

SECTION 1) CHEMICAL PRODUCT AND SUPPLIER'S IDENTIFICATION

CAS Number: 107-21-1
Product Name: Ethylene Glycol
Revision Date: Oct 18, 2019 **Date Printed:** Oct 18, 2019
Version: 3.0 **Supersedes Date:** May 13, 2019
Manufacturer's Name: Thames River Chemical Corp.
Address: 5230 Harvester Road Burlington, ON, CA, L7L 4X4
Emergency Phone: CHEMTREC (800) 424-9300
Information Phone Number: 905-681-5353
Fax: 905-681-5377
Product/Recommended Uses: For laboratory or industrial use only.

SECTION 2) HAZARDS IDENTIFICATION

Classification

Acute toxicity Oral - Category 4
Specific Target Organ Toxicity - Repeated Exposure - Category 2

Pictograms



Signal Word

Warning

Hazard Statements - Health

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

Precautionary Statements - General

If medical advice is needed, have product container or label at hand.
Keep out of reach of children.
Read label before use.

Precautionary Statements - Prevention

Wash/Wash hands thoroughly after handling.
Do not eat, drink or smoke when using this product.
Do not breathe dust/fume/gas/mist/vapors/spray.

Precautionary Statements - Response

IF SWALLOWED: Call a POISON CENTER or doctor, if you feel unwell.
Rinse mouth.
Get Medical advice/attention if you feel unwell.

Precautionary Statements - Storage

No precautionary statement available.

Precautionary Statements - Disposal

Dispose of contents/container in accordance with local/national/international regulation. Waste management should be in full compliance with national, regional and local laws.

Physical Hazards Not Otherwise Classified

No data available.

Health Hazards Not Otherwise Classified

No data available.

SECTION 3) COMPOSITION/INFORMATION ON INGREDIENTS

CAS	Chemical Name	% By Weight
0000107-21-1	ETHYLENE GLYCOL	100%

SECTION 4) FIRST-AID MEASURES

Inhalation

Remove source of exposure or move person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

Eye Contact

Rinse eyes cautiously with lukewarm, gently flowing water for several minutes, while holding the eyelids open. Remove contact lenses, if present and easy to do. Continue rinsing for a duration of 15-20 minutes or until medical aid is available. If irritation occurs, seek medical attention.

Skin Contact

Take off contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Rinse/wash with lukewarm, gently flowing water and mild soap for 5 minutes or until product is removed. If skin irritation occurs or you feel unwell: Get medical advice/attention. Wash contaminated clothing before re-use or discard.

Ingestion

Get medical advice/attention promptly.

Do NOT induce vomiting. If vomiting occurs naturally, lie on your side, in the recovery position.

Most Important Symptoms and Effects, Both Acute and Delayed

No data available.

Indication of Any Immediate Medical Attention and Special Treatment Needed

No data available.

SECTION 5) FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media

Do not use straight stream of water.

Specific Hazards in Case of Fire

Fire will produce irritating gases.

Fire-fighting Procedures

Isolate immediate hazard area and keep unauthorized personnel out. Move undamaged containers from immediate hazard area if it can be done safely.

Special Protective Actions

Wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

SECTION 6) ACCIDENTAL RELEASE MEASURES

Emergency Procedure

Isolate hazard area and keep unauthorized personnel away. Stay uphill and/or upstream. Do not touch damaged containers or spilled materials unless wearing appropriate protective clothing. Ventilate closed spaces before entering.

Recommended Equipment

Wear chemical protective clothing.

Personal Precautions

Avoid breathing vapor or mist. Avoid contact with skin, eye or clothing.

Environmental Precautions

Stop spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems and natural waterways by using sand, earth, or other appropriate barriers. Dike far ahead of liquid spill for later disposal.

Methods and Materials for Containment and Cleaning up

Absorb Liquids in vermiculite, dry sand, earth, or similar inert material and deposit in sealed containers for disposal.

SECTION 7) HANDLING AND STORAGE

General

Ethylene Glycol absorbs moisture from air. Keep containers tightly sealed. Bulk storage tanks should have moisture traps on their vents.

Wash hands after use. Do not get in eyes, on skin or on clothing. Do not breathe vapors or mists. Use good personal hygiene practices. Eating, drinking and smoking in work areas is prohibited. Remove contaminated clothing and protective equipment before entering eating areas. Eyewash stations and showers should be available in areas where this material is used and stored. All containers must be properly labelled.

Ventilation Requirements

Use only with adequate ventilation to control air contaminants to their exposure limits.

Storage Room Requirements

Recommended storage temperature: 36 - 104 °F / 2 - 40 °C. Store in dry, cool areas, out of direct sunlight and away from other sources of heat.

SECTION 8) EXPOSURE CONTROLS/PERSONAL PROTECTION

Eye protection

Wear indirect-vent, impact and splash resistant goggles when working with liquids.

Skin Protection

Use of gloves approved to relevant standards made from the following materials may provide suitable chemical protection: PVC, neoprene or nitrile rubber gloves. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory Protection

If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker, a respiratory protection program that meets or is equivalent to OSHA 29 CFR 1910.134 should be followed. Check with respiratory protective equipment suppliers.

Appropriate Engineering Controls

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.

Chemical Name	CANsmg	CANspmm	CANtmg	CANtppm	OSHA STEL (mg/m3)	OSHA STEL (ppm)	OSHA TWA (mg/m3)	OSHA TWA (ppm)
ETHYLENE GLYCOL								

Chemical Name	OSHA Carcinogen	OSHA Tables (Z1, Z2, Z3)	OSHA Skin designation	ACGIH STEL (mg/m3)	ACGIH STEL (ppm)	ACGIH TWA (mg/m3)	ACGIH TWA (ppm)	ACGIH TLV Basis
ETHYLENE GLYCOL				10 (I,H)	50 (v)		25 (v)	URT irr

Chemical Name	ACGIH Carcinogen	ACGIH Notations
ETHYLENE GLYCOL	A4	A4

A4 - Not Classifiable as a Human Carcinogen, irr - Irritation, URT - Upper respiratory tract

SECTION 9) PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

Density	9.29 lb/gal
Specific Gravity	1.11
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Appearance	clear, viscous, colourless, liquid
Odor Description	odourless
Odor Threshold	N/A
pH	6.5
Melting/Freezing Point	-13 °C
Low Boiling Point	198 °C
High Boiling Point	N/A
Flash Point	111 °C
Vapor Pressure	0.05 mmHg
Vapor Density	2.14 (air = 1)
Evaporation Rate	Less than 0.01 (n-butyl acetate = 1)
Upper Explosion Level	N/A
Lower Explosion Level	N/A
Water Solubility	complètement soluble
Coefficient Water/Oil	Log P(oct) = -1.36
Viscosity	21 cps

SECTION 10) STABILITY AND REACTIVITY

Reactivity

No data available.

Stability

Stable under normal storage and handling conditions.

Conditions to Avoid

Avoid heat, sparks, flame, high temperature, freezing and contact with incompatible materials.

Hazardous Reactions/Polymerization

Hazardous polymerization will not occur.

Incompatible Materials

Strong bases, acids, oxidizing and reducing agents, perchloric acid, silver copper wires carrying DC current.

Hazardous Decomposition Products

None apart from hazardous decomposition products.

SECTION 11) TOXICOLOGICAL INFORMATION

Likely Route of Exposure

Ethylene Glycol

Inhalation, ingestion, skin absorption

Acute Toxicity

Harmful if swallowed

Aspiration Hazard

No data available.

Carcinogenicity

Components:

Ethylene glycol:

Species: Rat, male and female

Application Route: Oral

Exposure time: 24 month(s)

Dose: 40/200/1000 mg/kg

Frequency of Treatment: 7 d/w daily

NOAEL: 1,000 mg/kg bw/day

Result: negative

Species: Mouse, male and female

Application Route: Oral

Exposure time: 103 weeks

Frequency of Treatment: 7 d/w daily

NOAEL: 1,500 mg/kg bw/day

Result: negative

No data available.

Germ Cell Mutagenicity

No data available.

Reproductive Toxicity

Components:

Ethylene glycol:

Effects on fertility:

Species: Mouse, male and female

Application Route: Oral

Dose: 40/200/1000 milligram per kilogram

Frequency of Treatment: 7 days/week

General Toxicity - Parent: No-observed-effect level: 1,000

mg/kg body weight

General Toxicity F1: No-observed-effect level: 1,000 mg/kg

body weight

Species: Rat, male and female

Application Route: Oral

Dose: 40/200/1000 milligram per kilogram

Frequency of Treatment: 7 days/week

General Toxicity - Parent: No observed adverse effect level: 1,000: mg/kg body weight

Components:

Ethylene glycol:

Effects on fetal development

Embryo-foetal development

Species: Rat, female

Application Route: Oral

Duration of Single Treatment: 336 h

Frequency of Treatment: 7 days/week

General Toxicity Maternal: No observed adverse effect level: 250 mg/kg body weight

Developmental Toxicity: No observed adverse effect level: 250 mg/kg body weight

Result: No teratogenic effects

Reproductive toxicity - Assessment : No data available

No data available.

Respiratory/Skin Sensitization

No data available.

Serious Eye Damage/Irritation

No data available.

Skin Corrosion/Irritation

No data available.

Specific Target Organ Toxicity - Repeated Exposure

May cause damage to organs through prolonged or repeated exposure.

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The substance may cause effects on kidneys as a result of repeated ingestion.

Specific Target Organ Toxicity - Single Exposure

No data available.

Likely Routes of Exposure

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The substance can be absorbed into the body by inhalation, through the skin and by ingestion.

SECTION 12) ECOLOGICAL INFORMATION

Toxicity

LC50 (Fish, 96hr) >10g/litre (Lepomis macrochirus), 41g/litre (Oncorhynchus mykiss)

EC50 (Crustacea, 48hr) 6900-13,900 & 22,600-29,700mg/litre (Ceriodaphnia sp)

EC50 (Algae) 6.5-13g/litre (Speudokirchnerella subcapitata)

EC50 (Bacteria) >10g/litre (domestic sewage sludge), >10g/litre (Pseudomonas putida)

No data available.

Mobility in Soil

Moves readily in soil and water.

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Adsorption to solid soil phase is not expected. Ethylene glycol will preferentially be distributed into the compartment water.

Bio-accumulative Potential

Highly water soluble & cannot bioaccumulate.

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No potential for bioaccumulation.

Persistence and Degradability

Biodegrades readily & rapidly in the presence of oxygen; 90-100% in 10 days

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Readily biodegradable.

Other Adverse Effects

No data available.

Results of the PBT and vPvB assessment

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The substance is not PBT/vPvB.

SECTION 13) DISPOSAL CONSIDERATIONS

Waste Disposal

Do not flush to sewer, recycle if possible, OR incinerate in approved facility after mixing with a suitable flammable waste.

Empty Containers retain product residue which may exhibit hazards of material, therefore do not pressurize, cut, glaze, weld or use for any other purposes. It is the responsibility of the user of the product to determine at the time of disposal whether the product meets local criteria for hazardous waste. Waste management should be in full compliance with national, provincial and local laws.

SECTION 14) TRANSPORT INFORMATION

	Transport Canada Information	U.S. DOT Information
UN number:	Not Regulated	UN3082
Proper shipping name:	Not Applicable	Environmentally hazardous substances, liquid, n.o.s. (Ethylene Glycol)
Hazard class:	Not Applicable	9
Packaging group:	Not Applicable	III
Hazardous substance (RQ):		No Data Available
Marine Pollutant:	No Data Available	No Data Available
Note / Special Provision:	No Data Available	No Data Available
Toxic-Inhalation Hazard:		No Data Available
Transport in bulk (according to Annex II of MARPOL 73/78):	No Data Available	

SECTION 15) REGULATORY INFORMATION

CAS	Chemical Name	% By Weight	Regulation List
0000107-21-1	ETHYLENE GLYCOL	100%	DSL,TSCA,CA_Prop65 - California Proposition 65,EU_EC_Inventory

SECTION 16) OTHER INFORMATION

Glossary

ACGIH- American Conference of Governmental Industrial Hygienists; ANSI- American National Standards Institute; Canadian TDG- Canadian Transportation of Dangerous Goods; CANsmg or CANspmm - Canadian Short Term Exposure Level in mg/L or in ppm; CANtmg or CANtppm - Canadian Time Weighted Average in mg/L or in ppm; CAS- Chemical Abstract Service; Chemtrec- Chemical Transportation Emergency Center(US); CHIP- Chemical Hazard Information and Packaging; DSL- Domestic Substances List; EC- Equivalent Concentration; EH40 (UK)- HSE Guidance Note EH40 Occupational Exposure Limits; EPCRA- Emergency Planning and Community Right-To-Know Act; ESL Effects screening levels; HMIS- Hazardous Material Information Service; LC- Lethal Concentration; LD- Lethal Dose; NFPA- National Fire Protection Association; OEL- Occupational Exposure Limits; OSHA- Occupational Safety and Health Administration, US Department of Labor; PEL- Permissible Exposure Limit; SARA (Title III)- Superfund Amendments and Reauthorization Act; SARA 313- Superfund Amendments and Reauthorization Act, Section 313; SCBA- Self Contained Breathing Apparatus; STEL-Short Term Exposure Limit; TCEQ Texas Commission on Environmental Quality; TLV- Threshold Limit Value; TSCA- Toxic Substances Control Act Public Law 94-469; TWA Time Weighted Value; US DOT- US Department of Transportation; WHMIS- Workplace Hazardous Materials Information System.

Version 3.0:

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