

## Ethylene Glycol

### SECTION 1. IDENTIFICATION

<b>Product Identifier</b>	Ethylene Glycol
<b>Other Means of Identification</b>	1,2-Dihydroxyethane, EG, Ethylene Dihydrate, Glycol
<b>Product Code</b>	ET5110, ET5111, ET5115
<b>Product Family</b>	Organic solution
<b>Recommended Use</b>	Laboratory and industrial use.
<b>Restrictions on Use</b>	None known.
<b>Supplier Identifier</b>	Alphachem Limited, 2485 Milltower Court, Mississauga, Ontario, L5N 5Z6, (905) 821-2995
<b>Emergency Phone No.</b>	CANUTEC CANADA, 613-996-6666, 24 Hours
<b>SDS No.</b>	0153

### SECTION 2. HAZARD IDENTIFICATION

Classified according to Canada's Hazardous Products Regulations (WHMIS 2015) and the US Hazard Communication Standard (HCS 2012).

#### Classification

Acute toxicity (Oral) - Category 5; Reproductive toxicity - Category 1A; Specific target organ toxicity (single exposure) - Category 3

#### Label Elements



Signal Word:  
Warning

#### Hazard Statement(s):

Heating may cause a fire or explosion.  
Harmful if swallowed or if inhaled.  
May damage fertility or the unborn child.  
May cause respiratory irritation.  
May cause damage to organs through prolonged or repeated exposure.  
Toxic if swallowed or if inhaled.

#### Precautionary Statement(s):

Wear protective gloves/protective clothing.  
Obtain special instructions before use.  
Avoid breathing dust/fume/gas/mist/vapours/spray.  
Do not spray on an open flame or other ignition source.  
Avoid contact during pregnancy and while nursing.  
Use only outdoors or in a well-ventilated area.

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IF SWALLOWED: Immediately call a POISON CENTRE/doctor/  
IF ON SKIN: Wash with plenty of water/  
IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
IF exposed or concerned: Get medical advice or attention.

**Other Hazards**

None known.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substance:

Chemical Name	CAS No.	%	Other Identifiers
Ethylene glycol	107-21-1	>99	1,2-Dihydroxyethane, EG, Ethylene Dihydrate, Glycol

**SECTION 4. FIRST-AID MEASURES**

**First-aid Measures**

**Inhalation**

Remove source of exposure or move to fresh air. Keep at rest in a position comfortable for breathing. Immediately call a Poison Centre or doctor.

**Skin Contact**

Rinse with lukewarm, gently flowing water for 5 minutes. Thoroughly clean clothing, shoes and leather goods before reuse or dispose of safely. Immediately call a Poison Centre or doctor.

**Eye Contact**

Avoid direct contact. Wear chemical protective gloves if necessary. Quickly and gently blot or brush chemical off the face. Rinse the contaminated eye(s) with lukewarm, gently flowing water for 5 minutes, while holding the eyelid(s) open. Immediately call a Poison Centre or doctor. Specific treatment is required.

**Ingestion**

Never give anything by mouth if person is rapidly losing consciousness, or is unconscious or convulsing. Do not induce vomiting. Rinse mouth with water.

**First-aid Comments**

Some of the first-aid procedures recommended here require advanced first-aid training. If exposed or concerned, get medical advice or attention.

**Most Important Symptoms and Effects, Acute and Delayed**

If swallowed: can harm the kidneys. Can harm the nervous system.

**Immediate Medical Attention and Special Treatment**

**Special Instructions**

General advice

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

**SECTION 5. FIRE-FIGHTING MEASURES**

**Extinguishing Media**

**Suitable Extinguishing Media**

Carbon dioxide, dry chemical powder, appropriate foam, water spray or fog.

**Unsuitable Extinguishing Media**

None known.

**Specific Hazards Arising from the Product**

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Does not burn. Closed containers may rupture violently when heated releasing contents. Heating increases the release of toxic vapour.

Very toxic carbon monoxide, carbon dioxide.

### Special Protective Equipment and Precautions for Fire-fighters

Fight fire from a safe distance or a protected location. Use water spray to flush spills away from ignition sources. Stop leak before attempting to put out the fire. Product could form an explosive mixture and reignite. Approach fire from upwind to avoid hazardous vapours or gases. For a massive fire, immediately evacuate the area and use unmanned hose holder or monitor nozzles. Dike and recover contaminated water for appropriate disposal.

Fire-fighters may enter the area if positive pressure SCBA and full Bunker Gear is worn.

## SECTION 6. ACCIDENTAL RELEASE MEASURES

### Personal Precautions, Protective Equipment, and Emergency Procedures

Emergency responders: evacuate the area immediately. Isolate the hazard area. Keep out unnecessary and unprotected personnel. Use the personal protective equipment recommended in Section 8 of this safety data sheet. Do not touch damaged containers or spilled product unless wearing appropriate protective equipment. Increase ventilation to area or move leaking container to a well-ventilated and secure area. Remove or isolate incompatible materials as well as other hazardous materials.

### Environmental Precautions

Do not allow into any sewer, on the ground or into any waterway.

### Methods and Materials for Containment and Cleaning Up

Small spills or leaks: stop or reduce leak if safe to do so. Contain and soak up spill with absorbent that does not react with spilled product. Place used absorbent into suitable, covered, labelled containers for disposal. Large spills or leaks: contact emergency services and manufacturer/supplier for advice.

## SECTION 7. HANDLING AND STORAGE

### Precautions for Safe Handling

Wear personal protective equipment to avoid direct contact with this chemical. Do not get in eyes, on skin or on clothing. Avoid generating vapours or mists. Only use where there is adequate ventilation. Avoid exposure during pregnancy and while nursing. Prevent accidental contact with incompatible chemicals. Prevent accidental contact with alkaline conditions. Prevent accidental contact with acidic conditions. Never return unused or contaminated product to its original container.

### Conditions for Safe Storage

Store in an area that is: cool, well-ventilated, out of direct sunlight and away from heat and ignition sources, separate from incompatible materials (see Section 10: Stability and Reactivity). Store in the original, labelled, shipping container.

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control Parameters

Chemical Name	ACGIH TLV®		OSHA PEL		AIHA WEEL	
	TWA	STEL	TWA	Ceiling	8-hr TWA	TWA
Ethylene glycol		100 mg/m3 A4				

ACGIH® = American Conference of Governmental Industrial Hygienists. TLV® = Threshold Limit Value. STEL = Short-term Exposure Limit. C = Ceiling limit. A4 = Not classifiable as a human carcinogen.

### Appropriate Engineering Controls

General ventilation is usually adequate. Use local exhaust ventilation, if general ventilation is not adequate to control amount in the air.

### Individual Protection Measures

#### Eye/Face Protection

Wear chemical safety goggles and face shield when contact is possible.

#### Skin Protection

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Wear chemical protective clothing e.g. gloves, aprons, boots.

Suitable materials are: butyl rubber, natural rubber, neoprene rubber, nitrile rubber, polyethylene, polyvinyl chloride, Viton®, Viton®/butyl rubber, Barrier® (PE/PA/PE), Silver Shield/4H® (PE/EVAL/PE), Trelchem® HPS, Trelchem® VPS, Tychem® SL (Saranex™), Tychem® BR/LV, Tychem® Responder, Tychem® TK.

#### Respiratory Protection

No specific guidelines are available. Contact chemical manufacturer/supplier for advice.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

### Basic Physical and Chemical Properties

<b>Appearance</b>	Clear colourless liquid.
<b>Odour</b>	Odourless
<b>Odour Threshold</b>	Not reliable.
<b>pH</b>	Not available
<b>Melting Point/Freezing Point</b>	-13 °C (9 °F) (melting)
<b>Initial Boiling Point/Range</b>	197.6 °C (387.7 °F)
<b>Flash Point</b>	111.1 °C (232.0 °F)
<b>Evaporation Rate</b>	< 0.01 (n-butyl acetate = 1)
<b>Flammability (solid, gas)</b>	Not available
<b>Upper/Lower Flammability or Explosive Limit</b>	21.6 - 22.0% (upper); 3.2% (lower)
<b>Vapour Pressure</b>	0.007 kPa (0.053 mm Hg)
<b>Vapour Density (air = 1)</b>	2.14 (calculated)
<b>Relative Density (water = 1)</b>	1.114 at 20 °C
<b>Solubility</b>	Soluble in all proportions in water; Soluble in all proportions in ketones (e.g. acetone).
<b>Partition Coefficient, n-Octanol/Water (Log Kow)</b>	-1.36
<b>Auto-ignition Temperature</b>	398 °C (748 °F)
<b>Decomposition Temperature</b>	Not available
<b>Viscosity</b>	18.86 mm <sup>2</sup> /s (kinematic); 21 mPa.s at 20 °C (dynamic)
<b>Other Information</b>	
<b>Physical State</b>	Liquid

## SECTION 10. STABILITY AND REACTIVITY

### Reactivity

Not reactive under normal conditions of use.

### Chemical Stability

Normally stable.

### Possibility of Hazardous Reactions

None known.

### Conditions to Avoid

Heat. Open flames, sparks, static discharge, heat and other ignition sources. Temperatures above 111 °C

### Incompatible Materials

Strong oxidizing agents (e.g. perchloric acid), strong bases (e.g. sodium hydroxide).

Not corrosive to: stainless steel, carbon steel, cast iron, nickel, nickel alloys (e.g. Monel, Hastelloy), copper, copper alloys (e.g. brass and/or bronze), titanium.

### Hazardous Decomposition Products

Very toxic carbon monoxide, carbon dioxide.

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## SECTION 11. TOXICOLOGICAL INFORMATION

### Likely Routes of Exposure

Inhalation; skin contact; eye contact; ingestion.

### Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Ethylene glycol	2725 mg/m <sup>3</sup> (rat) (4-hour exposure)	4000 mg/kg (female rat)	9530 mg/kg (rabbit)

### Skin Corrosion/Irritation

Animal tests show very mild irritation.

### Serious Eye Damage/Irritation

Animal tests show very mild irritation.

### STOT (Specific Target Organ Toxicity) - Single Exposure

#### Inhalation

Causes nose and throat irritation.

#### Skin Absorption

No information was located.

#### Ingestion

May cause depression of the central nervous system, harmful effects on the kidneys.

### Aspiration Hazard

No information was located.

### STOT (Specific Target Organ Toxicity) - Repeated Exposure

If swallowed: may cause harmful effects on the kidneys. Conclusions cannot be drawn from the limited studies available.

### Respiratory and/or Skin Sensitization

Not known to be a skin sensitizer.

### Carcinogenicity

Chemical Name	IARC	ACGIH®	NTP	OSHA
Ethylene glycol	Not evaluated	A4	Not Listed	

#### Key to Abbreviations

IARC = International Agency for Research on Cancer.

ACGIH® = American Conference of Governmental Industrial Hygienists. A4 = Not classifiable as a human carcinogen.

NTP = National Toxicology Program.

### Reproductive Toxicity

#### Development of Offspring

Animal studies show effects on the offspring.

#### Sexual Function and Fertility

Not known to cause effects on sexual function or fertility.

#### Effects on or via Lactation

No information was located.

### Germ Cell Mutagenicity

Conclusions cannot be drawn from the limited studies available.

### Interactive Effects

No information was located.

## SECTION 12. ECOLOGICAL INFORMATION

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This section is not required by WHMIS. This section is not required by OSHA HCS 2012.

## SECTION 13. DISPOSAL CONSIDERATIONS

### Disposal Methods

Dispose of contents and container in accordance with local, regional, national and international regulations.

## SECTION 14. TRANSPORT INFORMATION

Not regulated under Canadian TDG regulations. Not regulated under US DOT Regulations.

**Special Precautions** Not applicable

**Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable

## SECTION 15. REGULATORY INFORMATION

### Safety, Health and Environmental Regulations

#### Canada

**Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)**

Listed on the DSL.

#### USA

**Toxic Substances Control Act (TSCA) Section 8(b)**

Listed on the TSCA Inventory.

## SECTION 16. OTHER INFORMATION

**SDS Prepared By** Alphachem Limited

**Phone No.** (905)-821-2995

**Date of Preparation** September 30, 2015

**Date of Last Revision** December 10, 2015

**Revision Indicators** The following SDS content was changed on September 30, 2015:  
Section 11 - Toxicological Information; Carcinogenicity.  
The following SDS content was changed on September 30, 2015:  
Section 8 - Exposure Controls/Personal Protection; Exposure Guidelines.  
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**Disclaimer** This document is offered only as a guide in the safe handling of the above product, and has been prepared from the best information currently available. It is not intended to be all-inclusive and the conditions of use may involve other additional considerations. Since Alphachem Limited cannot anticipate or control the conditions under which the product may be used, it will not be liable for any claims, damages or losses which may result from the use or reliance on any information herein.

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