

# Mallinckrodt

## Material Safety Data

Emergency Phone Number: 314-982-5000

Mallinckrodt provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. Individuals receiving this information must exercise their independent judgment in determining its appropriateness for a particular purpose.

Mallinckrodt makes no representations, or warranties, either express or implied, of merchantability, fitness for a particular purpose with respect to the information set forth herein or to the product to which the information refers. Accordingly, Mallinckrodt will not be responsible for damages resulting from use of or reliance upon this information.

Mallinckrodt, Inc., Science Products Division, P.O. Box M, Paris, KY 43061.

### CALCIUM CHLORIDE

#### PRODUCT IDENTIFICATION:

Synonyms: Calplus; calcium dichloride; calcium chloride anhydrous; Caltac; Dowflake

Formula CAS No.: 10043-52-4

Molecular Weight: 110.98

Chemical Formula: CaCl<sub>2</sub>

Hazardous Ingredients: None.

#### PRECAUTIONARY MEASURES

**WARNING! CAUSES IRRITATION. MAY BE HARMFUL IF SWALLOWED.**

Avoid contact with eyes, skin and clothing.  
Wash thoroughly after handling.

#### EMERGENCY/FIRST AID

If swallowed, give water or milk to drink as soon as possible. Call a physician immediately. Never give anything by mouth to an unconscious person. In case of contact, immediately flush skin or eyes with plenty of water for at least 15 minutes. Call a physician.  
SEE SECTION 5.

DOT Hazard Class: Not Regulated

#### SECTION 1 Physical Data

Appearance: White or gray-white granules.

Odor: Odorless.

Solubility: Freely soluble in water, exothermic.

Boiling Point: Over 1600°C (2912°F).

Melting Point: 772°C (1422°F).

Density: 2.15

Vapor Density (Air = 1): No information found.

Vapor Pressure (mm Hg): No information found.

Evaporation Rate: No information found.

#### SECTION 2 Fire and Explosion Information

##### **Fire:**

Not considered to be a fire hazard.

##### **Explosion:**

Not considered to be an explosion hazard.

##### **Fire Extinguishing Media:**

Use any means suitable for extinguishing surrounding fire.

##### **Special Information:**

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode. At high temperatures or when moistened under fire conditions, calcium chloride may produce toxic or irritating fumes of calcium or hydrogen chlorides.

#### SECTION 3 Reactivity Data

##### **Stability:**

Stable under ordinary conditions of use and storage. Substance will pick up moisture from the air and go into solution if exposed in open containers. A water solution of this material is acidic.

##### **Hazardous Decomposition Products:**

Emits toxic chlorine fumes when heated to decomposition. May form hydrogen chloride in presence of sulfuric or phosphoric acids or with water at elevated temperatures.

##### **Hazardous Polymerization:**

This substance does not polymerize.

##### **Incompatibilities:**

Methyl vinyl ether, water, zinc, bromine trifluoride, mixtures of lime and boric acid, barium chloride, and 2-furan percarboxylic acid. Metals will slowly corrode in aqueous calcium chloride solutions. Aluminum (and alloys) and yellow brass will be attacked by calcium chloride.

#### SECTION 4 Leak/Spill Disposal Information

Sweep, scoop or pick up spilled material. Collected waste may be transferred to a closed, water-proof non-metal container and sent to a RCRA-approved waste disposal facility.

Ensure compliance with local, state and federal regulations.

MS DS  
SENT TO  
SAFETY OFFICER  
DATE 1-29-88

**SECTION 5 Health Hazard Information**

**A. EXPOSURE / HEALTH EFFECTS**

**Inhalation:**

Granular material does not present a serious inhalation hazard but dust may produce irritation of the upper respiratory tract.

**Ingestion:**

Low toxicity material but ingestion may cause serious irritation of the mucous membrane due to heat of hydrolysis. Large amounts can cause gastrointestinal upset, vomiting, abdominal pain.

**Skin Contact:**

Irritant. May cause burns on moist skin due to heat of hydrolysis.

**Eye Contact:**

Hazard may be either mechanical abrasion or, more serious, burns from heat of hydrolysis and chloride irritation.

**Chronic Exposure:**

No information found.

**Aggravation of Pre-existing Conditions:**

Contact may aggravate any existing skin conditions.

**B. FIRST AID**

**Inhalation:**

Remove to fresh air. Get medical attention for any breathing difficulty.

**Ingestion:**

If swallowed, give water or milk to drink as soon as possible. Call a physician immediately. Never give anything by mouth to an unconscious person.

**Skin Exposure:**

Remove any contaminated clothing. Wipe off excess from skin. Wash skin with soap and water for at least 15 minutes. Get medical attention if irritation develops or persists

**Eye Exposure:**

Wash eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

**C. TOXICITY DATA (RTECS, 1982)**

Oral rat LD50: 1000 mg/kg. Mutation data cited.

Aquatic toxicity rating TLM 96: over 1000 ppm

**SECTION 6 Occupational Control Measures**

**Airborne Exposure Limits:**

Mallinckrodt recommends a Threshold Limit Value (TLV) of 5 mg/m<sup>3</sup> Time Weighted Average (TWA).

**Ventilation System:**

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, "Industrial Ventilation, A Manual of Recommended Practices", most recent edition, for details.

**Personal Respirators: (NIOSH Approved)**

If the TLV is exceeded, a dust/mist respirator with chemical goggles may be worn, in general, up to ten times the TLV. Consult respirator supplier for limitations. Alternatively, a supplied air full facepiece respirator or airtight hood may be worn.

**Skin Protection:**

Wear protective gloves and clean body-covering clothing.

**Eye Protection:**

Use chemical safety goggles and/or full face shield where dusting or splashing of solutions is possible. Contact lenses should not be worn when working with this material. Maintain eye wash fountain and quick-drench facilities in work area.

**SECTION 7 Storage and Special Information**

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Moist calcium chloride and concentrated solutions can corrode steel. When exposed to the atmosphere, calcium chloride will absorb water and form a solution. Maintain good housekeeping in work area. Dust deposits on floors and other surfaces may pick up moisture and cause the surfaces to become slippery and present safety hazards.

.....  
CACLA