

MATERIAL SAFETY DATA SHEET

SECTION I - PRODUCT IDENTIFICATION

Universal Lubricants, Inc.
2824 N. Ohio, Wichita, KS 67219
EMERGENCY PHONE: (316) 832-0151

PRODUCT CODE: K000
REV. DATE: 03/12/02

TRADE NAME: **UNIVERSAL MULTI-PURPOSE ANTI-FREEZE AND ENGINE COOLANT**
SYNONYMS: Anti-Freeze/Engine Coolant
CAS REG. NO.: Mixture

NFPA Hazard Classification: HEALTH - 2; FLAMMABILITY - 1; REACTIVITY - 0;
(Least=0; Slight=1; Moderate=2; High=3; Extreme=4)

SECTION II - INGREDIENTS

Component Name <u>CAS Number</u>	Hazardous <u>in Blend</u>	Approx. <u>%</u>	OSHA/ACGIH <u>PEL/TLV</u>
Ethylene Glycol CAS NO: 000107-21-1	Yes	90	
Diethylene Glycol CAS NO: 000111-46-6	Yes	<5	
Water CAS NO: 007732-18-5	No	<3	
Inorganic/Organic Salts Trade Secret	No	<4	
Non-Hazardous Inhibitors Trade Secret	No	<2	

SECTION III - PHYSICAL DATA

-Specific Gravity ($H_2O=1$):	1.11 - 1.14 60/60F, 16C
-Appearance:	Green Liquid
-Odor:	N/A
-Solubility in Water:	Completely miscible
-Vapor Pressure:	Very low
-Vapor Density:	>1
-Boiling Point:	330°F (166°C)
-Percent Volatile:	N/A
-Molecular Weight:	Variable

SECTION IV - FIRE PROTECTION INFORMATION

- Flash Point (C.O.C.): 119°C, (247°F)
- Flammable Limits in Air, % by volume: Lower-N/A; Upper-N/A
- Extinguishing Media: Use dry chemical, foam or carbon dioxide.
- Unusual Fire and Explosion Conditions: Do not weld, heat or drill containers. Dense smoke may be generated while burning. Carbon monoxide, carbon dioxide and other oxides may be generated as products of combustion.
- Special Fire Fighting Procedures: Do not enter confined fire space without proper protective equipment. Cool fire exposed containers with water. Caution should be exercised when using water or foam as frothing may occur, especially if sprayed into containers of hot, burning liquid.

SECTION V - REACTIVITY DATA

- Stability: Stable under normal storage conditions. Ethylene glycol will ignite in air at 748°F (398°C). Diethylene glycol will ignite in air at 435°F (244°C).
- Conditions to Avoid: Heat, open flames, oxidizing materials and mist.
- Incompatibility: May react strong with oxidizing materials.
- Hazardous Polymerization: Will not occur.
- Hazardous Decomposition Products: Burning produces normal products of combustion, including carbon monoxide, carbon dioxide and water.

SECTION VI - PERSONAL HEALTH PROTECTION INFORMATION

Threshold Limit Value: 50 ppm ceiling for ethylene glycol.

Eye Protection: If material is handled such that it could be splashed into eyes, wear plastic face shield or splash-proof safety goggles.

Skin Protection: For prolonged or repeated exposures, use impervious clothing (boots, gloves, aprons, etc.) over parts of the body subject to exposure. If handling hot material, use insulated protective clothing. Launder soiled clothes. Properly dispose of contaminated leather articles, including shoes, which cannot be decontaminated.

Respiratory Protection: If vapor or mist is generated when the material is heated or handled, use an organic vapor respirator with a dust and mist filter. All respirators must be NIOSH certified. Adequate ventilation in accordance with good engineering practices must be provided to maintain concentrations below the specified exposure or flammable limits.

Ingestion: Ethylene Glycol is toxic when swallowed. A lethal dose is 1-2 ml per kilogram. Food and beverage consumption should be avoided in work areas where ethylene glycol is present.

SECTION VII - EMERGENCY AND FIRST AID PROCEDURES

Eye Contact: Immediately flush eyes with large amounts of water and continue flushing until irritation subsides. Seek medical attention.

Skin Contact: Remove contaminated clothing. Wash contaminated area with soap and water. Do not reuse clothing until thoroughly cleaned. Seek medical attention for persistent irritation.

Inhalation: If breathing difficulty exists, remove victim to fresh air. Seek medical attention.

Ingestion: If conscious, give victim 16 ozs. of water. Do not induce vomiting. Seek medical attention immediately. Never give anything by mouth to an unconscious person.

Skin Injection: If product is injected into or under skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

NOTE TO PHYSICIAN: Treatment based on judgment of the physician in response to reactions of the patient. In treatment of intoxication, the use of ethanol, hemodialysis and intravenous fluids to control acidosis should be considered (N Eng J Med 304:21 1981).

SECTION VIII - ENVIRONMENTAL PRECAUTIONS

-Steps to be taken if material is released or spilled: Consult Personal Health Protection Information (SECTION VI), Fire Protection Information (SECTION IV), and Reactivity Data (SECTION V). Notify appropriate authorities of spill. Contain spill immediately. Do not allow spill to enter sewers or watercourses. Remove all sources of ignition. Absorb with appropriate inert materials, such as sand, clay, etc. Large spills may be picked up using vacuum pumps, shovels, buckets, or other means and placed in drums or suitable containers.

-Disposal of waste: All disposals must comply with Federal, state and local regulations. Spilled or discarded material may be a regulated waste. Refer to state and local regulations. If regulated solvents are used to clean up spilled material, the resulting waste mixture may be regulated. Department of Transportation regulations may apply for transporting of this material.

SECTION IX - HANDLING AND STORAGE

-Store only in properly marked containers. Store in closed containers away from heat, sparks, flame or oxidizing materials.

-Trace quantities of ethylene oxide (EO) may be present in this product, but are not expected to create a condition which will result in EO concentrations >0.5 ppm (8 hour TWA) in the breathing zone of the workplace for appropriate applications. OSHA has established a permissible exposure limit of 1.0 ppm (8 hour TWA) for EO.