Ethylene Glycol

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Issue date: 11/9/2021 Revision date: 11/9/2021 Supersedes: 9/18/2021 Version: 1.1

SECTION 1: Identification

1.1. Identification

Product form	:	Substance
Trade name	:	Ethylene Glycol
Chemical name	:	Ethylene glycol
CAS-No.	:	107-21-1
Formula	:	C2H6O2
Synonyms	:	1,2-Dihydroxyethane / Ethane-1,2-diol / 1,2-Ethanediol / Ethanediol / GLYCOL / Glycol / Monoethylene glycol

1.2. Recommended use and restrictions on use

Use of the substance/mixture	:	Solvent Fuel: additive Oil: additive Chemical raw material Anti-freezing agent

1.3. Supplier

Monument Chemical
2450 S. Gulfway Dr.
Port Arthur, TX, 77641
USA
T (409) 985-4200 - F (409) 985-6350
sds@monumentchemical.com - www.monumentchemical.com

1.4. Emergency telephone number

Emergency number	:	24 HR CHEMTREC: 1-800-424-9300 (International +1 703-741-5970); 24 HR Emergency Assistance: 1-(409) 985-4200

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Acute toxicity (oral) Category 4	H302	Harmful if swallowed
Specific target organ toxicity (repeated exposure) Category 2	H373	May cause damage to organs (kidneys) through prolonged or repeated exposure

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :

Signal word (GHS US)	:	Warning
Hazard statements (GHS US)	:	H302 - Harmful if swallowed H373 - May cause damage to organs (kidneys) through prolonged or repeated exposure
Precautionary statements (GHS US)	:	P260 - Do not breathe dust/fume/gas/mist/vapors/spray. P264 - Wash hands, forearms and face thoroughly after handling.

P270 - Do not eat, drink or smoke when using this product.
P301+P312 - If swallowed: Call a poison center or 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 which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Substance type : Mono-constituent
Chemical name : Ethylene glycol
CAS-No. : 107-21-1

Name	Product identifier	%
Ethylene glycol	CAS-No.: 107-21-1	≥ 95
2,2' -oxybisethanol, diethylene glycol	CAS-No.: 111-46-6	≤ 5

Full text of hazard classes and 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).
First-aid measures after inhalation : 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.
First-aid measures after eye contact : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists.
First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. Call a POISON CENTER or doctor/physician if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

Potential Adverse human health effects and symptoms : Based on available data, the classification criteria are not met. Harmful if swallowed.
Symptoms/effects after inhalation : EXPOSURE TO HIGH CONCENTRATIONS: Dry/sore throat.
Symptoms/effects after skin contact : No effects known.
Symptoms/effects after eye contact : ON CONTINUOUS EXPOSURE/CONTACT: Redness of the eye tissue. Lacrimation.
Symptoms/effects after ingestion : Swallowing a small quantity of this material will result in serious health hazard.
Chronic symptoms : Affection of the renal tissue.

4.3. Immediate medical attention and special treatment, if necessary

Immediately after ingestion, give a glass of strong drink, beer or wine to drink. Hospitalize at once for treatment with the right antidotes.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	:	Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing media	:	Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

Fire hazard	:	DIRECT FIRE HAZARD: Combustible. INDIRECT FIRE HAZARD: Temperature above flashpoint: higher fire/explosion hazard.
Explosion hazard	:	INDIRECT EXPLOSION HAZARD: Reactions with explosion hazards: see "Reactivity Hazard".
Hazardous decomposition products in case of fire	:	Upon combustion: CO and CO2 are formed.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions	:	Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
Protection during firefighting	:	Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment	:	Gloves (EN 374). Protective clothing (EN 14605 or EN 13034).
Emergency procedures	:	Evacuate unnecessary personnel.

6.1.2. For emergency responders

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

For containment	:	Contain released product, collect/pump into suitable containers. Plug the leak, cut off the supply.
Methods for cleaning up	:	Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.
Other information	:	Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

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

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	:	Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Avoid breathing dust/fume/gas/mist/vapors/spray.

Hygiene measures : Do not eat, drink or smoke when using this product. Wash hands, forearms and face thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store locked up. Store in a well-ventilated place. Keep cool. Keep only in the original container in a cool, well ventilated place away from : Heat sources, Ignition sources, Incompatible materials. Keep container closed when not in use.

Incompatible products : Strong bases. Strong acids.

Incompatible materials : Sources of ignition. Direct sunlight.

Maximum storage period : 12 months

Storage temperature : < 40 °C

Heat-ignition : KEEP SUBSTANCE AWAY FROM: heat sources.

Information on mixed storage : KEEP SUBSTANCE AWAY FROM: combustible materials. oxidizing agents. (strong) acids. (strong) bases. water/moisture.

Storage area : Meet the legal requirements. Under a shelter/in the open. Underground. Store in a dry area. Keep container in a well-ventilated place. May be stored under nitrogen.

Special rules on packaging : SPECIAL REQUIREMENTS: closing. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.

Packaging materials : SUITABLE MATERIAL: stainless steel. carbon steel. steel with plastic inner lining. glass.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Ethylene glycol (107-21-1)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Ethylene glycol
ACGIH OEL TWA [ppm]	25 ppm
ACGIH OEL STEL	100 mg/m³
ACGIH OEL STEL [ppm]	50 ppm
Remark (ACGIH)	Kidney dam; URT & eye irr
ACGIH chemical category	Not Classifiable as a Human Carcinogen
Regulatory reference	ACGIH 2021

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Regulatory reference	ACGIH 2021

2,2' -oxybisethanol, diethylene glycol (111-46-6)	
USA - AIHA - Occupational Exposure Limits	
WEEL TWA	10 mg/m³

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.
Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:
Avoid all unnecessary exposure.

Materials for protective clothing:
GIVE EXCELLENT RESISTANCE: nitrile rubber. chloroprene rubber. butyl rubber. natural rubber. neoprene. polyethylene. PVC. tetrafluoroethylene. viton. polyethylene/ethylenevinylalcohol. GIVE GOOD RESISTANCE: chlorinated polyethylene. polyurethane. PVA

Hand protection:
Wear protective gloves.

Eye protection:
Chemical goggles or safety glasses

Skin and body protection:
Protective clothing (EN 14605 or EN 13034)

Respiratory protection:
Wear appropriate mask

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	:	Clear, colorless, syrupy liquid.
Color	:	clear Colorless
Odor	:	Almost odourless
Odor threshold	:	No data available
pH	:	7 – 11.5
Melting point	:	-12 – -11 °C
Freezing point	:	No data available
Boiling point	:	197.3 °C (at 1013 hPa)
Critical temperature	:	372 °C
Flash point	:	111 °C ; 232F
Relative evaporation rate (butyl acetate=1)	:	No data available
Flammability (solid, gas)	:	Not applicable. Non flammable.
Vapor pressure	:	0.1 hPa (at 20 °C)
Vapor pressure at 50 °C	:	0.84 hPa (Antoine equation)
Relative vapor density at 20 °C	:	2.1
Particle size	:	Not applicable (liquid)
Relative density	:	1.11 (20 °C)
Density	:	1.113 g/cm³ (at 20 °C)
Molecular mass	:	62.07 g/mol

Solubility	:	Soluble in water. Soluble in ethanol. Soluble in acetone. Soluble in acetic acid. Soluble in glycerol. Soluble in pyridine. Water: 100 g/100ml (20 °C) Ethanol: complete Acetone: complete
Partition coefficient n-octanol/water (Log Pow)	:	-1.93
Auto-ignition temperature	:	398 °C ; 748F
Decomposition temperature	:	> 500 °C
Viscosity, kinematic	:	No data available in the literature
Viscosity, dynamic	:	16.1 mPa·s (25 °C)
Explosion limits	:	3.2 – 15.3 vol % Lower explosive limit (LEL): 3.2 vol % Upper explosive limit (UEL): 51 vol %
Explosive properties	:	No data available
Oxidizing properties	:	No data available

9.2. Other information

Specific conductivity	:	116 µS/m
Saturation concentration	:	0.31 g/m³
VOC content	:	0 %
Other properties	:	Gas/vapour heavier than air at 20°C. Clear. Hygroscopic. Slightly volatile. Neutral reaction.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reacts violently with (strong) oxidizers: (increased) risk of fire/explosion. Violent to explosive reaction with (some) acids. Reacts on exposure to temperature rise with (some) bases. Reacts on exposure to water and heat with (some) metals.

10.2. Chemical stability

Not established.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use. Not established.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7). Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. 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

Ethylene glycol (107-21-1)	
LD50 oral rat	4700 mg/kg

Ethylene glycol (107-21-1)	
LD50 dermal rat	10600 mg/kg
LC50 Inhalation - Rat	> 2.5 mg/l (6 h, Rat, Male / female, Experimental value, Inhalation (aerosol))
ATE US (oral)	526.316 mg/kg body weight
ATE US (dermal)	10600 mg/kg body weight

Ethylene glycol (107-21-1)	
LD50 oral rat	4700 mg/kg
LD50 dermal rat	10600 mg/kg
LC50 Inhalation - Rat	> 2.5 mg/l (6 h, Rat, Male / female, Experimental value, Inhalation (aerosol))
ATE US (oral)	500 mg/kg body weight
ATE US (dermal)	10600 mg/kg body weight

2,2' -oxybisethanol, diethylene glycol (111-46-6)	
LD50 oral rat	12565 mg/kg
LD50 dermal rabbit	11890 mg/kg
LC50 Inhalation - Rat	> 4600 mg/m³ (Exposure time: 4 h)
ATE US (oral)	500 mg/kg body weight
ATE US (dermal)	11890 mg/kg body weight

Skin corrosion/irritation : Not classified
pH: 7 – 11.5

Serious eye damage/irritation : Not classified
pH: 7 – 11.5

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Ethylene glycol (107-21-1)	
NOAEL (chronic,oral,animal/male,2 years)	1500 mg/kg body weight Animal: mouse, Animal sex: male, Remarks on results: other:Effect type: carcinogenicity (migrated information)

Ethylene glycol (107-21-1)	
NOAEL (chronic,oral,animal/male,2 years)	1500 mg/kg body weight Animal: mouse, Animal sex: male, Remarks on results: other:Effect type: carcinogenicity (migrated information)

2,2' -oxybisethanol, diethylene glycol (111-46-6)	
NOAEL (chronic,oral,animal/male,2 years)	1210 mg/kg body weight Animal: rat, Animal sex: male, Remarks on results: other:Effect type: carcinogenicity (migrated information)
NOAEL (chronic,oral,animal/female,2 years)	1160 mg/kg body weight Animal: rat, Animal sex: female, Remarks on results: other:Effect type: carcinogenicity (migrated information)

Reproductive toxicity : Not classified

STOT-single exposure : Not classified

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

Ethylene glycol (107-21-1)	
STOT-repeated exposure	May cause damage to organs (kidneys) through prolonged or repeated exposure.

2,2' -oxybisethanol, diethylene glycol (111-46-6)	
LOAEL (oral,rat,90 days)	40000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity in Rodents)

Aspiration hazard : Not classified
Viscosity, kinematic : No data available in the literature
Potential Adverse human health effects and symptoms : Based on available data, the classification criteria are not met. Harmful if swallowed.
Symptoms/effects after inhalation : EXPOSURE TO HIGH CONCENTRATIONS: Dry/sore throat.
Symptoms/effects after skin contact : No effects known.
Symptoms/effects after eye contact : ON CONTINUOUS EXPOSURE/CONTACT: Redness of the eye tissue. Lacrimation.
Symptoms/effects after ingestion : Swallowing a small quantity of this material will result in serious health hazard.
Chronic symptoms : Affection of the renal tissue.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008.
Ecology - air : Not included in the list of substances which may contribute to the greenhouse effect (IPCC). Not included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014). Photooxidation in the air. Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).

Ethylene glycol (107-21-1)	
LC50 - Fish [1]	41000 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss)
EC50 - Crustacea [1]	46300 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 - Fish [2]	14 – 18 ml/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])
NOEC (chronic)	≥ 1000 mg/l Test organisms (species): Americamysis bahia (previous name: Mysidopsis bahia) Duration: '23 d'

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LC50 - Fish [1]	41000 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss)
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LC50 - Fish [2]	14 – 18 ml/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])
NOEC (chronic)	≥ 1000 mg/l Test organisms (species): Americamysis bahia (previous name: Mysidopsis bahia) Duration: '23 d'

2,2' -oxybisethanol, diethylene glycol (111-46-6)	
LC50 - Fish [1]	75200 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 - Crustacea [1]	84000 mg/l (Exposure time: 48 h - Species: Daphnia magna)
NOEC (chronic)	≥ 1000 mg/l Test organisms (species): Americamysis bahia (previous name: Mysidopsis bahia) Duration: '23 d'

12.2. Persistence and degradability

Ethylene glycol (107-21-1)	
Persistence and degradability	Not established.
Biochemical oxygen demand (BOD)	0.47 g O_2/g substance

Ethylene glycol (107-21-1)	
Chemical oxygen demand (COD)	1.24 g O_2/g substance
ThOD	1.29 g O_2/g substance

Ethylene glycol (107-21-1)	
Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.47 g O_2/g substance
Chemical oxygen demand (COD)	1.24 g O_2/g substance
ThOD	1.29 g O_2/g substance

2,2' -oxybisethanol, diethylene glycol (111-46-6)	
Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.02 g O_2/g substance
Chemical oxygen demand (COD)	1.51 g O_2/g substance
ThOD	1.51 g O_2/g substance

12.3. Bioaccumulative potential

Ethylene glycol (107-21-1)	
Partition coefficient n-octanol/water (Log Pow)	-1.93
Bioaccumulative potential	Not established.

Ethylene glycol (107-21-1)	
Partition coefficient n-octanol/water (Log Pow)	-1.93
Bioaccumulative potential	Not bioaccumulative.

2,2' -oxybisethanol, diethylene glycol (111-46-6)	
BCF - Fish [1]	100 – 180
Partition coefficient n-octanol/water (Log Pow)	-1.98 (at 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

12.4. Mobility in soil

Ethylene glycol (107-21-1)	
Surface tension	48.4 mN/m (20 °C)
Ecology - soil	Highly mobile in soil.

Ethylene glycol (107-21-1)	
Surface tension	48.4 mN/m (20 °C)
Ecology - soil	Highly mobile in soil.

2,2' -oxybisethanol, diethylene glycol (111-46-6)	
Surface tension	No data available in the literature
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	0 (log Koc, SRC PCKOCWIN v2.0, QSAR)
Ecology - soil	Highly mobile in soil.

12.5. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Disposal 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.

Additional information : Hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

In accordance with DOT / IMDG / IATA

14.1. UN number

DOT NA No : NA3082

UN-No. (IMDG) : 3082

UN-No. (IATA) : 3082

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Other regulated substances, liquid, n.o.s. (Ethylene glycol)

Proper Shipping Name (TDG) : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

Proper Shipping Name (IMDG) : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Ehtylene glycol)

Proper Shipping Name (IATA) : Environmentally hazardous substance, liquid, n.o.s. (Ethylene Glycol)

Transport document description (DOT) : NA3082 Other regulated substances, liquid, n.o.s. (Ethylene glycol), 9, III

Transport document description (IMDG) : UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Ehtylene glycol), 9, III

Transport document description (IATA) : UN 3082 Environmentally hazardous substance, liquid, n.o.s. (Ethylene Glycol), 9, III

14.3. Transport hazard class(es)

DOT

Transport hazard class(es) (DOT) : 9

Hazard labels (DOT) : 9

IMDG

Transport hazard class(es) (IMDG) : 9

Hazard labels (IMDG) : 9

IATA

Transport hazard class(es) (IATA) : 9

Hazard labels (IATA) : 9

14.4. Packing group

Packing group (DOT) : III

Packing group (IMDG) : III

Packing group (IATA) : III

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Special precautions for user

DOT

UN-No.(DOT) : NA3082

DOT Special Provisions (49 CFR 172.102) : A189 - Except where the defining criteria of another class or division are met, concentrations of formaldehyde solution: a. With less than 25 percent but not less than 10 percent formaldehyde, must be described as UN3334, Aviation regulated liquid, n.o.s; and b. With less than 10 percent formaldehyde, are not subject to this subchapter.
IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672).
T2 - 1.5 178.274(d)(2) Normal..... 178.275(d)(3)
TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = 97 / 1 + a (tr - tf) Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.

DOT Packaging Exceptions (49 CFR 173.xxx) : 155

DOT Packaging Non Bulk (49 CFR 173.xxx) : 203

DOT Packaging Bulk (49 CFR 173.xxx) : 241

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : No limit

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : No limit

DOT Vessel Stowage Location : A - The material may be stowed ‘‘on deck’’ or ‘‘under deck’’ on a cargo vessel and on a passenger vessel.

IMDG

Transport regulations (IMDG) : Not subject

Special provision (IMDG) : 274, 335, 969

Limited quantities (IMDG) : 5 L

Excepted quantities (IMDG) : E1

Packing instructions (IMDG) : LP01, P001

Packing provisions (IMDG) : PP1

IBC packing instructions (IMDG) : IBC03

Tank instructions (IMDG) : T4

Tank special provisions (IMDG) : TP1, TP29

EmS-No. (Fire) : F-A - FIRE SCHEDULE Alfa - GENERAL FIRE SCHEDULE

EmS-No. (Spillage) : S-F - SPILLAGE SCHEDULE Foxtrot - WATER-SOLUBLE MARINE POLLUTANTS

Stowage category (IMDG) : A

IATA

Transport regulations (IATA)	:	Not subject
PCA Excepted quantities (IATA)	:	E1
PCA Limited quantities (IATA)	:	Y964
PCA limited quantity max net quantity (IATA)	:	30kgG
PCA packing instructions (IATA)	:	964
PCA max net quantity (IATA)	:	450L
CAO packing instructions (IATA)	:	964
CAO max net quantity (IATA)	:	450L
Special provision (IATA)	:	A97, A158, A197, A215
ERG code (IATA)	:	9L

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

Ethylene glycol (107-21-1)	
Subject to reporting requirements of United States SARA Section 313 Listed on EPA Hazardous Air Pollutant (HAPS)	
CERCLA RQ	5000 lb

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.		
Ethylene glycol	CAS-No. 107-21-1	≥ 95%

Ethylene glycol (107-21-1)	
Listed on EPA Hazardous Air Pollutant (HAPS)	
CERCLA RQ	5000 lb

15.2. International regulations

CANADA

Ethylene glycol (107-21-1)
Listed on the Canadian DSL (Domestic Substances List)

Ethylene glycol (107-21-1)
Listed on the Canadian DSL (Domestic Substances List)

2,2' -oxybisethanol, diethylene glycol (111-46-6)
Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

Ethylene glycol (107-21-1)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Ethylene glycol (107-21-1)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

2,2' -oxybisethanol, diethylene glycol (111-46-6)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

National regulations

Ethylene glycol (107-21-1)

Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on KECL/KECI (Korean Existing Chemicals Inventory)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on the Japanese ISHL (Industrial Safety and Health Law)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on the TCSI (Taiwan Chemical Substance Inventory)
Listed on the NCI (Vietnam - National Chemicals Inventory)

Ethylene glycol (107-21-1)

Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on KECL/KECI (Korean Existing Chemicals Inventory)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on the Japanese ISHL (Industrial Safety and Health Law)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on the TCSI (Taiwan Chemical Substance Inventory)
Listed on the NCI (Vietnam - National Chemicals Inventory)

2,2' -oxybisethanol, diethylene glycol (111-46-6)

Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on KECL/KECI (Korean Existing Chemicals Inventory)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on the Japanese ISHL (Industrial Safety and Health Law)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on the TCSI (Taiwan Chemical Substance Inventory)
Listed on the NCI (Vietnam - National Chemicals Inventory)

15.3. US State regulations

Ethylene glycol (107-21-1)

U.S. - California - Proposition 65 - Carcinogens List	No

Ethylene glycol (107-21-1)	
U.S. - California - Proposition 65 - Developmental Toxicity	Yes
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No
Maximum allowable dose level (MADL)	8700 µg/day oral; ingested
State or local regulations	U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List U.S. - Massachusetts - Right To Know List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

WARNING: This product can expose you to Ethylene glycol, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

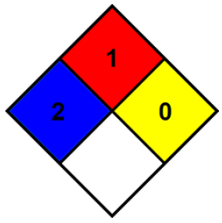
Component	State or local regulations
Ethylene glycol(107-21-1)	U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List; U.S. - Massachusetts - Right To Know List; U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
2,2' -oxybisethanol, diethylene glycol(111-46-6)	U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Revision date : 11/09/2021
Other information : None.

Full text of H-phrases	
H302	Harmful if swallowed
H373	May cause damage to organs through prolonged or repeated exposure

NFPA health hazard : 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.
NFPA fire hazard : 1 - Materials that must be preheated before ignition can occur.
NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.



Hazard Rating
Health : 1 Slight Hazard - Irritation or minor reversible injury possible
: * - Chronic (long-term) health effects may result from repeated overexposure
Flammability : 1 Slight Hazard - Materials that must be preheated before ignition will occur. Includes liquids, solids and semi solids having a flash point above 200 F. (Class IIIB)
Physical : 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

Safety Data Sheet (SDS), USA

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