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MATERIAL SAFETY DATA SHEET PAGE -1-

UNIVERSAL MOTOR OILS CO., INC., 2824 NORTH OHIO, WICHITA, KS. 67201 PHONE (316) 832-0151

EFFECTIVE DATE: January 1988

PRODUCT CODE: 08214

PRODUCT NAME: ENGINE COOLANT ETHYLENE GLYCOL BASE 731, OEM GREEN, BULK

Universal Multi-Purpose Coolant

MSDS; 000211

SECTION I INGREDIENTS

Ethylene glycol	:	90	:
Diethylene glycol	:	5	:
Water	:	0-2%	:
Proprietary ingredients			

Substances listed in the ingredients Section are those identified as being present at a concentration of 1% or greater, or 0.1% if the substance is on the list of potential carcinogens cited in OSHA Hazard Communication Standard. Where proprietary ingredient shows, the identity of this substance may be made available as provided in 29 CFR 1910.1200(1).

SECTION II PHYSICAL DATA

BOILING POINT: Approx. 330F, 166C	SOL. IN WATER: Completely miscible
VAP PRESS: (mmHg @20C) Very low	SP. GRAVITY: 1.11-1.14 60/60F, 16C
VAP DENSITY: >1	ODOR: Information not available
APPEARANCE: Liquid, colored at customer request	

SECTION III FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: >247F, 119C*	: FLAMMABLE LIMITS
METHOD USED: Setaflash	: LFL: Not Determined
	: UFL: Not Determined

EXTINGUISHING MEDIA: Water fog, alcohol foam, CO2, dry chemical.

FIRE FIGHTING EQUIPMENT: Wear positive-pressure, self-contained breathing

FIRE &amp; EXPLOSION HAZARDS: None known.

\*Flashpoint of ethylene glycol is 247F, 119C by setaflash.

SECTION IV REACTIVITY DATA

STABILITY: (CONDITIONS TO AVOID) Stable under normal storage conditions. Ethylene glycol will ignite in air at 775F (413C).

INCUMBATIBILITY: (SPECIFIC MATERIALS TO AVOID) Oxidizing material.

HAZARDOUS DECOMPOSITION PRODUCTS: None known.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION V ENVIRONMENTAL AND DISPOSAL INFORMATION

ACTION TO TAKE FOR SPILLS/LEAKS: Small spills: Soak up with suitable absorbent material. Large spills: Dike and pump into suitable containers for disposal.

DISPOSAL METHOD: Burn in an approved incinerator in accordance with all governmental requirements.

SECTION VI HEALTH HAZARD DATA

EYE: May cause slight transient (temporary) eye irritation. Corneal injury is unlikely. Vapors or mists may irritate eyes.

SKIN CONTACT: Prolonged or repeated exposure not likely to cause significant skin irritation.

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UNIVERSAL MOTOR OILS CO., INC., 2824 NORTH OHIO, WICHITA, KS. 67201      PHONE (316) 832-0151

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Universal Multi-Purpose Coolant

MSDS: 000211

SECTION VI    HEALTH HAZARD DATA (CONTINUED)

INGESTION: The oral LD50 for rats is >6000 mg/kg. Amounts ingested incidental to industrial handling are not likely to cause injury; however, ingestion of larger amounts could cause serious injury, even death. Single dose oral toxicity is moderate to humans even though tests with animals show a lower degree of toxicity.

INHALATION: At room temperature, exposures to vapors are unlikely due to physical properties; higher temperatures may generate vapor levels sufficient to cause adverse effects.

SYSTEMIC & OTHER EFFECTS: Excessive exposure may cause central nervous system, kidney, blood, gastrointestinal, and liver effects. Excessive exposure may cause irritation to upper respiratory tract. Observations in animals include deposition of calcium salts in various tissues after long-term dietary intake of ethylene glycol. Did not cause cancer in long-term animal studies. (ethylene glycol) Diethylene glycol has caused bladder cancer in laboratory animals as a secondary effect to formation of bladder stones. Ethylene glycol has been reported to cause birth defects in rats and mice given high oral doses which were toxic to the mothers. Birth defects were also reported in mice at a high oral dose which was apparently nontoxic to the mother. Exposure of rats and mice to high aerosol concentrations of ethylene glycol resulted in teratogenic effects in mice and not in rats. Much of the total dose of ethylene glycol in the aerosol studies probably resulted from ingestion of material deposited on fur. In studies on rats, ethylene glycol has been shown not to interfere with reproduction. In studies on mice, ingestion of ethylene glycol in large amounts caused a small decrease in the number of litters per pair, live pups per litter, and in live pup weight. Results in vitro ('test tube') mutagenicity tests have been negative.

SECTION VII    FIRST AID

EYES: Irrigate immediately with water for at least five minutes.

SKIN: Wash off in flowing water or shower. Wash contaminated clothing before reuse.

INGESTION: If swallowed, induce vomiting immediately by giving two glasses of water and sticking finger down throat. Call a physician. Never give anything by mouth or attempt to induce vomiting in an unconscious person.

INHALATION: Remove to fresh air if effects occur. Consult a physician.

NOTE TO PHYSICIAN: Supportive care. Treatment based on judgement 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    HANDLING PRECAUTIONS

EXPOSURE GUIDELINE: ACGIH TLV is 50 ppm (125 mg/cubic meter) ceiling for ethylene glycol.

VENTILATION: Good general ventilation should be sufficient for most conditions. Local exhaust ventilation may be necessary for some operations.

RESPIRATORY PROTECTION: Atmospheric levels should be maintained below the exposure guideline. When respiratory protection is required for certain operations, use an approved air-purifying respirator.

SKIN PROTECTION: Use impervious gloves when prolonged or frequently repeated contact could occur.

EYE PROTECTION: Use safety glasses. If vapor exposure causes eye irritation, use a full-face respirator.

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SECTION IX    ADDITIONAL INFORMATION

SPECIAL PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Practice reasonable care and cleanliness. Avoid breathing spray mists if generated.

Trace quantities of ethylene oxide (EO) may be present in this product. While these trace quantities could accumulate in headspace areas of storage and transport vessels, they are not expected to create a condition which will result in EO concentrations greater than 0.5 ppm (8 hour TWA) in the breathing zone of the workplace for appropriate application. OSHA has established a permissible exposure limit of 1.0 ppm 8 hr TWA for EO. (Code of Federal Regulations Part 1910.1047 of Title 29)

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The information herein is given in good faith. But no warranty, express or implied, is made.

