



SAFETY DATA SHEET

Version 1.0
Date 06/01/2015

1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers

Product name : Ethylene glycol
CAS-No. : 107-21-1

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

Identified uses : Heat transfer fluid & can be dyed with organic based dyes.

1.3 Details of the supplier of the safety data sheet

Company : Solvents and Petroleum Service, Inc.
1405 Brewerton Rd, Syracuse, NY 13208
mark@solventsandpetroleum.com

Telephone : 800-315-4467
Fax : 315-454-8230

1.4 Emergency telephone number

Emergency Phone # : CHEMTREC 800-424-9300

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Acute toxicity, Oral (Category 4), H302

Specific target organ toxicity - repeated exposure, Oral (Category 2), Kidney, H373

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word

Warning

Hazard statement(s)

H302

Harmful if swallowed.

H373

May cause damage to organs (Kidney) through prolonged or repeated exposure if swallowed.

Precautionary statement(s)

P260

Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.

P264

Wash skin thoroughly after handling.

P270

Do not eat, drink or smoke when using this product.

P301 + P312 + P330

IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth.

P314

Get medical advice/ attention if you feel unwell.

P501

Dispose of contents/ container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Synonyms : 1,2-Ethanediol
Formula : C₂H₆O₂
Molecular weight : 62.07 g/mol
CAS-No. : 107-21-1

Hazardous components

Component	Classification	Concentration
Ethylene glycol	Acute Tox. 4; STOT RE 2; H302, H373	<= 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labeling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

Carbon oxides

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

No data available

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Soak up with inert absorbent material and contact Solvents & Petroleum for disposal. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapor or mist.
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis
	Remarks	See Appendix D - Substances with No Established RELs		
Ethylene glycol	107-21-1	C	100.000000 mg/m ³	USA. ACGIH Threshold Limit Values (TLV)
		Eye & Upper Respiratory Tract irritation Not classifiable as a human carcinogen		
		C	100.000000 mg/m ³	USA. ACGIH Threshold Limit Values (TLV)
		Upper Respiratory Tract irritation Eye irritation Not classifiable as a human carcinogen		
		C	100 mg/m ³	USA. ACGIH Threshold Limit Values (TLV)
		Upper Respiratory Tract irritation Eye irritation Adopted values or notations enclosed are those for which changes are proposed in the NIC See Notice of Intended Changes (NIC) Not classifiable as a human carcinogen		

Derived No Effect Level (DNEL)

Application Area	Exposure routes	Health effect	Value
Workers	Inhalation	Long-term local effects	35 mg/m ³
Workers	Skin contact	Long-term systemic effects	106mg/kg BW/d
Consumers	Inhalation	Long-term local effects	7 mg/m ³
Consumers	Skin contact	Long-term systemic effects	53mg/kg BW/d

Predicted No Effect Concentration (PNEC)

Compartment	Value
Soil	1.53 mg/kg
Marine water	1 mg/l
Fresh water	10 mg/l
Marine sediment	3.7 mg/kg
Fresh water sediment	37 mg/kg
Sewage treatment plant	199.5 mg/l
Aquatic intermittent release	10 mg/l

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws. Wash and dry hands.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatrill® (KCL 740 / Aldrich Z677272, Size M)

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatrill® (KCL 740 / Aldrich Z677272, Size M)

This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

- | | |
|---------------|----------------------------------|
| a) Appearance | Form: liquid
Color: colorless |
| b) Odor | No data available |

c) Odor Threshold	No data available
d) pH	No data available
e) Melting point/freezing point	Melting point/range: -13 °C (9 °F)
f) Initial boiling point and boiling range	196 - 198 °C (385 - 388 °F)
g) Flash point	111 °C (232 °F) - closed cup
h) Evaporation rate	1
i) Flammability (solid, gas)	No data available
j) Upper/lower flammability or explosive limits	Upper explosion limit: 15.3 %(V) Lower explosion limit: 3.2 %(V)
k) Vapor pressure	0.11 hPa (0.08 mmHg) at 20 °C (68 °F) 0.13 hPa (0.10 mmHg) at 20 °C (68 °F)
l) Vapor density	2.14 - (Air = 1.0)
m) Relative density	1.113 g/mL at 25 °C (77 °F)
n) Water solubility	completely miscible soluble
o) Partition coefficient: n-octanol/water	log Pow: -1.36
p) Auto-ignition temperature	400 °C (752 °F) Auto-flammability
q) Decomposition temperature	No data available
r) Viscosity	No data available
s) Explosive properties	No data available
t) Oxidizing properties	No data available

9.2 Other safety information

Relative vapor density 2.14 - (Air = 1.0)

10. STABILITY AND REACTIVITY

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

No data available

10.5 Incompatible materials

Strong acids, Strong oxidizing agents, Strong bases, Aldehydes, Aluminum

10.6 Hazardous decomposition products

In the event of fire: see section 5

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - 4,700 mg/kg

Inhalation: No data available

LD50 Dermal - Rabbit - 10,626 mg/kg

No data available

Skin corrosion/irritation

Skin - Rabbit

Result: No skin irritation

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Mild eye irritation - 24 h

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

This product is or contains a component that is probably not carcinogenic based on its IARC, ACGIH, NTP, or EPA classification.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity

Laboratory experiments have shown teratogenic effects.

Overexposure may cause reproductive disorder(s) based on tests with laboratory animals.

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

Oral - May cause damage to organs through prolonged or repeated exposure. - Kidney

Aspiration hazard

No data available

Additional Information

RTECS: KW2975000

When ingested early symptoms mimic alcohol inebriation and are followed by nausea, vomiting, abdominal pain, weakness, muscle tenderness, respiratory failure, convulsions, cardiovascular collapse, pulmonary edema, hypocalcemic tetany, and severe metabolic acidosis. Without treatment, death may occur in 8 to 24 hours. Victims who survive the initial toxicity period usually develop renal failure along with brain and liver damage. Exposure to and/or consumption of alcohol may increase toxic effects.

Central nervous system - Irregularities - Based on Human Evidence

Central nervous system - Irregularities - Based on Human Evidence

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish	LC50 - Oncorhynchus mykiss (rainbow trout) - 18,500 mg/l - 96 h
	LC50 - Leuciscus idus (Golden orfe) - > 10,000 mg/l - 48 h
	NOEC - Pimephales promelas (fathead minnow) - 32,000 mg/l - 7 d
	NOEC - Pimephales promelas (fathead minnow) - 39,140 mg/l - 96 h

Toxicity to daphnia and other aquatic invertebrates EC50 - Daphnia magna (Water flea) - 74,000 mg/l - 24 h

NOEC - Daphnia (water flea) - 24,000 mg/l - 48 h

LC50 - Daphnia magna (Water flea) - 41,000 mg/l - 48 h

12.2 Persistence and degradability

No data available

Ratio BOD/ThBOD 0.78 %

12.3 Bioaccumulative potential

Does not bioaccumulate.

Bioaccumulation other fish - 61 d
- 50 mg/l

Bioconcentration factor (BCF): 0.60

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects

No data available

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product

Contact Solvents & Petroleum for recycling of spent/used material that is not contaminated with hazardous waste substances and has a freezepoint of value for recycling at 315-454-4467.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)

Non-Bulk Shipments: Non-Regulated /Non-DOT Material in container sizes less than 5000 lbs.

Bulk Shipments:

UN number: 3082

Class: 9

Packing group: III

Proper shipping name: Environmentally hazardous substance, liquid, n.o.s. (Ethylene glycol)

Reportable Quantity (RQ): 5000 lbs

Poison Inhalation Hazard: No

IMDG

Not dangerous goods

IATA

Not dangerous goods

15. REGULATORY INFORMATION

SARA 302 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

The following components are subject to reporting levels established by SARA Title III, Section 313:

Ethylene glycol
CAS-No. 107-21-1
SARA 311/312 Hazards

Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

Ethylene glycol CAS-No. 107-21-1

Pennsylvania Right To Know Components

Ethylene glycol CAS-No. 107-21-1

New Jersey Right To Know Components

Ethylene glycol CAS-No. 107-21-1

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3.

Acute Tox.	Acute toxicity
H302	Harmful if swallowed.
H373	May cause damage to organs through prolonged or repeated exposure if swallowed.
STOT RE	Specific target organ toxicity - repeated exposure

HMIS Rating

Health hazard:	1
Chronic Health Hazard:	*
Flammability:	1
Physical Hazard	0

NFPA Rating

Health hazard:	1
Fire Hazard:	1
Reactivity Hazard:	0

Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Solvents and Petroleum Service Inc., and its affiliates shall not be held liable for any damage resulting from handling or from contact with the above product.

Version 1.0

Date: 06/01/2015