

MATERIAL SAFETY DATA SHEET

Initial MSDS Date: 12/23/11

Updated: 12/26/11

MSDS: TP-HO

Prepared by: Energy Technology Unlimited - MN

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: ThermoPro HO (Hybrid OAT) Coolant/Antifreeze

Energy Technology Unlimited-MN, 1612 - 7th Street NW, Faribault, MN 55021

General Information Phone (507) 334-0442

24 HOUR EMERGENCY CONTACT: CHEMTREC (800) 424-9300

2. COMPOSITION / INFORMATION ON INGREDIENTS

<u>Component</u>	<u>CAS#</u>	<u>% by Wt.</u>	<u>Exposure Limits</u>
Water	7732-18-5	49 - 50	None.
Ethylene Glycol	107-21-1	45 - 48	OSHA VPEL: 50 ppm - Ceiling. ACGIH TLV: 100 mg/m ³ - Ceiling as an aerosol.
Diethylene Glycol	111-46-4	0 - 2	OSHA PEL: No exposure limits established. ACGIH TLV: No exposure limits established.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

CAUTION: This is a amber or yellow colored liquid that can be fatal if swallowed. Over exposure may cause neurological signs / symptoms and kidney damage. Very toxic in particulate form upon inhalation. Seek advice of a physician or poison control center immediately if ingested.

Potential Health Effects

Eye: An eye irritant.

Skin: Contact may result in skin irritation.

Ingestion: Human poison by ingestion (lethal dose of ethylene glycol for humans reported to be 100 ml).

Inhalation: Very toxic in particulate form upon inhalation.

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Chronic (Cancer) Information: Not classifiable as a human carcinogen. There is inadequate data on which to classify the agent (ethylene glycol) in terms of its carcinogenicity in humans and/or animals.

Teratology (Birth Defect) Information: Information not available.

Reproduction Information: Information not available.

4. FIRST AID MEASURES

Eyes: Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes while holding eyelids apart. Get medical attention.

Skin: Immediately wash skin with soap and plenty of water. Get medical attention if irritation develops or persists.

Ingestion: Poisonous by ingestion. If swallowed seek advice of medical personnel or poison control center immediately. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Inhalation: Remove effected person(s) to fresh air. If symptoms occur, consult physician.

Note to Physicians: *Stain for evidence of corneal abrasion or injury. Suggest baseline CBC, UA, ABG, and SMA 12. Suggest baseline electrolytes. Consult standard literature. Use of alcohol may be helpful. Prompt medical attention is important. Delayed treatment may result in fatality. This product is a CNS depressant.*

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES:

Flash Point: N/A (% water is over 20) Method: COC

FLAMMABLE LIMITS:

Lower Flammable Limit: Not Determined.

Upper Flammable Limit: Not Determined.

AUTOIGNITION TEMPERATURE: 398°C (748°F) for 100% ethylene glycol.

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HAZARDOUS COMBUSTION PRODUCTS: Ethylene glycol is combustible when exposed to heat or flame, can react vigorously with oxidants. Moderate explosion hazard when exposed to flame. See Section 10 for further details.

EXTINGUISHING MEDIA: To fight fires, use alcohol-resistant foam, water spray, CO₂, dry chemical.

FIRE FIGHTING INSTRUCTIONS: Wear positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing to provided limited protection.

NFPA Rating: Health: 1, Flammability: 1, Reactivity 0

HMSIS Rating: Health: 2, Flammability: 1, Reactivity: 0

KEY: 0 - Minimal 1 - Slight 2 - Moderate 3 - Serious 4 - Severe

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILL: Soak up with noncombustible absorbent material and place into container for disposal. Wear protective clothing. Product on surfaces can cause slippery conditions. Practice reasonable care and cleanliness. Keep out of reach of children and animals.

LARGE SPILL: Dike/contain and pump into suitable containers for recycling or disposal. Eliminate all ignition sources. Prevent runoff from entering into storm sewers and ditches that lead to natural waterways. Ensure compliance with all applicable statues that require notification of appropriate government officials.

PROTECT THE ENVIRONMENT: Do not dump used product or diluted material into sewers, on the ground, or into any body of water. Recycle used products if services are available.

7. HANDLING AND STORAGE

HANDLING: Wash thoroughly with soap and water after handling.

STORAGE: Keep containers closed when not in use. Store away from extreme temperatures. Do not store near foodstuffs, drugs or potable water supplies. Product may become solid at temperatures below -37°C (-34°F).

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8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS: Use adequate mechanical ventilation.

RESPIRATORY PROTECTION: None special.

SKIN PROTECTION: If dispensing, use an apron impervious to ethylene glycol (to protect from splashing), sleeves if applicable, and impervious gloves. Shower should be available.

EYE PROTECTION: Use chemical goggles or face shield. Emergency eyewash should be available.

9. PHYSICAL / CHEMICAL PROPERTIES

Boiling Range:	106 - 108 ⁰ C (224 - 227 ⁰ F)
Freeze Point:	-37 ⁰ C (-34 ⁰ F)
Specific Gravity (Water=1):	1.07
Pounds/Gallon:	8.9
Vapor Pressure (mm of Hg):	N/A
Vapor Density (Air=1):	N/A
Water Solubility:	Complete/100%
Volatile Organic Compounds (VOC):	N/A
Appearance:	Amber or yellow colored liquid
Odor:	Mild
pH:	8.5 - 9.0

10. STABILITY AND REACTIVITY

Stability:	Stable, moderate explosion hazard.
Incompatibility:	Strong acids or oxidizing agents.
Hazardous Decomposition Products:	Incomplete combustion may produce CO.
Hazardous Polymerization:	Will not occur.
Conditions to Avoid:	Keep away from flame.

11. TOXICOLOGICAL INFORMATION

Eye: An eye irritant.

Skin: Contact may result in skin irritation.

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Ingestion: Human systemic effects by ingestion are eye lacrimation, general anesthesia, headache, cough, respiratory stimulation, nausea, or vomiting, pulmonary, kidney and liver damage. If ingested it causes initial central nervous system stimulation followed by depression. Later it causes potentially lethal kidney damage. Human poison by ingestion.

Inhalation: Very toxic in particulate form upon inhalation. Human systemic effects by inhalation are eye lacrimation, general anesthesia, headache, cough, respiratory stimulation, nausea or vomiting, pulmonary, kidney and liver damage.

Subchronic: Information not available.

Teratology: Information not available.

Reproduction: Information not available.

Mutagenicity: Information not available.

12. ECOLOGICAL INFORMATION

Ecotoxicological Information: Information not available.

Chemical Fate Information: Information not available.

13. DISPOSAL CONSIDERATIONS: Dispose in accordance with applicable federal, state, and local laws. Contact local or state agencies to obtain information on recycling.

14. TRANSPORT INFORMATION (Not meant to be all inclusive)

U.S. DEPARTMENT OF TRANSPORTATION: The following DOT shipping description applies when shipping quantities greater than 5,000 pounds per container:

Proper Shipping Name: RQ Environmentally Hazardous Substance, Liquid, N.O.S.

Technical Name: Ethylene Glycol

ID Number: UN 3082

Hazard Class: 9

Packing Group: PG III

Reportable Quantity: 5,000 lb.

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15. REGULATORY INFORMATION

TSCA Inventory: Listed

Water Standards: No data available

CERCLA: Reportable Quantity (RQ): 5,000 pounds

OSHA: This product is a "Hazardous chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200

SARA Title III: Section 311/312 - Categories: Acute hazard; chronic hazard

Section 312 - Inventory Reporting: Ethylene glycol is subject to Tier I and/or Tier II annual inventory reporting.

Section 313 - Emission Reporting: Ethylene glycol is subject to Form R reporting requirements.

Section 302 - Extremely Hazardous Substances: Ethylene glycol is not listed.

EINECS: Information not available.

STATE REGULATIONS: Consult state regulatory agencies to determine specific regulations that might apply to this product.

16. OTHER INFORMATION

Disclaimer of Liability: The information contained herein is based on the data available to us and, is to the best of our knowledge and belief, accurate. ETU-MN makes no warranty, representation or guarantee as to the accuracy, sufficiency or completeness of the material set forth herein. It is the user's responsibility to determine the safety, toxicity and suitability of his own use, handling and disposal of this product. Since actual use by others is beyond our control, no warranty, expressed or implied, is made by ETU-MN as to the effects of such use, the results to be obtained or the safety and toxicity of this product, nor does ETU-MN assume any liability arising out of the use by others of this product referred to herein. Nothing is to be construed as a recommendation for use in violation of any applicable laws or regulations.