

**MSDS****Material Safety Data Sheet**24 Hour Emergency Telephone: 908-859-2151  
CHEMTREC: 1-800-424-9300National Response in Canada  
CANUTEC: 613-996-6666Outside U.S. and Canada  
Chemtec: 703-527-3887**NOTE:** CHEMTREC, CANUTEC and National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.From: Mallinckrodt Baker, Inc.  
222 Red School Lane  
Phillipsburg, NJ 08865

All non-emergency questions should be directed to Customer Service (1-800-582-2537) for assistance.

# CALCIUM FLUORIDE

MSDS Number: C0374 --- Effective Date: 11/17/99

## 1. Product Identification

**Synonyms:** Calcium difluoride; Fluorspar; Acid spar**CAS No.:** 7789-75-5**Molecular Weight:** 78.07**Chemical Formula:** CaF<sub>2</sub>**Product Codes:** 1354

## 2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Calcium Fluoride	7789-75-5	95 - 100%	Yes

## 3. Hazards Identification

### Emergency Overview

**CAUTION! MAY BE HARMFUL IF SWALLOWED OR INHALED. MAY CAUSE IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT.****J.T. Baker SAF-T-DATA<sup>(tm)</sup> Ratings (Provided here for your convenience)**

Health Rating: 1 - Slight

Flammability Rating: 0 - None

Reactivity Rating: 0 - None

Contact Rating: 1 - Slight

Lab Protective Equip: GOGGLES; LAB COAT

Storage Color Code: Orange (General Storage)

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### Potential Health Effects

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#### **Inhalation:**

May cause irritation to the respiratory tract. Symptoms may include coughing and shortness of breath.

#### **Ingestion:**

Toxicity low because of the relative insolubility of the compound. In large amounts may cause vomiting, abdominal pain and diarrhea.

#### **Skin Contact:**

May cause mild irritation and redness.

#### **Eye Contact:**

No adverse effects expected but dust may cause mechanical irritation.

#### **Chronic Exposure:**

Chronic exposure may cause mottling of teeth and bone damage (osteosclerosis) and fluorosis. Symptoms of fluorosis include brittle bones, calcified ligaments, and joint stiffness.

#### **Aggravation of Pre-existing Conditions:**

No information found.

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## 4. First Aid Measures

#### **Inhalation:**

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

#### **Ingestion:**

Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.

#### **Skin Contact:**

Immediately flush skin with plenty of soap and water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention if irritation develops.

#### **Eye Contact:**

Immediately flush eyes with plenty of water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get medical attention if irritation persists.

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## 5. Fire Fighting Measures

#### **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. If in contact with strong acids or steam under fire conditions, calcium fluoride may yield highly irritating fumes of hydrogen fluoride.

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## 6. Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Pick up and place in a suitable container for reclamation or disposal, using a method that does not generate dust.

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## 7. Handling and Storage

Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product. Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage.

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## 8. Exposure Controls/Personal Protection

### **Airborne Exposure Limits:**

- OSHA Permissible Exposure Limit (PEL):

2.5 mg (F)/m<sup>3</sup> (TWA)

- ACGIH Threshold Limit Value (TLV):

2.5 mg (F)/m<sup>3</sup> (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 exposure limit is exceeded, a full facepiece respirator with dust/mist filter may be worn up to 50 times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. For emergencies or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator. **WARNING:** Air purifying respirators do not protect workers in oxygen-deficient atmospheres.

### **Skin Protection:**

Wear protective gloves and clean body-covering clothing.

### **Eye Protection:**

Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

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## 9. Physical and Chemical Properties

### **Appearance:**

White, crystalline powder.

### **Odor:**

Odorless.

### **Solubility:**

Practically insoluble in water.

### **Density:**

3.18

### **pH:**

No information found.

### **% Volatiles by volume @ 21C (70F):**

0

### **Boiling Point:**

## CALCIUM FLUORIDE

2500C (4532F)

**Melting Point:**

1403C (2557F)

**Vapor Density (Air=1):**

No information found.

**Vapor Pressure (mm Hg):**

No information found.

**Evaporation Rate (BuAc=1):**

No information found.

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## 10. Stability and Reactivity

**Stability:**

Stable under ordinary conditions of use and storage.

**Hazardous Decomposition Products:**

Oxides of the contained metal and halogen, possibly also free, or ionic halogen.

**Hazardous Polymerization:**

Will not occur.

**Incompatibilities:**

Strong acids.

**Conditions to Avoid:**

Incompatibles.

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## 11. Toxicological Information

Oral rat LD50: 4250 mg/kg. Investigated as a mutagen, reproductive effector.

-----\Cancer Lists\-----			
Ingredient	---NTP Carcinogen---		IARC Category
	Known	Anticipated	
Calcium Fluoride (7789-75-5)	No	No	None

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## 12. Ecological Information

**Environmental Fate:**

No information found.

**Environmental Toxicity:**

No information found.

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## 13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

## 14. Transport Information

Not regulated.

## 15. Regulatory Information

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-----\Chemical Inventory Status - Part 1\-----
Ingredient                                     TSCA   EC     Japan  Australia
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Calcium Fluoride (7789-75-5)                 Yes   Yes   Yes     Yes

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-----\Chemical Inventory Status - Part 2\-----
Ingredient                                     Korea  --Canada--  NDSL  Phil.
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Calcium Fluoride (7789-75-5)                 Yes   Yes   No     Yes

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-----\Federal, State & International Regulations - Part 1\-----
Ingredient                                     -SARA 302-  -SARA 313-
RQ      TPQ      List  Chemical Catg.
-----
Calcium Fluoride (7789-75-5)                 No     No     No     No

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-----\Federal, State & International Regulations - Part 2\-----
Ingredient                                     CERCLA  -RCRA-  -TSCA-
                                         261.33  8(d)
-----
Calcium Fluoride (7789-75-5)                 No     No     No

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Chemical Weapons Convention: No      TSCA 12(b): No      CDTA: No  
 SARA 311/312: Acute: Yes      Chronic: Yes      Fire: No      Pressure: No  
 Reactivity: No      (Pure / Solid)

**Australian Hazchem Code:** No information found.

**Poison Schedule:** No information found.

### WHMIS:

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

## 16. Other Information

**NFPA Ratings:** Health: 1 Flammability: 0 Reactivity: 0

### Label Hazard Warning:

CAUTION! MAY BE HARMFUL IF SWALLOWED OR INHALED. MAY CAUSE IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT.

### Label Precautions:

Use with adequate ventilation.  
 Keep container closed.

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

**Label First Aid:**

If swallowed, induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention. If inhaled, remove to fresh air. Get medical attention for any breathing difficulty. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. Get medical attention if irritation develops or persists.

**Product Use:**

Laboratory Reagent.

**Revision Information:**

No changes.

**Disclaimer:**

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