

**MATERIAL SAFETY DATA SHEET**

Dow Chemical U.S.A.* Midland, MI 48674 Emergency Phone: 517-636-4400

Product Code: 23545

Page: 1

Product Name: DOWFROST (R) HEAT TRANSFER FLUID

Effective Date: 06/07/90 Date Printed: 07/05/90

MSDS:000130

1. INGREDIENTS: (% w/w, unless otherwise noted)

Propylene glycol	CAS# 000057-55-6	95%
Dipotassium phosphate	CAS# 007758-11-4	<5%
Deionized water	CAS# 007732-18-5	<5%

This document is prepared pursuant to the OSHA Hazard Communication Standard (29 CFR 1910.1200). In addition, other substances not 'Hazardous' per this OSHA Standard may be listed. Where proprietary ingredient shows, the identity may be made available as provided in this standard.

2. PHYSICAL DATA:

BOILING POINT: 370F, 188C
VAP. PRESS: 0.22 mmHg @ 20C, 68F
VAP. DENSITY: 2.62
SOL. IN WATER: Complete
SP. GRAVITY: 1.050 @ 60/60F, 16C
APPEARANCE: Colorless.
ODOR: Odorless liquid.

3. FIRE AND EXPLOSION HAZARD DATA:

FLASH POINT: 215F, 102C
METHOD USED: COC

FLAMMABLE LIMITS
LFL: 2.6% @ 100C
UFL: 12.5% @ 130C

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

FIRE & EXPLOSION HAZARDS: None.

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3. FIRE AND EXPLOSION HAZARD DATA: (CONTINUED)

FIRE-FIGHTING EQUIPMENT: None.

4. REACTIVITY DATA:

STABILITY: (CONDITIONS TO AVOID) Stable over normal operating temperature range of -30F to 250F.

INCOMPATIBILITY: (SPECIFIC MATERIALS TO AVOID) Oxidizing material.

HAZARDOUS DECOMPOSITION PRODUCTS: None

HAZARDOUS POLYMERIZATION: Will not occur.

5. ENVIRONMENTAL AND DISPOSAL INFORMATION:

ACTION TO TAKE FOR SPILLS/LEAKS: Cover with absorbent material, soak up and sweep into bag.

DISPOSAL METHOD: Incinerate or bury away from water supplies in accordance with local regulations.

6. HEALTH HAZARD DATA:

EYE: May cause slight transient eye irritation. Corneal injury is unlikely.

SKIN CONTACT: Essentially nonirritating to skin on prolonged contact.

SKIN ABSORPTION: A single prolonged skin exposure is not likely to result in absorption of harmful amounts. The LD50 for skin absorption in rabbits is >10,000 mg/kg. Repeated exposures may cause slight flaking, tenderness and softening of skin.

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6. HEALTH HAZARD DATA: (CONTINUED)

INGESTION: Single dose oral toxicity is low. The LD50 for female rats is about 20.3 g/kg.

INHALATION: A single prolonged (hours) inhalation exposure is not likely to cause adverse effects. Mists are not likely to be hazardous.

SYSTEMIC & OTHER EFFECTS: Repeated excessive ingestion may cause central nervous system effects. No carcinogenic effects have been seen in long-term animal studies. Birth defects are unlikely. Exposures having no adverse effects on the mother should have no effect on the fetus. In animal studies, has been shown not to interfere with reproduction. Results of mutagenicity tests in vitro (test tube) and in animals have been negative.

7. FIRST AID:

EYES: Irrigate immediately with water for at least 5 minutes.

SKIN: Wash off in flowing water or shower.

INGESTION: Induce vomiting if large amounts are ingested. Consult medical.

INHALATION: Remove to fresh air if effects occur. Consult medical.

NOTE TO PHYSICIAN: No specific antidote. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient.

B. HANDLING PRECAUTIONS:

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8. HANDLING PRECAUTIONS:

EXPOSURE GUIDELINE(S): Dow IHG is 10 mg/m³ for propylene glycol mist. Dow IHG is 400 ppm for propylene glycol vapors. Propylene glycol: AHA WEL is 50 ppm total, 10 mg/m³ aerosol only.

VENTILATION: Good general ventilation sufficient.

RESPIRATORY PROTECTION: No respiratory protection should be needed.

SKIN PROTECTION: No precautions other than clean body-covering should be needed.

EYE PROTECTION: Use safety glasses.

9. ADDITIONAL INFORMATION:

SPECIAL PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:
Exercise reasonable care and caution.

MSDS STATUS: Revised section 9 and reghsheet.

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REGULATION INFORMATION: (Not meant to be all-inclusive--selected regulations represented.)

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 MSD Sheet for health and safety information.

U.S. REGULATIONS

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:

A delayed health hazard

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