solubility	: completely miscible.
Log Pow	: -1.36
Viscosity, kinematic	: 14.505 mm²/s
Viscosity, dynamic	: 16.1 mPa·s
Explosive properties	: No data available
Oxidising properties	: Non oxidizing material according to EC criteria.
Explosive limits	: 3.2 - 15.3 vol %

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No polymerization. Hazardous reactions may occur on contact with certain chemicals. (Refer to the list of incompatible materials section 10: "Stability-Reactivity").

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong acids. Strong bases. Strong oxidizing agents.

10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Harmful if swallowed.
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

Monoethylene Glycol (MEG) (107-21-1)	
LD50 oral rat	8.54 g/kg
LD50 dermal rabbit	10600 mg/kg

Skin corrosion/irritation	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Serious eye damage/irritation	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Respiratory or skin sensitisation	: Not classified

Additional information : Based on available data, the classification criteria are not met

Germ cell mutagenicity : Not classified

Additional information : Based on available data, the classification criteria are not met

Carcinogenicity : Not classified

Additional information : Based on available data, the classification criteria are not met

Reproductive toxicity : Not classified

Additional information : Based on available data, the classification criteria are not met

STOT-single exposure : Not classified

Additional information : Based on available data, the classification criteria are not met

STOT-repeated exposure : May cause damage to organs (kidneys) through prolonged or repeated exposure (oral).

Monoethylene Glycol (MEG) (107-21-1)	
NOAEL, male, oral, rat	150 mg/kg bw/day (12 months)

Aspiration hazard : Not classified

Additional information : Based on available data, the classification criteria are not met

Monoethylene Glycol (MEG) (107-21-1)	
Viscosity, kinematic	14.505 mm²/s

Potential adverse human health effects and symptoms : Harmful if swallowed.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

Acute aquatic toxicity : Not classified

Chronic aquatic toxicity : Not classified

Monoethylene Glycol (MEG) (107-21-1)	
LC50 fish 1	72860 mg/l Fathead minnow (Pimephales promelas)
EC50 Daphnia 1	> 100 mg/l
EC50 96h algae (1)	6500 - 13000 mg/l
NOEC chronic fish	15380 mg/l
NOEC chronic algae	> 100 mg/l

12.2. Persistence and degradability

Monoethylene Glycol (MEG) (107-21-1)	
Persistence and degradability	Readily biodegradable.
Biochemical oxygen demand (BOD)	1.24 g O_2/g substance
Chemical oxygen demand (COD)	1.22 g O_2/g substance

12.3. Bioaccumulative potential

Monoethylene Glycol (MEG) (107-21-1)	
Log Pow	-1.36
Bioaccumulative potential	Low.

12.4. Mobility in soil

Monoethylene Glycol (MEG) (107-21-1)	
Mobility in soil	The substance will not evaporate into the atmosphere from the water surface., Adsorption to solid soil phase is not expected.

12.5. Results of PBT and vPvB assessment

Monoethylene Glycol (MEG) (107-21-1)
This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Other adverse effects

Additional information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

Ecology - waste materials : Avoid release to the environment.

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
14.2. UN proper shipping name				
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
14.4. Packing group				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards				
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No
No supplementary information available				

14.6. Special precautions for user

Overland transport

No data available

Transport by sea

No data available

Air transport

No data available

Inland waterway transport

No data available

Rail transport

No data available

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
Monoethylene Glycol (MEG) is not on the REACH Candidate List
Monoethylene Glycol (MEG) is not on the REACH Annex XIV List
ethanediol; ethylene glycol is not subject to REGULATION (EU) No 649/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 concerning the export and import of hazardous chemicals.
ethanediol; ethylene glycol is not subject to Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acronyms:	
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
EC50	Median effective concentration
LC50	Median lethal concentration
LD50	Median lethal dose
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
PBT	Persistent Bioaccumulative Toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
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.

Other information : None.

Full text of H- and EUH-statements:	
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
STOT RE 2	Specific target organ toxicity — Repeated exposure, Category 2
H302	Harmful if swallowed.
H373	May cause damage to organs through prolonged or repeated exposure.

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.