



Material Safety Data Sheet

WHMIS (Pictograms)	WHMIS (Classification)	Personal protective equipment
	Class D-2A: Material causing other toxic effects (Very toxic).	

Section 1. Product and Company Identification

Product name / Trade name	Diesel Extended Life Coolant Premix 50/50	Associated Product's Item Code	WIP-15720R-50
Synonym	Glycol, EG 1,2-Ethanediol	CAS #	107-21-1
Chemical family	Glycol.	Validation date	11/23/2007.
Chemical formula	CH ₂ OHCH ₂ OH	Print date	11/23/2007.
Manufacturer	Recochem Inc. 850 Montee de Liesse Montreal, Quebec 514-341-3550	In case of emergency	Recochem Inc. Communications and Regulatory Affairs Department (905) 791-1788
Material uses	Industrial applications: Coolant and antifreeze formulations.		

Section 2. Hazardous Ingredients

Canada

<u>Name</u>	<u>CAS number</u>	<u>%</u>
Ethylene glycol	107-21-1	45-55
Sodium benzoate	532-32-1	1-5

There are no ingredients or additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Section 3. Hazard Identification

Emergency Overview	MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA. May cause target organ damage, based on animal data.
Potential Acute Health Effects	See Section #11: "Toxicological Information" for further human health effects. Toxic by ingestion. May cause abdominal discomfort or pain, nausea, vomiting, dizziness, central nervous system effects and coma. Cardiac failure, pulmonary edema and severe kidney damage may develop. May cause mild eye irritation. May cause mild skin irritation. Unlikely to be inhaled because of physical characteristics, however, heated material may produce vapours, which may cause irritation to lungs if inhaled excessively. Inhalation, particularly of mist, may cause irritation of the nose and throat with headache. High vapour concentrations may produce nausea, vomiting, headache, dizziness and irregular eye movement.

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**Note to Physician**

The signs and symptoms in ethylene glycol poisoning are those of metabolic acidosis, central nervous system depression and kidney injury. Clinical chemistry may reveal anion-gap metabolic acidosis and uremia. Treatment with ethanol to inhibit the metabolism of glycol to oxalate. Early administration of ethanol may counter the toxic effects of ethylene glycol (cardiopulmonary effects attributed to metabolic acidosis and renal damage). Hemodialysis or peritoneal dialysis have been of benefit. Pre-existing skin, eye, and respiratory disorders may be aggravated by exposure to this product. Treat symptomatically and supportively.

Section 4. First aid measures

Eye contact	Immediately flush eyes with plenty of water for at least 60 minutes, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
Skin contact	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
Inhalation	Move exposed person to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
Ingestion	Wash out mouth with water. Remove dentures if any. Move exposed person to fresh air. Keep person warm and at rest. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Section 5. Fire fighting measures

Products of combustion	Decomposition products may include the following materials: carbon oxides
Fire-fighting media and instructions	Use an extinguishing agent suitable for the surrounding fire.
Fire Hazards	When heated to decomposition, it emits acrid smoke and irritating fumes. May be combustible at high temperature.
Explosion Hazards	Not a product presenting risks of explosion.

Section 6. Accidental release measures

Small spill and leak	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Large spill and leak	Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

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Section 7. Handling and Storage

Handling	Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Do not breathe vapor or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
Storage	See Section #10 for applicable incompatible materials. Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls, personal protection

Engineering controls	No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.
Personal protection	
Eyes	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. Recommended: splash goggles
Body	Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Respiratory	Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
Hands	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. >8 hours (breakthrough time): nitrile rubber

Product name

Canada

Ethylene glycol

Exposure limits

ACGIH (Canada, 2003).
CEIL: 100 mg/m³

Section 9. Physical and chemical properties

Physical State and Appearance	Clear viscous liquid.	Odour	Odourless.
Molecular weight	62.07 g/mole	Taste	Sweet.
pH	Not available.	Colour	Not available.
Boiling/condensation point	Not available.	Volatility	0% (w/w).
Melting/freezing point	Not available.	Evaporation rate	0.01 compared to Butyl acetate.
Relative density	Not available.	Odour Threshold	Not available.

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Vapour Pressure	0.06 mm of Hg (@ 20°C)	Viscosity	Not available.
Vapour Density	2.1 (Air = 1)	Solubility	Soluble in water, methanol, diethyl ether.
VOC Content	1115 (g/l).	Other Properties	Not available.
The product is:	May be combustible at high temperature.		
Auto-ignition temperature	400°C (752°F)		
Flash Point	Closed cup: 116°C (240.8°F) [Tagliabue.] Open cup: 115.6°C (240.1°F) [Cleveland]		
Flammable limits	Lower: 3.2% Upper: 15.3%		
Fire hazards in the presence of various substances	Non-flammable in the presence of the following materials or conditions: open flames, sparks and static discharge, heat and shocks and mechanical impacts. When heated to decomposition, it emits acrid smoke and irritating fumes.		

Section 10. Stability and reactivity

Stability	The product is stable. Under normal conditions of storage and use, hazardous polymerization will not occur.
Conditions of instability	No additional remark.
Incompatibility with various substances	Reactive with oxidizing agents, acids, alkalis.

Section 11. Toxicological information

Routes of entry	Absorbed through skin. Eye contact. Inhalation. Ingestion.
Environmental effects	This product shows a low bioaccumulation potential.
Acute effects on humans	
Eyes	May cause mild eye irritation.
Skin	May cause mild skin irritation. Heated material may also cause skin burns with direct contact.
Inhalation	Unlikely to be inhaled because of physical characteristics, however, heated material may produce vapours, which may cause irritation to lungs if inhaled excessively. Inhalation, particularly of mist, may cause irritation of the nose and throat with headache. High vapour concentrations may produce nausea, vomiting, headache, dizziness and irregular eye movement. Inhalation of mist or vapour from heated material may cause respiratory irritation.
Ingestion	Toxic by ingestion. HARMFUL OR FATAL IF SWALLOWED. Ethylene glycol is more acutely toxic to humans than to animals. The lethal dose in humans is estimated to be 100ml (3 ounces). May cause abdominal discomfort or pain, nausea, vomiting, dizziness, central nervous system effects and coma. Cardiac failure, pulmonary edema and severe kidney damage may develop. Small amounts swallowed incidental to normal handling operations are not likely to cause injury; however swallowing amounts larger than that may cause serious injury, even death. Ethylene glycol is known to cause adverse effects on bone marrow and sperm of laboratory animals

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Chronic effects on humans **CARCINOGENIC EFFECTS:** A4 (Not classifiable for humans or animals.) by ACGIH. Ethylene glycol did not cause cancer in long term animal studies.
MUTAGENIC EFFECTS: In vitro and in vivo mutagenicity studies were negative.
TERATOGENIC EFFECTS: Teratogenic in mice at levels below maternal toxicity.
DEVELOPMENTAL TOXICITY: Fetotoxic in mice at levels below maternal toxicity.
 Excessive exposure may cause central nervous system (CNS) depression, kidney failure and possibly liver effects. Repeated or prolonged exposure to the substance can produce target organs damage.
 Prolonged and repeated contact with skin can cause drying of the skin resulting in irritation and dermatitis.
 Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs. Impaired reproductive, liver, kidney and central nervous system functions from pre-existing disorders may be aggravated by exposure to this product. Pre-existing eye, skin and respiratory disorders may be aggravated by exposure to this product.

Toxicity to animals
Section 12. Ecological information

Ecotoxicity For accidental discharges into environment, see Section #6: "Accidental Release Measures" for suggested instructions.
 This product shows a low bioaccumulation potential.
 Not available.

Section 13. Disposal considerations

Waste information The generation of waste should be avoided or minimized wherever possible. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Section 14. Transport information
Canada Transportation of Dangerous Goods (TDG) Information

Primary Class	Not a TDG-controlled material.
Subsidiary Class (if applicable)	-
Proper shipping name	Not applicable.
Hazard identification number	Not applicable.
Packing group	Not applicable.
Special Provisions	Not applicable.

No placard (handling and hazard label) required.

International Maritime Dangerous Goods (IMDG) Transportation Information

Primary Class	Not controlled under IMDG.
Subsidiary Class (if applicable)	Not applicable.

No placard (handling and hazard label) required.

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Proper shipping name	Not applicable.
Hazard identification number	Not applicable.
Packing group	Not applicable.
Marine pollutant	Not a pollutant.
Special Provisions	Not applicable.

No placard (handling and hazard label) required.

United States Department of Transportation (DOT) Information

Primary Class	Class 9: Miscellaneous hazardous material.
Subsidiary class (if applicable)	-
Proper shipping name	Environmentally hazardous substance, liquid, n.o.s. (Ethylene glycol)
Hazard identification number	UN 3082
Packing group	III
Special Provisions	In single containers of 5000 lbs capacity or less this product is exempt from DOT regulations (non regulated). Does not require label or placards. Regulated Quantity (RQ)= 5000 lbs (2268 kg) (as ethylene glycol) For bulk shipments equal to or greater than Regulated Quantity (RQ), please adhere to classification as outlined in DOT Classification section.



International Air Transport Association (IATA)	For air shipment classification and associated regulations, please refer to the latest edition of IATA Dangerous Goods Regulations.
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Section 15. Other Regulatory Information and Pictograms

WHMIS Classification (Canada)	Class D-2A: Material causing other toxic effects (Very toxic).
Canada Domestic Substances List (DSL) Status	This product and/ or all of its components are on the DSL.



HCS Classification (U.S.A.)	Target organ effects
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U.S.A. Regulatory Lists	This product and/ or all of its components are on the TSCA inventory list.
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Hazardous Material Information System (U.S.A.)

Health	2
Flammability	1
Reactivity	0
Personal protection	B

National Fire Protection Association (U.S.A.)

Health	2	1	0	Reactivity
Specific hazard				

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Section 16. Other information

Validated and verified by Compliance and Technical Information Manager on 11/23/2007
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Notice to reader

*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.*

MSDS are available at www.recochem.com