

SAFETY DATA SHEET: Calcium Fluoride Crystals

Version: 1.5

Revision Date: 03/04/2020

Section 1: Identification

1.1) Product identifier:

Product Name : Calcium Fluoride Crystals
Synonyms : Fluorspar
Product Number : SU2201, SU2202, SU2203, SU2204, SU2205, SU2206, SU2207,
SU2208
CAS Number : 7789-75-5

1.2) Company information:

Address: MSE Supplies, LLC
4400 E Broadway Blvd, Suite 600
Tucson, AZ 85711, USA
Telephone: +1 520-789-6673
Email: info@mse-supplies.com
Emergency Telephone : +1-703-527-3887

1.3) Relevant identified uses of the substance or mixture and uses advised against:

Identifies uses: Laboratory chemicals, Synthesis of substances

Section 2: Hazard(s) Identification

2.1) Classification of the substance or mixture GHS classification in accordance with 29 CFR 1910 (OSHA HCS):

Not a hazardous substance or mixture.

2.2) GHS Label elements, including precautionary statements:

Not a hazardous substance or mixture.

2.3) Hazards not otherwise classified (HNOC) or covered by GHS:

Weak hydrogen fluoride-releaser.

Section 3: Composition/Information on Ingredients

3.1) Substances:

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Formula: CaF₂
 Molecular Weight: 78.07 g/mol
 CAS Number: 7789-75-5
 EC Number: 232-188-7

Component	Classification	Concentration
Calcium Fluoride		<= 100%

Section 4: First-Aid Measures

4.1) Description of first aid measures:

General advice

Hydrofluoric (HF) acid burns require immediate and specialized first aid and medical treatment. Symptoms may be delayed up to 24 hours depending on the concentration of HF. After decontamination with water, further damage can occur due to penetration/absorption of the fluoride ion. Treatment should be directed toward binding the fluoride ion as well as the effects of exposure. Skin exposures can be treated with a 2.5% calcium gluconate gel repeated until burning ceases. More serious skin exposures may require subcutaneous calcium gluconate except for digital areas unless the physician is experienced in this technique, due to the potential for tissue injury from increased pressure. Absorption can readily occur through the subungual areas and should be considered when undergoing decontamination. Prevention of absorption of the fluoride ion in cases of ingestion can be obtained by giving milk, chewable calcium carbonate tablets or Milk of Magnesia to conscious victims. Conditions such as hypocalcemia, hypomagnesemia and cardiac arrhythmias should be monitored for, since they can occur after exposure. Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration.

In case of skin contact

Wash off with soap and plenty of water.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water.

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4.2) Most important symptoms and effects, both acute and delayed:

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.

4.3) Indication of any immediate medical attention and special treatment needed:

No data available

Section 5: Fire-Fighting Measures

5.1) Suitable extinguishing media:

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2) Special hazards arising from the substance or mixture:

Hydrogen fluoride, Calcium oxide

5.3) Advise for firefighters:

Wear self-contained breathing apparatus for firefighting if necessary.

5.4) Further information:

No data available

Section 6: Accidental Release Measures

6.1) Personal precautions, protective equipment, and emergency procedures:

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Avoid breathing dust.

For personal protection see section 8.

6.2) Environmental precautions:

Do not let product enter drains.

6.3) Methods and materials for containment and cleaning up:

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

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6.4) Reference to other sections:

For disposal see section 13.

Section 7: Handling and Storage

7.1) Precautions for safe handling:

Avoid formation of dust and aerosols. Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs.

Provide appropriate exhaust ventilation at places where dust is formed.

For precautions see section 2.2.

7.2) Conditions for safe storage, including any incompatibilities:

Keep container tightly closed in a dry and well-ventilated place.

hygroscopic

Storage class (TRGS 510): 13: Non Combustible Solids

7.3) Specific end use(s):

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

Section 8: Exposure Controls/Personal Protection

8.1) Control parameters:

Components with workplace control parameters

Component	CAS-Number	Value	Control Parameters	Basis
Calcium fluoride	7789-75-5	TWA	2.5 mg/m ³	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
	Remarks	CAS number varies with compound		

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		TWA	2.5 mg/m ³	USA. ACGIH Threshold Limit Values (TLV)
		Bone damage Fluorosis Substances for which there is a Biological Exposure Index or Indices (see BEI® section) Not classifiable as a human carcinogen varies		
		PEL	2.5 mg/m ³	California permissible exposure limits for chemical contaminants (Title 8, Article 107)

Biological occupational exposure limits

Component	CAS-Number	Parameters	Value	Biological Specimen	Basis
Calcium fluoride	7789-75-5	Fluoride	2 mg/l	Urine	ACGIH - Biological Exposure Indices (BEI)
	Remarks	Prior to shift (16 hours after exposure ceases)			
		Fluoride	3 mg/l	Urine	ACGIH - Biological Exposure Indices (BEI)
		End of shift (As soon as possible after exposure ceases)			

8.2) Exposure controls:

Appropriate engineering controls:

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Personal protective equipment

Eye/face protection:

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection:

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Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body protection:

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection:

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure:

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Section 9: Physical and Chemical Properties

9.2) Information on basic physical and chemical properties:

a) Appearance (physical state, color, etc.)	Colorless, Crystalline solid
b) Upper/lower flammability or explosive limits	No data available
c) Odor	No data available
d) Odor threshold	No data available
e) Vapor pressure	No data available
f) Vapor density	No data available
g) pH	No data available
h) Density	3.18 g/mL at 25 °C (77 °F)

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i) Melting point/freezing point	1,360 °C (2,480 °F)
j) Solubility(ies) in water	0.015 g/l at 18 °C (64 °F)
k) Initial boiling point and boiling range	2,500 °C 4,532 °F - lit.
l) Flash point	No data available
m) Evaporation rate	No data available
n) Flammability (solid, gas)	No data available
o) Partition coefficient: n-octanol/water	No data available
q) Auto-ignition temperature	No data available
r) Decomposition temperature	No data available
s) Viscosity	No data available
t) Explosive properties	No data available
u) Oxidizing properties	No data available

9.2) Other Safety information:

No data available

Section 10: Stability and Reactivity

10.1) Reactivity:

No data available

10.2) Chemical Stability:

Stable under recommended storage conditions.

10.3) Possibility of hazardous reactions:

No data available

10.4) Conditions to avoid:

No data available

10.5) Incompatible materials:

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Acids and Strong oxidizing agents

10.6) Hazardous decomposition products:

Hazardous decomposition products formed under fire conditions. - Hydrogen fluoride, Calcium oxide

Other decomposition products - No data available

In the event of fire: see section 5

Section 11: Toxicological Information

11.1) Information on toxicological effects:

Acute toxicity:

LD50 Oral - Rat - 4,250 mg/kg

Remarks: Behavioral: Somnolence (general depressed activity). Behavioral: Ataxia.

Respiratory disorder (RTECS)

LC50 Inhalation - Rat - male and female - 4 h - > 5.07 mg/l
(OECD Test Guideline 403)

Dermal: No data available

No data available

Skin corrosion/irritation:

Skin - Rabbit

Result: No skin irritation - 4 h
(OECD Test Guideline 404)

Serious eye damage/ eye irritation:

Eyes - Rabbit

Result: No eye irritation
(OECD Test Guideline 405)

Respiratory or skin sensitization:

Local lymph node assay (LLNA) - Mouse

Result: negative
(OECD Test Guideline 429)

Germ cell mutagenicity:

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Ames test
Escherichia coli/Salmonella typhimurium
Result: negative
Mutagenicity (mammal cell test): chromosome aberration.
Chinese hamster lung cells
Result: negative
In vitro mammalian cell gene mutation test
Chinese hamster lung cells
Result: negative

Carcinogenicity:

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

Reproductive toxicity:

No data available

Specific target organ toxicity – single exposure:

No data available

Specific target organ toxicity – repeated exposure:

No data available

Aspiration hazard:

No data available

Additional information:

Repeated dose toxicity - Rat - male and female - Inhalation - 20 Days

RTECS: EW1760000

Fluoride ion can reduce serum calcium levels possibly causing fatal hypocalcemia.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

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Cannot be excluded:

Hazardous properties cannot be excluded, but are relatively improbable due to the compound's poor water solubility.

Handle in accordance with good industrial hygiene and safety practice.

Section 12: Ecological Information

12.1) Toxicity:

No toxicity at the limit of solubility

12.2) Persistence and degradability:

The methods for determining biodegradability are not applicable to inorganic substances.

12.3) Bioaccumulative potential:

Bioaccumulation is unlikely.

12.4) Mobility in soil:

No data available

12.5) Results of PBT and vPvB assessment:

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6) Other adverse effects:

No data available

Section 13: Disposal Considerations

13.1) Waste treatment methods:

Product:

Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging:

Dispose of as unused product.

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Section 14: Transport Information

DOT (US):

Not dangerous goods

IMDG:

Not dangerous goods

IATA:

Not dangerous goods

Section 15: Regulatory Information

SARA 302 Components:

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components:

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards:

No SARA Hazards

Massachusetts Right To Know Components:

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components:

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New Jersey Right To Know Components:

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California Prop. 65 Components:



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This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

Section 16: Other Information

Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. MSE Supplies LLC and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product.

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