

Ultra Coolant™

MATERIAL SAFETY DATA SHEET

Effective Date: 01/01/08

1. PRODUCT NAME AND INFORMATION:

Ultra Coolant synthetic coolant is specifically formulated for use in Ingersoll Rand rotary air compressors.

Mixture-Chemical Family: Inhibited polyoxyalkylene glycol/pentaerythritol ester blend

24-Hour Emergency Phone Number: 1-989-636-4400

2. COMPOSITION/INFORMATION ON INGREDIENTS

Blend containing a polyoxyalkylene glycol, a pentaerythritol ester, and other components.

3. HAZARDOUS IDENTIFICATION

Emergency Overview

Light amber liquid. Low odor. No significant immediate hazards for emergency response are known.

POTENTIAL HEALTH EFFECTS (See Section 11 for toxicological data)

EYE: Essentially nonirritating to eyes.

SKIN: Short single exposure may cause slight skin irritation. Prolonged or repeated exposure may cause slight skin irritation. Material may be handled at elevated temperatures; contact with heated material may cause thermal burns. A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts.

INGESTION: Single dose oral toxicity is considered to be low. Small amounts swallowed incidental to normal handling operations are not likely to cause injury; swallowing amounts larger than that may cause injury.

INHALATION: At room temperature, vapors are minimal due to physical properties; a single exposure is not likely to be hazardous. If material is heated or mist is produced, concentrations may be attained that are sufficient to cause irritation and other effects.

SUBCHRONIC: Observations in animals exposed to excessive amounts of similar polyglycose include slight kidney and liver effects.

4. FIRST AID:

EYE: Flush eyes with plenty of water.

SKIN: Wash off in flowing water or shower.

INGESTION: If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

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

NOTE TO PHYSICIAN: If burn is present, treat as any thermal burn, after decontamination.

No specific antidote. Supportive care. Treatment based on judgment of the physician in response to reaction of the patient.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

FLASH POINT: 410F, 210C, 520F, 271C

METHOD USED: PMCC; COC

AUTOIGNITION TEMPERATURE: Not determined.

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FLAMMABILITY LIMITS

LFL: Not determined.

UFL: Not determined.

HAZARDOUS COMBUSTION PRODUCTS: During a fire, smoke may contain the original material in addition to unidentified toxic and/or irritating compounds. Hazardous combustion products may include and are not limited to: carbon monoxide, carbon dioxide.

OTHER FLAMMABILITY INFORMATION: Violent steam generation or eruption may occur upon application of direct water stream to hot liquids. Spills of these organic liquids on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion.

EXTINGUISHING MEDIA: Water fog or fine spray, carbon dioxide, dry chemical, foam. Alcohol resistant foams (ATC type) are preferred if available. General purpose synthetic foams (including AFFF) or protein foams may function, but much less effectively. Do not use direct water stream. Will spread fire.

MEDIA TO BE AVOIDED: Do not use direct water stream.

FIRE FIGHTING INSTRUCTIONS: Keep people away. Isolate fire area and deny unnecessary entry. Burning liquids may be move by flushing with water to protect personnel and minimize property damage. Avoid accumulation of water. Product may be carried across water surface spreading fire or contacting an ignition source. Do not use direct water stream. May spread fire.

PROTECTIVE EQUIPMENT FOR FIRE FIGHTERS: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, pants, boots and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

6. ACCIDENTAL RELEASE MEASURES: (See Section 15 for Regulatory Information)

PROTECT PEOPLE: Isolate area. May be slipping hazard.

PROTECT THE ENVIRONMENT: Contain liquid to prevent contamination of soil, surface water or ground water.

CLEANUP: Contain spill if possible.

7. HANDLING AND STORAGE

HANDLING: Product on surfaces can cause slippery conditions. Product shipped/handled hot can cause thermal burns. Product handled hot may require additional ventilation or local exhaust.

STORAGE: Keep containers tightly closed when not in use. Store in steel, stainless steel, polypropylene, polyethylene lined containers, Teflon, glass-lined container, aluminum, Plasite 3066 lined containers, Plasite 3070 lined containers, or 316 stainless steel.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION:

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

PERSONAL PROTECTIVE EQUIPMENT:

EYE/FACE PROTECTION: Use safety glasses.

SKIN PROTECTION: Use gloves impervious to this material. Use gloves with insulation for thermal protection, when needed.

RESPIRATORY PROTECTION: For most conditions, no respiratory protection should be needed; however, if material is heated or sprayed, use an approved air-purifying

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respirator.

EXPOSURE GUIDELINES: None established.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE/PHYSICAL STATE: Light amber liquid.

ODOR: Low odor.

VAPOR PRESSURE: <0.01 mmHg @ 20C

VAPOR DENSITY: Not determined.

BOILING POINT: Not applicable.

SOLUBILITY IN WATER/MISCIBILITY: <1 gm/100 gm

SPECIFIC GRAVITY OR DENSITY: 0.9850 @ 25/25C

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: Thermally Stable at typical use temperatures.

CONDITIONS TO AVOID: Active ingredient decomposes at elevated temperatures. Product can decompose at elevated temperatures.

INCOMPATIBILITY WITH OTHER MATERIALS: Avoid contact with oxidizing materials. Avoid contact with strong acids.

HAZARDOUS DECOMPOSITION PRODUCTS: Hazardous decomposition products depend upon temperature, air supply and the presence of other materials. Hazardous decomposition products may include and are not limited to: carbon dioxide, carbon monoxide.

HAZARDOUS POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL INFORMATION:

(See Section 3 for Potential Health Effects. For detailed toxicological data, write or call the address or emergency number shown in Section 1)

ACUTE

SKIN: The LD50 for skin absorption in rabbits is greater than 2000 mg/kg. Did not cause allergic skin reaction when tested in guinea pigs.

INGESTION: The oral LD50 for rats is greater than 2000 mg/kg.

12. ECOLOGICAL INFORMATION:

(For detailed Ecological data, call the phone number shown in Section 1)

ENVIRONMENTAL FATE:

DEGRADATION & TRANSFORMATION: Biodegradation under aerobic static laboratory conditions is moderate (BOD20 or BOD28/ThOD between 10 and 40%). 5-day biochemical oxygen demand (BOD5) is 0.12 p/p. 10-day biochemical oxygen demand (BOD10) is 0.18 p/p. 20-day biochemical oxygen demand (BOD20) is 0.23 p/p. 28-day biochemical oxygen demand (BOD28) is 0.73 p/p. Theoretical oxygen demand (ThOD) is calculated to be 2.37 p/p. Material considered biodegradable based on 83% DOC disappearance in the EPA Aerobic Aquatic Biodegradation test.

ECOTOXICITY: Material is moderately toxic to aquatic organisms on an acute basis (LC50 between 1 and 10 mg/L in most sensitive species). Acute LC50 for fathead minnow (*Pimephales promelas*) is 73.7 ppm. Acute LC50 for *Daphnia pulex* is 4.6 ppm.

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13. DISPOSAL CONSIDERATIONS (See Section 15 for Regulatory Information)

Disposal: DO NOT DUMP INTO ANY SEWERS, ON THE GROUND OR INTO ANY BODY OF WATER. All disposal methods must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. THE DOW CHEMICAL COMPANY HAS NOT CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION 2 (COMPOSITION/INFORMATION ON INGREDIENTS). FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: recycler, reclaimer, incinerator or other thermal destruction device.

14. TRANSPORT INFORMATION

DEPARTMENT OF TRANSPORTATION (D.O.T.):

This product is not regulated by D.O.T. when shipped domestically by land.

15. REGULATORY INFORMATION: (Not meant to be all-inclusive – selected regulations represented.)

16. ADDITIONAL INFORMATION

NOTICE: The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations. See other sections for health and safety information.

U.S. Regulations

SARA 313 INFORMATION: To the best of our knowledge, this product contains no chemical

subject to SARA Title III Section 313 supplier notification requirements.

SARA HAZARD CATEGORY: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories. Not to have met any hazard category.

TOXIC SUBSTANCES CONTROL ACT (TSCA): All ingredients are on the TSCA inventory or are not required to be listed on the TSCA inventory.

STATE RIGHT-TO-KNOW: This product is not known to contain any substances subject to the disclosure requirements of New Jersey & Pennsylvania.

OSHA HAZARD COMMUNICATION STANDARD: This product is not a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Note: This information is furnished without warranty, representation, inducement or license of any kind, except that it is accurate to the best of Ingersoll-Rand's knowledge or obtained from sources believed by Ingersoll-Rand to be accurate, and Ingersoll-Rand does not assume any legal responsibility for use or reliance upon same. Customers are encouraged to conduct their own tests. Before using any product, READ ITS LABEL.

