



Safety Data Sheet

Section 1. Identification		
Product Identifier	Ethylene Glycol	Version: 5 Effective Date: 10 July, 2017
Other Means Of Identification	1,2 ethylene diol	
Initial Supplier Identifier	Chemfax Products Ltd. 11444 – 42 Street SE Calgary, AB T2C 5C4 Tel: 403-287-2055	
Recommended Use and Restrictions On Use	Heat transfer fluid. No restrictions.	
Product Family	Diol	
24 Hour Emergency	Canutec (613) 996-6666	

Section 2. Hazard Identification	
Hazard Classification	 
Health Hazards	Acute Toxicity (Oral) - Category 4 Specific Target Organ Toxicity (Repeated Exposure) - Category 2
Signal Word	Warning
Hazard Statement	Harmful if swallowed. May cause damage to organs (kidney) through prolonged or repeated exposure.
Precautionary Prevention Statement	Wash hands thoroughly after handling. Do not eat, drink, or smoke when using this product. Do not inhale dust, fume, gas, mist, vapours, or spray.
Precautionary Response Statement	IF SWALLOWED: Seek medical attention immediately. Rinse mouth.
Precautionary Storage Statement	No statement.
Precautionary Disposal Statement	Dispose of contents/container in accordance with local regulations.
Other Hazards	None

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Section 3. Composition / Information on Ingredients			
Chemical Name	Common Name or Synonyms	CAS NO. and Other Unique Identifiers	% by weight
Ethylene Glycol	1,2 ethylene diol	107-21-1	100

Section 4. First-Aid Measures	
Eye Contact	Flush eyes with water for 15 minutes. Seek medical attention.
Skin Contact	Flush area with water. If irritation persists seek medical attention. Launder clothing before reuse.
Inhalation	Remove victim to fresh air. If there is difficulty breathing, seek immediate medical attention.
Ingestion	Give two glasses of water. Do not induce vomiting. Lay victim on left side to prevent aspiration of any vomit. Seek immediate medical attention.
Most Important Symptoms and Effects Both Acute and Delayed	Breathing difficulties.
Immediate Medical Attention and Special Treatment	<p>Effects of ethylene glycol poisoning appear in three stages. Initial stages in the first 6 – 12 hours is characterised by central nervous system effects (transient exhilaration, nausea, vomiting and potentially coma, convulsions and death). The second stage lasts from 12 – 36 hours after exposure and is initiated by the onset of coma. It is characterised by tachypnea (laboured respiration), tachycardia (rapid heartbeat), hypotension (low blood pressure), cyanosis (blue discolouration of skin, nail beds, and mucous membranes due to lack of oxygen) and in severe cases pulmonary oedema, bronchopneumonia, cardiac enlargement and congestive heart failure. The final stage occurs at 24 – 72 hours post exposure and is characterised by renal failure, from mild symptoms to complete anuria (failure of the kidneys to produce urine) with acute tubular necrosis that can lead to death. Hyperoxaluria (presence of excess oxalic acid or oxalates in the urine) is found in most cases. Ethylene glycol poisoning will always cause metabolic acidosis (blood pH becomes lower than 7.5).</p> <p>Treatment is required within the first three hours of exposure. High proof whisky can be administered prior to hospitalization if treatment is delayed. Haemodialysis is the most effective means of removing ethylene glycol and its metabolites from the body.</p>

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Section 5. Fire-Fighting Measures	
Suitable and Unsuitable Extinguishing Media	Carbon dioxide, dry chemical, and water spray.
Hazardous Combustion Products	Alcohols, aldehydes, carbon dioxide and carbon monoxide, ethers, and toxic fumes.
Specific Hazards Arising From the Product	Thermal decomposition can lead to release of irritating gases and vapours. Keep product and empty container away from heat and sources of ignition.
Special Protective Equipment and Precautions For Fire-Fighters	Fire-fighters should wear self-contained breathing apparatus and full protective clothing. Use water spray to cool containers and structures exposed to fire.

Section 6. Accidental Release Measures	
Personal Precautions, Protective Equipment and Emergency Procedures	Gloves (neoprene), safety glasses, coveralls. Ensure adequate ventilation. Do not inhale vapours or spray mist. Avoid contact with skin, eyes and clothing.
Environmental Precautions	Prevent entry of spilled materials into sewers or watercourses. Dike if required.
Methods and Materials for Containment and Clean Up	Wear full protective equipment. Dike area and collect spilled material by pumping into holding vessel or by soaking up on absorbent material, then shovelling into an appropriate container for disposal. Area will be slippery with residues, wash area with water.

Section 7. Handling and Storage	
Precautions For Safe Handling	Handle with care. Do not eat or drink near this product, employ good housekeeping practices. Empty containers will contain residues, these should not be cut or welded, vapours mixed with air can form explosive mixtures.
Conditions For Safe Storage	Store in a cool dry place. Keep containers closed at all times.

Section 8. Exposure Controls and Personal Protection				
Control Parameters	TWA: 8 Hr	STEL: 15 min	Ceiling	IDLH *
Ethylene Glycol			50 ppm (NIOSH)	

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	50 ppm (CAD AB OEL)
	* Immediately Dangerous to Life and Health
Exposure Controls	Local exhaust ventilation
Appropriate Engineering Controls	Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.
Individual Protective Measures	If exposure limits are exceeded:
Eye / Face Protection	Safety glasses
Skin Protection	Wear gloves (neoprene) and chemical resistant coveralls
Respiratory Protection	An air purifying respirator, fitted with cartridges for organic vapours must be worn.

Section 9. Physical and Chemical Properties	
Appearance	Clear, colourless liquid
Odour	Mild
Odour Threshold	0.08 – 25 ppm
pH	8.0
Flash Point	116 – 121 °C
Boiling Point and Boiling Range	197 °C
Melting Point and Freezing Point	– 13 °C
Evaporation Rate	No data.
Vapour Pressure	0.01 kPa @ 25 °C
Vapour Density	2.1
Relative Density	1.116
Solubility	Completely miscible in water
Partition co-efficient, n-Octanol/Water	No data
Auto-ignition Temperature	398 – 417 °C
Decomposition Temperature	No data
Viscosity	No data

Section 10. Stability and Reactivity	
Reactivity	Stable
Chemical Stability	Stable
Possibility of Hazardous Reactions	Will not occur
Conditions to Avoid	Naked flames
Incompatible Materials	Alkali metals, strong acids, strong alkalis and strong oxidizing agents

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Hazardous Decomposition Products	Glycolic acid
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Section 11. Toxicological Information			
Component Toxicity	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ethylene Glycol	6.14 g/kg(Rat)	9.53 g/kg (Rabbit)	
Likely Routes of Exposure			
Skin:	May be irritant. Can cause burning and redness. Product will be absorb through the skin and can cause health effects.		
Eyes:	May cause irritation and redness.		
Inhalation:	Inhalation of larger quantities of this material will be harmful. Irritation of the respiratory tract, digestive tract disturbances, vomiting and diarrhoea, faintness, light-headedness, fatigue, headache, cyanosis (causes blue colouration due to lack of oxygen), lung oedema (fluid in the lungs), convulsions, coma and death.		
Ingestion:	Ingestion of this product may lead to kidney, liver and brain damage. Digestive tract disturbances, vomiting and diarrhoea, kidney failure and liver damage.		
Acute Toxicity Estimates (ATE)	No data		
STOT (Specific Target Organ Toxicity) – Single Exposure	Central nervous system (CNS)		
Aspiration Toxicity	Not classified		
STOT (Specific Target Organ Toxicity) – Repeated Exposure	Kidney and Liver		
Skin Corrosion / Irritation	Irritant		
Serious Eye Damage / Irritation	Irritant		
Respiratory or Skin Sensitization	Not classified		
Carcinogenicity	Not listed.		
Reproductive Toxicity			
- Sexual Function and Fertility	Not classified		
- Development of Offspring	Not classified		
- Effects on or via Lactation	Not classified		
Germ Cell Mutagenicity	Not classified		



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Interactive Effects	Not classified
Other Information	Not applicable

Section 12. Ecological Information	
Ecotoxicity	Ethylene glycol LC50: 51,000 mg/L (Flathead minnow) LC50: 27,549 mg/L (Bluegill) LC50: 18,000 – 46,000 mg/L (Rainbow trout)
Persistence and Degradability	Readily degradable
Bioaccumulative Potential	Not likely
Biodegradability	Is biodegradable
Mobility in Soil	Not available
Special Remarks	BOD: 8 to 82 % @ 5days; 58 to 75% @ 10 days: 81 to 94 % @ 20 days COD: 1.29 mg/mg.
Other Adverse Effects	None known

Section 13. Disposal Considerations	
Disposal Considerations	Dispose of contents/container in accordance with local regulations.

Section 14. Transport Information	
UN Number	Not applicable
UN Proper Shipping Name	Not applicable
Transport Hazard Class(es)	Not applicable
Packaging Group	Not applicable
Environmental Hazards	Not applicable
Bulk Transport	Not applicable
Special Precaution	Not applicable
DOT Erg#	Not applicable

Section 15. Regulatory Information	
Canada – DSL Inventory	All components of this product are either on the Domestic Substances List (DSL), Non-Domestic Substances List (NDSL), or exempt
TSCA	All components of this product are either on the Toxic Substances Control Act (TSCA) Inventory List or exempt
Additional Information	None

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Section 16. Other Information	
NFPA Rating	Health-2/ Flammability-0/Reactivity-0/Special Hazard-Not applicable
HMIS Rating	Health-2/Flammability-0/Reactivity-0/Personal Protection-See Section 8.
Prepared by:	Chemfax Products Ltd., Technical Department
Date Prepared:	18 August, 2011
Date of Latest Provision:	10 July, 2017
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