

Calcium Fluoride

Calcium Fluoride Material Safety Data Sheet

Chemical: Calcium Fluoride

NFPA: H=0 F=0 I= 0 S=None

HMIS: H=0 F=0 R=0 PPE= Supplied by user;
dependent on conditions

MSDS Number: CAF-1103

Effective Date: 13 November 2003

Issued by: Solvay Chemicals, Inc. Regulatory Affairs Department

Not valid three years after effective date or after issuance of superseding MSDS, whichever is earlier. French or Spanish translations of this MSDS may be available. Check www.solvaychemicals.us or call Solvay Fluorides, LLC to verify the latest version or translation availability.

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1. Company and Product Identification

1.1 Product Name: Calcium Fluoride, Synthetic

Chemical Name: Calcium fluoride

Synonyms: None

Chemical Formula: CaF₂

Molecular Weight: 78

CAS Number: 7789-75-5

EINECS Number: 232-188-7

Grades/Trade Names: None

1.2 Recommended Uses: Used in bleaching textiles, food, hair, paper and other materials; component of rocket propellant; used in the manufacture of a wide range of chemicals, plastics, pharmaceuticals; used in photography, electroplating, water treatment and wastewater treatment.

1.3 Supplier: Solvay Fluorides, LLC
PO BOX 27328 Houston, TX 77227-7328
3333 Richmond Ave. Houston, Texas 77098

1.4 Emergency Telephone Numbers

Emergencies (USA): 1-800-424-9300 (CHEMTREC®)

Transportation Emergencies (INTERNATIONAL/MARITIME): 1-703-527-3887 (CHEMTREC®)

Transportation Emergencies (CANADA): 1-613-996-6666 (CANUTEC)

Transportation Emergencies (MEXICO-SETIQ): 01-800-00-214-00 (MEX. REPUBLIC)
525-559-1588 (Mexico City and metro area)



Solvay
Fluorides

A Subsidiary of Solvay Chemicals, Inc.



Calcium Fluoride

Calcium Fluoride

Material Safety Data Sheet

2. Composition/Information on Ingredients

INGREDIENTS	FORMULA	WT. PERCENT	CAS #
Calcium Fluoride	CaF ₂	> 97.00	7789-75-5

3. Hazards Identification

Emergency Overview:

- Possible irritation of the mucous membranes and eyes.
- Chronic exposure to the product can cause bone or dental fluorosis.

3.1 Route of Entry: Inhalation: No Skin: No Ingestion: Yes

3.2 Potential Effects of exposure:

Inhalation: Not applicable.

Eyes: Slight irritation.

Skin contact: Negligible.

Ingestion:

- No reported cases of intoxication in humans.
- By ingestion of large quantities: nausea, vomiting, abdominal cramps and diarrhea.
- Risk of moderate consequences experimentally observed or under certain conditions.

Carcinogenicity: See section 11.3

4. First-Aid Measures

General Recommendations:

4.1 Inhalation:

- Remove the subject from dusty environment.
- Consult a physician in case of respiratory symptoms.

Eyes:

- Flush eyes with running water for several minutes, while keeping the eyelids wide open.
- Consult an ophthalmologist in case of persistent pain.

Skin: Wash the affected skin with soap and water.

Ingestion: Consult a physician for advice.

If the subject is completely conscious: Rinse mouth and administer fresh water.

If the subject is unconscious: NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

4.2 Medical Treatment/Notes to Physician: None.

Calcium Fluoride

Material Safety Data Sheet

5. Fire-Fighting Measures

- 5.1 Flash point:** Not applicable.
- 5.2 Auto-ignition Temperature:** Non-flammable.
- 5.3 Flammability Limits:** Non-flammable.
- 5.4 Unusual Fire and Explosion Hazards:** Non-flammable.
- 5.5 Extinguishing Methods**
Common: In case of fire in close proximity, all means of extinguishing are acceptable.
Inappropriate extinguishing means: No restriction.
- 5.6 Fire Fighting Procedures**
Specific hazards:
- Non-combustible.
 - Formation of dangerous gas/vapors in case of decomposition (see section 10).
- Protective measures in case of intervention:** The product does not require any special precautions.

6. Accidental Release Measures

- 6.1 Precautions:**
- Follow the protective measures given in section 8.
 - Avoid dispersing the dust into a cloud.
- 6.2 Cleanup methods:**
- Collect the product with suitable means avoiding dust formation.
 - Place everything into a closed, labeled container compatible with the product.
 - For disposal methods, refer to section 13.
 - Clean the area with large quantities of water.
- 6.3 Precautions for protection of the environment:** Prevent discharge into the environment (sewers, rivers, soils ...).

7. Handling and Storage

- 7.1 Handling:** Keep away from reactive products (see section 10).
- 7.2 Storage:** Keep in original packaging, closed.
- 7.3 Specific Uses:** See Section 1.2.
- 7.4 Other precautions:** Follow the protective measures given in section 8.
- 7.5 Packaging:** Paper + PE.

Calcium Fluoride

Material Safety Data Sheet

8. Exposure Controls/Personal Protection

8.1 Exposure Limit Values - Calcium Fluoride:

Authorized limit Values	TLV® ACGIH®-USA (2002)	OSHA PEL
Fluorides	2.5 mg/m ³ (as F)	2.5 mg/m ³ (as F)
Particulates not otherwise classified (PNOC)	3 mg/m ³ (respirable dust) 10 mg/m ³ (inhalable dust)	15 mg/m ³

ACGIH® and TLV® are registered trademarks of the American Conference of Governmental Industrial Hygienists.

8.2 Exposure Controls: Maintain employee exposures to levels below the applicable exposure limits.

8.2.1 Occupational Exposure Controls:

8.2.1.1 Ventilation: Premises ventilation.

8.2.1.2 Respiratory protection:

- Use only respiratory protection that conforms to international/national standards.
- Use only NIOSH-approved respirators.
- Comply with OSHA respiratory-protection requirements.

8.2.1.3 Hand protection: Negligible, if the normal rules of industrial hygiene are respected.

8.2.1.4 Eye protection: Wear protective goggles for all industrial operations.

8.2.1.5 Skin protection: Avoid contact.

8.3 Other precautions: Consult the industrial hygienist or the safety manager for the selection of personal protective equipment suitable for the working conditions.

9. Physical and Chemical Properties

9.1 Appearance: Crystalline, hygroscopic powder.

Color: White.

Odor: Odorless.

9.2 Important Health, Safety and Environmental information:

pH: 6-7 - Concentration: 17 mg/l at 18°C (64°F).

Change of state:

Melting point: 1,423°C (2,593°F).

Boiling point: 2,786°C (5,047°F).

Decomposition Temperature: No data.

Flash Point: Not applicable.

Flammability: Non-flammable.

Explosive Properties: Not applicable.

Oxidizing Properties: Not applicable.

Calcium Fluoride

Calcium Fluoride

Material Safety Data Sheet

Vapor Pressure: Not applicable.

Relative Density:
Specific gravity (H₂O=1): 3.18.

Solubility:
Water: 17 mg/l at 18°C / 64°F.
Fat: No data.

Partition coefficient: P (n-octanol/water): Not applicable.

Viscosity: No data.

Vapor Density (air=1): Not applicable.

Evaporation Rate: No data.

10. Stability and Reactivity

Stability: Stable under normal conditions of use (see section 7).

10.1 Conditions to avoid: Negligible.

10.2 Materials and substances to avoid: Strong acids.

10.3 Hazardous decomposition products: Hydrogen fluoride.

10.4 Hazardous Polymerization: Will not occur.

11. Toxicological Information

11.1 Acute toxicity:

Inhalation: No data.

Oral: LD₅₀, rat, > 2,000 mg/kg.

Dermal: No data.

Irritation: No data.

Sensitization: No data.

11.2 Chronic toxicity:

- Oral route, after repeated exposure, rat, ca. 475 mg/kg, observed effect (body weight).
- Oral route, after repeated exposure, mouse, ca. 10g/kg, foetotoxic effect.

11.3 Carcinogenic Designation: None.

Calcium Fluoride

Calcium Fluoride Material Safety Data Sheet

12. Ecological Information

12.1 Acute ecotoxicity: Aquatic organisms. Result: toxicity threshold above hydrosolubility.

12.2 Chronic ecotoxicity: No data.

12.3 Mobility:

- Air - mobility as solid aerosols.
- Water/soil - low solubility and mobility.
- Soil/sediments - adsorption on mineral soil constituents (calcium).

12.4 Degradation

Abiotic:

- Water/soil - inert product in normal environmental conditions.
- Water/soil, hydrolysis.
Conditions: acid pH.
Degradation products: fluorhydric acid.

Biotic: not applicable (inorganic compound).

12.5 Potential for bioaccumulation: Bioconcentration: log Po/w - not applicable (ionizable inorganic compound).

12.6 Other adverse effects /Comments:

- Product is not significantly hazardous for the environment.
- Persistent product mainly as inert form.

13. Disposal Considerations

13.1 Waste treatment: Consult current federal, state and local regulations regarding the proper disposal of this material.

13.2 Packaging treatment:

- Consult current federal, state and local regulations regarding the proper disposal of emptied containers.
- Containers that cannot be cleaned must be treated as waste.
- Dispose of the containers by dispatching them to an approved incineration facility.

13.3 RCRA Hazardous Waste: Not listed.

14. Transport Information

Mode	DOT	IMDG	IATA
Proper Shipping Name	Not a regulated hazardous material	Not a regulated hazardous material	Not a regulated hazardous material
Emergency Info	It is recommended that ERG guide #111 be used for non-DOT-regulated material.		

Calcium Fluoride

Calcium Fluoride Material Safety Data Sheet

15. Regulatory Information

National Regulations (US)

TSCA Inventory 8(b): Yes.

SARA Title III Sec. 302/303 Extremely Hazardous Substances (40 CFR 355): No.

SARA Title III Sec. 311/312 (40 CFR 370):

Hazard Category: None.

SARA Title III Sec. 313 Toxic Chemical Emissions Reporting (40 CFR 372): No.

CERCLA Hazardous Substance (40 CFR Part 302):

Listed: No.

Unlisted Substance: No.

State Component Listing:

State	Comment
CA	Airborne Contaminants & Emissions Inventory
CA	Hazardous Substance List
IL	Toxic Substances Disclosure to Employees Act
IN	Occupational Health & Safety Standards - Air
KY	Occupational Health & Safety Standards - Air
MN	Hazardous Substance List
NJ	Right to Know Substances List
NC	Exposure limits for Air Contaminants
PA	Right to Know
RI	Right to Know

National Regulations (Canada)

Canadian DSL Registration: DSL.

WHMIS Classification: Not listed.

This product has been classified in accordance with the hazard criteria of the **Controlled Products Regulations**, and the MSDS contains all the information required by the **Controlled Products Regulations**.

Not classified according to Directive 92/32/EEC.

16. Other Information

16.1 Ratings:

NFPA (NATIONAL FIRE PROTECTION ASSOCIATION)

Health = 0 Flammability = 0 Instability = 0 Special = None

HMIS (HAZARDOUS MATERIAL INFORMATION SYSTEM)

Health = 0 Fire = 0 Reactivity = 0 PPE = Supplied by User; dependent on local conditions

Calcium Fluoride

Material Safety Data Sheet

16.2 Other Information:

The previous information is based upon our current knowledge and experience of our product and is not exhaustive. It applies to the product as defined by the specifications. In case of combinations or mixtures, one must confirm that no new hazards are likely to exist. In any case, the user is not exempt from observing all legal, administrative and regulatory procedures relating to the product, personal hygiene, and integrity of the work environment. (Unless noted to the contrary, the technical information applies only to pure product).

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16.3 Reason for revision:

Supersedes edition: Solvay Fluorides Inc. MSDS dated 9/4/2002

Purpose of revision: Change Company name and MSDS format