


Material Safety Data Sheet

Section 1. Chemical Product and Company Identification		
Product Name:	Ethylene Glycol 60%	Version: 4 Effective Date: June 25, 2014
Supplier / Manufacturer:	Chemfax Products Ltd 11444 - 42 Street SE Calgary, AB T2C 5C4 Tel: 403-287-2055	
Material Uses	Heat transfer fluid	
24 Hour Emergency	Canutec (613) 996-6666	
WHMIS		
		
This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR		
HMIS Ratings for this product are: Health 2 , Flammability 0 , Reactivity 0		

Section 2. Composition and Information on Ingredients		
Name	CAS#	% by weight
Ethylene glycol	107-21-1	60
See Section 8 for information on permissible exposure limits and threshold limit values		

Section 3. Hazards Identification	
Physical State and Appearance	Clear, colourless liquid with a mild odour
Hazard Summary	Highly toxic, irritant
Routes of Exposure	Skin contact & absorption, ingestion, inhalation, eyes
Potential Acute Health Effects	Skin: Irritant. Can cause burning and redness. Product will be absorbed through the skin and can cause health effects. Eyes: Irritant. Will cause irritation and redness. Inhalation: Harmful. Inhalation of larger quantities of this

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	<p>material will be harmful. Irritation of the respiratory tract, digestive tract disturbances, vomiting and diarrhea, faintness, light-headedness, fatigue, headache, cyanosis (causes blue colouration due to lack of oxygen), lung oedema (fluid in the lungs), convulsions, coma and death</p> <p>Ingestion: Toxic. Ingestion of this product may lead to kidney, liver and brain damage. Digestive tract disturbances, vomiting and diarrhea, kidney failure and liver damage.</p>
Medical Conditions Aggravated by Exposure	The following conditions or organs already damaged may be aggravated by exposure to this material:- asthma, liver, kidney, central nervous system, chronic lung disease, coronary artery disease or anaemia's.
See Toxicological Information – Section 11	
Additional Hazard Identification Remarks	None

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.
Notes to Physician	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 tachypnia (laboured breathing), tachycardia (rapid heart rate), hypotension (low blood pressure), cyanosis (blue colour due to lack of oxygen) and in severe cases pulmonary oedema (fluid in the lungs), bronchopneumonia, cardiac enlargement and congestive failure. The final stage occurs at 24 – 72 hours post exposure and is characterised by renal failure, from mild symptoms to complete anuria (inability to produce urine) with acute tubular necrosis that can lead to death. Oxaluria (oxalic acid in the urine) is found in most cases. Ethylene glycol poisoning will always cause metabolic acidosis (blood pH is lower than 7.5).
Additional First Aid Remarks	Treatment is required within the first three hours of exposure. High proof whisky can be administered prior to hospitalisation if treatment is delayed. Haemodialysis is the most effective means of removing ethylene glycol and its metabolites from the body

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Section 5. Fire Fighting Measures	
Flammability of the Product	Non flammable, however it will burn if involved in a fire.
Flash Point	No data
Explosive Limits	No data
Auto Ignition Temperature	No data
Static Discharge	No
Suitable Extinguishing Media	Carbon dioxide, dry chemical, water spray
Hazardous Combustion Products	Alcohols, aldehydes, carbon dioxide and carbon monoxide, ethers, toxic fumes
Precautions for Fire Fighting	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	Gloves (neoprene), safety glasses, coveralls chemical resistant
Environmental Precautions	Do not allow to enter storm sewers and waterways
Methods for Clean Up	Wear full protective equipment. Dyke area and collect spilt 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	
Handling	Handle with care. Do not eat or drink near this product, employ good housekeeping practices. Empty containers may contain residues, these should not be cut or welded, vapours mixed with air may burn.
Storage	Store in a cool dry place. Keep containers closed at all times.

Section 8. Exposure Controls and Personal Protection				
Exposure Guidelines	TWA: 8 Hr	STEL: 15 min	Ceiling	IDLH *
Ethylene glycol			50 ppm (NIOSH) 100 ppm (ACGIH)	
Exposure Controls	Local exhaust ventilation			

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Personal Protection	
Respiratory	Air purifying respirator with cartridges for organic vapours/mists if exposure limits are being exceeded
Skin	
Eyes	Gloves (neoprene) and chemical resistant coveralls
Other	Safety glasses

Section 9. Physical and Chemical Properties	
Physical State and Appearance	Clear, colourless liquid, with mild odour
Odour Threshold	0.08 – 25 ppm
pH	8
Boiling Point	No data
Melting Point / Freezing point	No data
Evaporation Rate	No data
Vapour Density	No data
Vapour Pressure	No data
Specific Gravity	1.088 Specific gravity
Solubility in Water	Completely miscible in water
% Volatile	No data
Other Data	None

Section 10. Stability and Reactivity	
Chemical Stability	Stable
Hazardous Polymerisation	Will not occur
Conditions to Avoid	Naked flames
Materials to Avoid	Alkali metals, strong acids, strong alkalis and strong oxidising agents
Hazardous Decomposition Products	Glycolic acid

Section 11. Toxicological Information	
Principle Routes of Exposure	
Skin:	Irritant. Can cause burning and redness. Product will be absorbed through the skin and can cause health effects.
Eyes:	Irritant. Will cause irritation and redness.
Inhalation:	Harmful. Inhalation of larger quantities of this material will be harmful. Irritation of the respiratory tract, digestive tract disturbances, vomiting and diarrhea, 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:	Toxic. Ingestion of this product may lead to kidney, liver and brain damage. Digestive tract disturbances, vomiting and

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diarrhea, kidney failure and liver damage.	
Additional Information	
Acute Toxicity	
Ethylene glycol	LD50: 4700 mg/kg (Rat, oral) LD50: 9530 mg/kg (Mouse, oral) LD50: 10876 mg/kg (Rabbit, dermal)
Chronic Toxic Effects – Liver and kidney damage	
Carcinogenicity – Not listed	
Reproductive Toxicity / Teratogenicity / Embryotoxicity / Mutagenicity – Ethylene glycol has caused birth defects in animals at high oral doses. It did cause harm to the pregnant animal or fetus when applied to the skin of the pregnant animal.	

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)
BOD and COD	BOD: 8 to 82 % @ 5days; 58 to 75% @ 10 days; 81 to 94 % @ 20 days COD: 1.29 mg/mg
Biodegradability / OECD	Ethylene glycol is biodegradable
Toxicity of the Products of Biodegradation	No data
Special Remarks	None

Section 13. Disposal Considerations	
Dispose of in accordance with local, provincial and federal regulations	

Section 14. Transport Information	
TDG Classification	Not regulated for TDG
Emergency Response Guide #	Not applicable
Marine Pollutant	No data
Special Precautions	None

Section 15. Regulatory Information	
Canada – DSL Inventory	All components of this product are either on the Domestic Substances List (DSL) or Non-Domestic Substances List (NDSL) or exempt
TSCA	All components of this product are either on the Toxic Substances

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	Control Act (TSCA) Inventory List or exempt
WHMIS Hazard Class	D2B D2A
Additional Information	None

Section 16. Other Information	
Prepared by:	Chemfax Products Ltd., Technical Department
Date Prepared:	November 15, 2013
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Disclaimer	<p>Notice to reader</p> <p>To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.</p> <p>Chemfax Products Ltd. expressly disclaims all expressed or implied warranties of merchantability and fitness for a particular purpose with respect to the product provided.</p>