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SAFETY DATA SHEET

SECTION 01 - PRODUCT AND COMPANY IDENTIFICATION

Product Identifier ETHYLENE GLYCOL (50% V/V)		Product Use Laboratory use	
Chemical formula HOCH ₂ CH ₂ OH		Product code ES-0111; ES-0911	Molar weight 62,07
Chemical name / Commercial name / Synonymous Éthylène glycol, 2-HYDROXYETHANOL, ETHANE-1,2-DIOL, ETHANEDIOL-1,2, ETHYLENE ALCOHOL, Glycol d'éthylène, Monoéthylène glycol, 1,2-Ethenediol, Ethylene glycol.			
Supplier's name Laboratoire MAT		Address-Street 610, Adanac Street	
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Emergency phone	CANUTEC: 613-996-6666	CENTRE ANTI-POISON DU QUÉBEC 800-463-5060	
Date SDS 10/6/2023	SDS Prepared by Laboratoire MAT	E-Mail labmat@labmat.com	

SECTION 02 - HAZARDS IDENTIFICATION

Classification WHIMS / GHS	Specific Target Organ Toxicity - Repeated exposure category 2
Signal Word	WARNING
Hazards statements (H)	H373 May cause damage to organs through prolonged or repeated exposure.
Precautionary statements (P)	P260 Do not breathe dust / fume / gas / mist / vapors / spray. P314 Get medical advice/attention if you feel unwell. P501 Dispose of contents/container in accordance with local / regional / national / international regulations or contact a specialist waste disposal company.
PICTOGRAMS	
Other dangers	NFPA (Risk: 0=No risk; 1=Slight; 2=Moderate; 3=Signifiant; 4=Extreme)
	Health 2 Fire 1 Reactivity 0 Special danger

SECTION 03 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingrédients (Dénomination chimique / synonymes)	Numéro CAS et tout identificateur unique	Concentration (%)
Ethylène glycol	107-21-1	52

SECTION 04 - FIRST AID MEASURES

Eye contact	Wash eyes with large amounts of water for at least 15 minutes while holding eyelids apart to rinse eyes. If irritation persists, seek medical attention.
Skin contact	Wash skin with plenty of water for at least 15 minutes. Remove soiled clothing. If irritation persists, seek medical attention.
Inhalation	Move the unwell person to the fresh air. If breathing is difficult, give oxygen. Consult a physician.
Ingestion	Never give anything by mouth to an unconscious person. Rinse mouth with water. Get immediate medical help.
Most important symptoms and effects (acute and delayed)	Main symptoms of high exposure: Drowsiness. Dizziness. Ref. section 11.
Immediate medical attention and special treatment, if necessary	In case of medical consultation, keep this sheet available.
General advice	Show this safety data sheet to the doctor in attendance.

SECTION 05 - FIREFIGHTING MEASURES

Flammability	No
Ignition conditions	Flame directly on the product or intense heat.
Suitable extinguishing media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable extinguishing media	Data not available.
Hazardous combustion products	Hazardous combustion products formed under fire conditions: Carbon oxides.
Special fire and explosion hazards	When concentrated, the product reacts according to the following characteristics: Combustible liquid. Moderate risks of fire or explosion in the presence of heat or flame. Ethylene glycol may react violently with the following products: chlorosulfonic acid, perchloric acid, sulfuric acid, ammonium dichromate, silver chlorate, chromium trioxide, oleum, phosphorus pentasulfide, potassium permanganate, sodium chlorite and sodium peroxide. May react violently with incompatible products (Ref Section 10).
Special protective equipment and precautions for firefighters	Discard incompatible substances if this can be done without risk. Firefighters should be equipped with standard protective equipment, fireproof clothing, face mask, gloves, protective boots and, where appropriate, self-contained breathing apparatus.

SECTION 06 - ACCIDENTAL RELEASE MEASURES

Methods and materials for containment and cleaning up / Personnel precautions, protective equipment	Evacuate personnel to safe areas. Absorb the product with sand or vermiculite. Dilute residues with water, clean and rinse. Ensure a good ventilation of the premises. Dispose of residues in a container for disposal of hazardous materials. When handling, wear suitable safety equipment. Use breathing apparatus if necessary. Avoid breathing vapors, mist or gas. Do not let product enter drains.
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SECTION 07 - HANDLING AND STORAGE

Conditions for safe storage	Protect from the sun's rays. Store in a cool, dry place. Store in a well-ventilated area. Keep container tightly closed and store away from heat, moisture, and incompatible products.
Methods of handling	Always open containers slowly to allow any excess pressure to vent. Avoid inhalation of vapor or mist. Wear personal protective equipment when handling. Always ensure good ventilation. Transport according to TDG (ref Section 14)

SECTION 08 - EXPOSURE CONTROLS/PERSONAL PROTECTION

Workplace control parameters

Components	CAS-No.	Value	Control parameters	Basis
Ethylene glycol	107-21-1	(c)	100.000000 mg/m3	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
Remarks	Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required			
		TWA	10.000000 mg/m3	Canada. British Columbia OEL
		STEL	20.000000 mg/m3	Canada. British Columbia OEL
		C	100.000000 mg/m3	Canada. British Columbia OEL
		C	50.000000 ppm	Canada. British Columbia OEL
		C	50.000000 ppm	Canada. British Columbia OEL
		C	100.000000 mg/m3	Canada. British Columbia OEL
		C	50.000000 ppm 127.000000 mg/m3	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
A substance which may not be recirculated in accordance with section 108				
		TWA	10.000000 mg/m3	Canada. British Columbia OEL
		STEL	20.000000 mg/m3	Canada. British Columbia OEL
		C	50.000000 ppm 127.000000 mg/m3	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
A substance which may not be recirculated in accordance with section 108				
		C	100.000000 mg/m3	USA. ACGIH Threshold Limit Values (TLV)
		C	100.000000 mg/m3	USA. ACGIH Threshold Limit Values (TLV)
		C	100 mg/m3	USA. ACGIH Threshold Limit Values (TLV)

Data source	Sigma-Aldrich.
Ventilation	Fan.
Respiratory	If the permissible levels are exceeded, use a mechanical filter / cartridge against NIOSH vapors or a respirator with air supply.
Gloves	Handle with gloves.
Eyes	Safety goggles with safety shutters.
Shoes	Safety shoes.
Clothing	Labcoat. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Engineering control	Have safety showers and eyewash stations in the workplace in case of an emergency and a ventilation system to maintain the level of concentrations in the air below the exposure limit values.

SECTION 09 - PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Liquid.
Appearance	Liquide incolore et sirupeux..
Odour	inodore.
Odour threshold	Data not available
pH	5.5 - 7.5 50% aq. sol.
Melting point / Freezing point	-36.8°C
Initial boiling point	107.2°C
Boiling range	Data not available
Flash point	Data not available
Evaporation rate	Data not available
Flammability	No
Lower flammable / Explosive limit	Data not available
Upper flammable / Explosive limit	Data not available
Vapour pressure	Data not available
Solubility	Miscible avec l'eau en toutes proportions; 1 000 g/L @ 20 °C. Miscible avec l'alcool, l'acétone et la glycérine.
Vapour density	Data not available
Relative density	1.08g/ml
Partition coefficient water/n-octanol	Data not available
Auto-ignition temperature	Data not available
Decomposition temperature	Data not available
Viscosity	Data not available

SECTION 10 - STABILITY AND REACTIVITY

Reactivity	May react violently with incompatible substances.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	May react violently with incompatible substances.
Conditions of instability (Including sensitivity to shock / static discharge / vibration)	Incompatible products. Avoid excessive heat. Hygroscopic: absorbs twice its weight in water under a relative humidity of 100%.
Incompatible material	Strong oxidizing agents (nitric acid, perchloric acid, peroxides, chlorates and perchlorates), strong acids and bases, ammonium dichromate, chromium trioxide, oleum, phosphorus pentasulfide, permanganate of potassium, sodium chlorite, heat and moisture.
Hazardous decomposition products	Hazardous decomposition products formed under fire conditions. Toxic vapors of carbon monoxide and dioxide.

SECTION 11 - TOXICOLOGICAL INFORMATION

ETHYLENE GLYCOL

Routes of exposure	Ingestion, inhalation, skin and eyes.
Acute exposition effects / symptoms:	By exposure route below.
- Eyes	Irritation and may cause inflammation of the conjunctiva.
- Skin	Irritation and dermatitis.
- Inhalation	Irritation of the mucous membranes and respiratory tract. Nervous disorders, chest pain, lung damage, cough, dyspnea, headache, dizziness, dysarthria, tachycardia, seizures, hypotension, respiratory or cardiac failure, irreversible brain damage, and death.
Acute toxicity (Ingestion)	Irritation of the mucous membranes. Liver and kidney damage (anuria, uremia), abdominal pain, cramps, diarrhea, headache, dizziness, drowsiness, dysarthria, acidosis, tachycardia, seizures, hypotension, respiratory or cardiac failure, irreversible brain damage and may result in death. death. NOTE: The lethal dose in humans is approximately 100 ml.
Chronic exposure effects / symptoms	Burning sensation, dermatitis, conjunctivitis, kidney damage, chest pain, cough, dyspnoea, laryngitis, headache, dizziness, confusion, irritability, tearing, dysarthria, tachypnea, fatigue, fever, weight loss and loss of appetite, nausea and vomiting. Prolonged exposure may cause reproductive abnormalities in humans. Proven risk of serious effects on organs as a result of repeated exposure or prolonged exposure. Target organs: Liver, kidney. Note: Exposure limit value 127 mg / m ³ (50 ppm).
DL50 (specify species and route of entry)	LD50 Oral - Rat - 4,700 mg/kg LD50 Dermal - Rabbit - > 5000 mg / kg
CL50 (specify species and route of entry)	LC50 - Inhalation - Data not available.

SUMMARY

Acute exposure effects / Symptoms:	By exposure routes below.
Ingestion	To our knowledge, the product has not been fully evaluated
Inhalation	To our knowledge, the product has not been fully evaluated
Skin	To our knowledge, the product has not been fully evaluated
Eyes	To our knowledge, the product has not been fully evaluated
Chronic exposure effects / Symptoms:	To our knowledge, the product has not been fully evaluated
ETA Mix (Estimated Acute Toxicity)	LD50 Oral: > 5000 mg/kg - Rat LD50 Dermal: > 5000 mg/kg - Rabbit LC50 Inhalation: No data available

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity	Ethylene glycol: Toxicity to fish: LC50 - Oncorhynchus mykiss (rainbow trout) - 18,500 mg / l - 96 h LC50 - Leuciscus idus (Ide) - > 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 algae: EC50: 6500 - 13000 mg / L, 96h (Pseudokirchneriella subcapitata) Toxicity to daphnia and other aquatic invertebrates: EC50 - Daphnia magna (Great Daphnia) - 74,000 mg / l - 24 h NOEC - Daphnia (Daphnia) - 24,000 mg / l - 48 h LC50 - Daphnia magna (Great Daphnia) - 41,000 mg / l - 48 h
Persistence and degradability	Persistence is unlikely based on information available.
Bioaccumulative potential	Does not bioaccumulate. Bioaccumulation other fish - 61 d Bioconcentration factor (BCF): 0.60
Mobility in soil	Probable mobility in the environment due to its solubility in water.
Other adverse effects	Data not available.

SECTION 13 - DISPOSAL CONSIDERATIONS

Waste Disposal Method	Dispose of contents / container in accordance with local / regional / national / international regulations / or contact a specialist waste disposal company.
Contaminated Packaging	Dispose of as unused product.

SECTION 14 - TRANSPORT INFORMATION

UN Number	N/R
UN Proper shipping name	
Transport hazard class(es)	
Packing group	
Limited quantity index	
ERAP Index	
Special precautions	

SECTION 15 - REGULATORY INFORMATION

WHIMS CANADA	Specific Target Organ Toxicity - Repeated exposure category 2
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SECTION 16 - OTHER INFORMATION

Further information

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. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. It does not represent any guarantee of the properties of the product. Laboratoire MAT Inc. shall not be held liable for any damage resulting from handling or from contact with the above product.

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