



## Material Safety Data Sheet

### NR00382 Dowfrost Heat Transfer Fluid

#### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Id:** NR00382  
**Product Name:** Dowfrost Heat Transfer Fluid  
**Synonyms:** None  
**Chemical Family:** None Known  
**Application:** Intended as a heat transfer fluid for closed-loop systems.

**Distributed By:**  
Univar Canada Ltd.  
9800 Van Horne Way  
Richmond, BC  
V6X 1W5

**Prepared By:** The Environment, Health and Safety Department of Univar Canada Ltd.  
**Preparation date of MSDS:** 16/Apr/2014  
**Telephone number of preparer:** 1-866-686-4827

**24-Hour Emergency Telephone Number (CANUTEC):** (613) 996-6666

#### 2. HAZARDS IDENTIFICATION

**Potential Acute Health Effects:**

**Eye Contact:** May cause slight transient (temporary) eye irritation. Corneal injury is unlikely.

**Skin Contact:** Prolonged contact is essentially non irritating to skin. Repeated contact may cause flaking and softening of skin. Prolonged skin contact is unlikely to result in absorption of harmful amounts.

**Inhalation:** At room temperature, exposure to vapor is minimal due to low volatility. Mist may cause irritation to upper respiratory tract (nose and throat).

**Ingestion:** Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

#### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	Percentage (W/W)	LD50s and LC50s Route & Species:
Propylene glycol 57-55-6	60-100	Oral LD50 Rat = 20000 mg/kg Dermal LD50 Rabbit = 20800 mg/kg
Water 7732-18-5	1-3	Oral LD50 (Rat) >90 mL/kg
Dipotassium phosphate 7758-11-4	1-3	Not available.

**Note:** No additional remark.

#### 4. FIRST AID MEASURES

**Eye Contact:** Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.

**Skin Contact:** Wash skin with plenty of water.

**Inhalation:** Move to fresh air. Get medical attention if symptoms persist.

**Ingestion:** No first aid should be needed. If signs of irritation or toxicity occur seek medical attention.

**Notes to Physician:** Treatment based on sound judgment of physician and individual reactions of patient.

#### 5. FIRE FIGHTING MEASURES

**Flash Point:** 104 °C / 219 °F (Propylene glycol)

**Flash Point Method:** Pensky-Martens Closed Cup

**Autoignition Temperature:** 371°C /699°F

**Flammable Limits in Air (%):** Lower: 2.6% Upper: 12.5%

**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, which will spread fire.

**Special Exposure Hazards:** Isolate and restrict area access. Use water spray to cool fire-exposed containers and structures. Container may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids. Fight fire from a safe distance and from a protected location. Consider use of unmanned hose holder or monitor nozzles. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. Always stay away from the end of tanks.

**Hazardous Decomposition/Combustion Materials (under fire conditions):** During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Decomposition products can include and are not limited to: Carbon monoxide. Carbon dioxide.

**Special Protective Equipment:** Fire fighters should wear full protective clothing, including self-contained breathing equipment.

**NFPA RATINGS FOR THIS PRODUCT ARE:** HEALTH 0, FLAMMABILITY 0, INSTABILITY 0

**HMIS RATINGS FOR THIS PRODUCT ARE:** HEALTH 0, FLAMMABILITY 0, REACTIVITY 0

#### 6. ACCIDENTAL RELEASE MEASURES

**Personal Precautionary Measures:** Wear appropriate protective equipment.

**Environmental Precautionary Measures:** Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. Consult local authorities.

**Procedure for Clean Up:** Isolate hazard area and restrict access. Absorb with an inert dry material and place in an appropriate waste disposal container. Avoid direct contact with material.

#### 7. HANDLING AND STORAGE

**Handling:** Keep the containers closed when not in use. Spills of these organic liquids on hot fibrous insulations may lead to lowering of the autoignition temperature possibly resulting in spontaneous combustion.

**Storage:** Do not store in galvanized steel. Do not store in unlabeled containers. Store in original container.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Engineering Controls:

Local exhaust ventilation as necessary to maintain exposures to within applicable limits.

**Respiratory Protection:** If exposure exceeds occupational exposure limits, use an appropriate NIOSH approved respirator. In case of spill or leak resulting in unknown concentration, use a NIOSH approved supplied air respirator. Organic vapor cartridge with a particulate pre-filter.

### Gloves:

Use gloves chemically resistant to this material, examples of preferred glove barrier materials include: Butyl rubber gloves. Natural rubber gloves. Neoprene gloves. Nitrile gloves. Polyethylene gloves. Ethyl Vinyl Alcohol Laminate (EVAL). Polyvinyl alcohol gloves. Polyvinylchloride (PVC) gloves. NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials as well as the instructions/specifications provided by the glove supplier.

**Skin Protection:** Skin contact should be prevented through the use of suitable protective clothing, gloves and footwear, selected for conditions of use and exposure potential. Consideration must be given both to durability as well as permeation resistance.

**Eyes:** Safety glasses with side shields or chemical goggles.

**Other Personal Protection Data:** Ensure that eyewash stations and safety showers are proximal to the work-station location.

Ingredients	Exposure Limit - ACGIH	Exposure Limit - OSHA	Immediately Dangerous to Life or Health - IDLH
Propylene glycol	Not available.	Not available.	Not Available.
Water	Not available.	Not available.	Not Available.
Dipotassium phosphate	Not available.	Not available.	Not Available.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical State:** Liquid

**Color:** Colorless

**Odor:** Characteristic.

**pH 10 (@ 50%)**

**Specific Gravity:** 1.05 @ 20 °C

**Boiling Point:** 152°C /305.6°F

**Freezing/Melting Point:** supercools

**Vapor Pressure:** 2.2 mmHg

**Vapor Density:** >1.0

**% Volatile by Volume:** Not Available.

**Evaporation Rate:** <0.5

**Solubility:** Completely soluble.

**VOCs:** Not Available.

**Viscosity:** Kinematic viscosity 43.4 cSt @ 20°C

**Molecular Weight:** 76.9 g/mol

**Other:** Not Available.

## 10. STABILITY AND REACTIVITY

**Chemical Stability:** Stable.

**Hazardous Polymerization:** Will not occur.

**Conditions to Avoid:** Product can decompose at elevated temperatures. Generation of gas during decomposition can cause pressure in closed systems. Avoid direct sunlight or ultraviolet sources.

**Materials to Avoid:** Strong acids. Strong bases. Strong oxidizers.

**Hazardous Decomposition Products:** Hazardous decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Aldehydes. Alcohols. Ethers. Organic acids.

**Additional Information:**

No additional remark.

## 11. TOXICOLOGICAL INFORMATION

**Principle Routes of Exposure**

**Ingestion:** Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

**Skin Contact:** Prolonged contact is essentially non irritating to skin. Repeated contact may cause flaking and softening of skin. Prolonged skin contact is unlikely to result in absorption of harmful amounts.

**Inhalation:** At room temperature, exposure to vapor is minimal due to low volatility. Mist may cause irritation to upper respiratory tract (nose and throat).

**Eye Contact:** May cause slight transient (temporary) eye irritation. Corneal injury is unlikely.

**Additional Information:** In rare cases, repeated excessive exposure to propylene glycol may cause central nervous system effects.

**Acute Test of Product:**

**Acute Oral LD50:** Not Available.

**Acute Dermal LD50:** Not Available.

**Acute Inhalation LC50:** Not Available.

**Carcinogenicity:**

Ingredients	IARC - Carcinogens	ACGIH - Carcinogens
Propylene glycol	Not listed.	Not listed.
Water	Not listed.	Not listed.
Dipotassium phosphate	Not listed.	Not listed.

**Carcinogenicity Comment:** For this family of materials: Did not cause cancer in laboratory animals.

**Reproductive Toxicity/ Teratogenicity/ Embryotoxicity/ Mutagenicity:** For the major component(s): Did not cause birth defects or any other fetal effects in laboratory animals. For the major component(s): In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

## 12. ECOLOGICAL INFORMATION

**Ecotoxicological Information:**

Ingredients	Ecotoxicity - Fish Species Data	Acute Crustaceans Toxicity:	Ecotoxicity - Freshwater Algae Data
Propylene glycol	41 - 47 mL/L LC50 (Oncorhynchus mykiss) 96 h static 51400 mg/L LC50 (Pimephales promelas) 96 h static 51600 mg/L LC50 (Oncorhynchus mykiss) 96 h static 710 mg/L LC50 (Pimephales promelas) 96 h	Not Available.	19000 mg/L EC50 Pseudokirchneriella subcapitata 96 h
Water	Not Available.	Not Available.	Not Available.
Dipotassium phosphate	Not Available.	Not Available.	Not Available.

**Other Information:**

Ecotoxicity: Material is practically non-toxic to aquatic organisms on an acute basis (LC50 or EC50 >100 mg/L in the most sensitive species tested).

### 13. DISPOSAL CONSIDERATIONS

**Disposal of Waste Method:** Disposal of all wastes must be done in accordance with municipal, provincial and federal regulations.

**Contaminated Packaging:** Empty containers should be recycled or disposed of through an approved waste management facility.

### 14. TRANSPORT INFORMATION

**DOT (U.S.):**

**DOT Shipping Name:** Not Regulated.

**DOT Hazardous Class:** Not Applicable.

**DOT UN Number:** Not Applicable.

**DOT Packing Group:** Not Applicable.

**DOT Reportable Quantity (lbs):** Not Available.

**Note:** No additional remark.

**Marine Pollutant:** No.

**TDG (Canada):**

**TDG Shipping Name:** Not Regulated.

**Hazard Class:** Not Applicable.

**UN Number:** Not Applicable.

**Packing Group:** Not Applicable.

**Note:** No additional remark.

**Marine Pollutant:** No.

### 15. REGULATORY INFORMATION

**U.S. TSCA Inventory Status:** All components of this product are either on the Toxic Substances Control Act (TSCA) Inventory List or exempt.

**Canadian DSL Inventory Status:** All components of this product are either on the Domestic Substances List (DSL), the Non-Domestic Substances List (NDSL) or exempt.

**Note:** Not available.

#### U.S. Regulatory Rules

Ingredients	CERCLA/SARA - Section 302:	SARA (311, 312) Hazard Class:	CERCLA/SARA - Section 313:
Propylene glycol	Not Listed.	Not Listed.	Not Listed.
Water	Not Listed.	Not Listed.	Not Listed.
Dipotassium phosphate	Not Listed.	Not Listed.	Not Listed.

**California Proposition 65:** Not Listed.

**MA Right to Know List:** Not Listed.

**New Jersey Right-to-Know List:** Listed.

**Pennsylvania Right to Know List:** Listed.

**WHMIS Hazardous Class:**

NON-CONTROLLED

## 16. OTHER INFORMATION

- Additional Information:** This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.
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**\*\*\*END OF MSDS\*\*\***