

MATERIAL SAFETY DATA SHEET

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

Product Code: 13916

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5150 040

PRODUCT NAME: DOWFLAKE (R) 77-80% CALCIUM CHLORIDE (100 LB. BAGS)

Effective Date: 01/14/87 Date Printed: 02/13/87

MSDS:000517

1. INGREDIENTS:

| | | |
|--------------------|------------------|--------|
| Calcium chloride | CAS# 010043-52-4 | 77-79% |
| Sodium chloride | CAS# 007647-14-5 | 1-2% |
| Potassium chloride | CAS# 007447-40-7 | 4-5% |
| Strontium chloride | CAS# 010476-85-4 | 1% |
| Water | CAS# 007732-18-5 | BAL. |

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(I).

2. PHYSICAL DATA:

BOILING POINT: 347F, 175C
VAP PRESS: 1.0 mmHg @ 20C, 68F
VAP DENSITY: Not applicable.
SOL. IN WATER: Very soluble
SP. GRAVITY: 1.85
APPEARANCE: White to off-white solid flake.
ODOR: None.

3. FIRE AND EXPLOSION HAZARD DATA:

FLASH POINT: Not appl.
METHOD USED: Not appl.

FLAMMABLE LIMITS

LFL: Not appl.
UFL: Not appl.

EXTINGUISHING MEDIA: Non-combustible.

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3. FIRE AND EXPLOSION HAZARD DATA: (CONTINUED)

FIRE & EXPLOSION HAZARDS: None.

FIRE-FIGHTING EQUIPMENT: Wear positive pressure self-contained breathing apparatus.

4. REACTIVITY DATA:

STABILITY: (CONDITIONS TO AVOID) Decomposes at 349F.

INCOMPATIBILITY: (SPECIFIC MATERIALS TO AVOID) Metals will slowly corrode in aqueous calcium chloride solutions. Aluminum (and its alloys) and yellow brass will be attacked by calcium chloride. Product attracts moisture and gives off heat while dissolving.

HAZARDOUS DECOMPOSITION PRODUCTS: Not applicable.

HAZARDOUS POLYMERIZATION: Will not occur.

5. ENVIRONMENTAL AND DISPOSAL INFORMATION:

ACTION TO TAKE FOR SPILLS/LEAKS: No special precautions necessary - sweep up and return to container or discard. Walking surfaces may remain wet longer due to moisture being held by spilled material.

DISPOSAL METHOD: Wash away with large excess of water or bury. Keep out of drinking water sources. Comply with local, state, and federal regulations.

6. HEALTH HAZARD DATA:

EYE: May cause moderate to severe irritation with corneal injury, which may be slow to heal. When dissolving, the heat produced may cause more intense effects as well as thermal burns.

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6. HEALTH HAZARD DATA: (CONTINUED)

SKIN CONTACT: Short single exposure not likely to cause significant skin irritation. Prolonged or repeated exposure may cause skin irritation, even a burn. May cause more severe response if skin is damp and/or abraded, or if material is confined to skin. When dissolving, the heat produced may cause more intense effects as well as thermal burns.

SKIN ABSORPTION: A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts. The LD50 for skin absorption in rabbits is >5000 mg/kg.

INGESTION: Single dose oral toxicity is low. The oral LD50 is in the range of 900-2100 mg/kg for calcium chloride on a 100% basis. Ingestion may cause gastrointestinal irritation or ulceration.

INHALATION: Vapors are unlikely due to physical properties. Dust may cause irritation to upper respiratory tract.

SYSTEMIC & OTHER EFFECTS: Results of in vitro mutagenicity tests have been negative for CaCl₂.

7. FIRST AID:

EYES: Irrigate with flowing water immediately and continuously for 15 minutes. Consult medical personnel.

SKIN: Wash off in flowing water or shower.

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: If burn is present, treat as any thermal

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7. FIRST AID: (CONTINUED)

burn, after decontamination. No specific antidote. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient.

8. HANDLING PRECAUTIONS:

EXPOSURE GUIDELINE(S): Dow IHG is 10 mg/m³ for calcium chloride, sodium chloride and potassium chloride.

VENTILATION: Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines.

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. In dusty atmospheres, use an approved dust respirator.

SKIN PROTECTION: For brief contact, no precautions other than clean body-covering clothing should be needed. Use protective clothing impervious to this material. Selection of specific items such as gloves, boots, apron, or full-body suit will depend on operation. If skin comes in contact with contaminated clothing, remove the clothing immediately, wash skin area with soap and water, and launder clothing before reuse.

EYE PROTECTION: Safety glasses should be sufficient for most operations; however, for dusty operations or when handling solutions of the material, wear chemical goggles. Eye wash fountain should be located in immediate work area.

9. ADDITIONAL INFORMATION:

SPECIAL PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Avoid eye and prolonged skin contact. ALWAYS USE COOL WATER (TEMPERATURE LESS THAN 80F, 27C) WHEN DISSOLVING CALCIUM CHLORIDE. HEAT DEVELOPED BY SOLUTIONS IS VERY HIGH DURING DISSOLVING AND MIXING. When exposed to the atmosphere, calcium

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9. ADDITIONAL INFORMATION: (CONTINUED)

chloride will pick up water and form a solution. Leather clothing and shoes will be damaged by calcium chloride.

MSDS STATUS: Revised 6.

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