

### SECTION 1: Identification of the substance/mixture

#### 1.1. Product identifier

Product form : Substance  
 Substance name : Calcium Fluoride  
 Formula : CaF<sub>2</sub>  
 Molecular weight : 78.07 g/mol  
 CAS No. : 7789-75-5  
 Product code : LW-CAF2  
 Synonyms : Fluorspar

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Laboratory chemicals, Synthesis of substances

#### 1.3. Emergency telephone number

Emergency number : 1.800.424.9300 (USA)  
 +1.703.527.3887 (INT)

### SECTION 2: Hazards Identification

#### 2.1. Classification of the substance or mixture

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 not covered by GHS

Strong hydrogen fluoride-releaser

### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

##### Hazardous components

Component	Classification	Concentration
Calcium Fluoride		<= 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

### SECTION 4: Description of first aid measures

#### 4.1. Description of first aid measures

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- General advice** : Consult a physician. Show this safety data sheet to the doctor in attendance. 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.
- First-aid measures after inhalation** : If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
- First-aid measures after skin contact** : Wash off with soap and plenty of water. Consult a physician. First treatment with calcium gluconate paste.
- First-aid measures after eye contact** : Flush eyes with water as a precaution.
- First-aid measures after ingestion** : Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

### 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: Firefighting measures

### 5.1. Extinguishing media

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

### 5.2. Special hazards arising from the substance or mixture

No data available

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### 5.3. Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

### 5.4. More 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 vapors, 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 material for containment and cleaning up

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

### 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 Keep in a dry place. Do not store in glass. Storage class (TRGS 510): 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

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Component	CAS-No.	Value	Control parameters	Basis
Calcium Fluoride	7789-75-5	TWA	2.500000 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
	Remarks	CAS number varies with compound		
		TWA	2.500000 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-2
		Z37.28-1969		
		TWA	2.500000 mg/m3	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		
		TWA	2.500000 mg/m3	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		
		TWA	2.500000 mg/m3	USA. NIOSH Recommended Exposure Limits
		TWA	2.5 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		CAS number varies with compound		
		TWA	2.5 mg/m3	USA. ACGIH Threshold Limit Values (TLV)
		Bone damage Fluorosis		

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		Substances for which there is a Biological Exposure Index or Indices (see BEI <sup>®</sup> section) Not classifiable as a human carcinogen varies		
		TWA	2.5 mg/m <sup>3</sup>	USA. NIOSH Recommended Exposure Limits
		PEL	2.5 mg/m <sup>3</sup>	California permissible exposure limits for chemical contaminants (Title 8, Article 107)

### Biological occupational exposure limits

Component	CAS-No.	Parameters	Value	Biological specimen	Basis
Calcium fluoride	7789-75-5	Fluoride	3.0000 mg/g	In urine	ACGIH - Biological Exposure Indices (BEI)
	Remarks	Prior to shift (16 hours after exposure ceases)			
		Fluoride	10.0000 mg/g	In urine	ACGIH - Biological Exposure Indices (BEI)
		End of shift (As soon as possible after exposure ceases)			
		Fluoride	2 mg/l	Urine	ACGIH - Biological Exposure Indices (BEI)
		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 : Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

### 8.3. Personal protective equipment

Eye protection : Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

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**Skin Protection** : 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.

### Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

### Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method:

EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

**Body protection** : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Respiratory protection** : Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Environmental exposure controls** : Do not let product enter drains.

## SECTION 9: Physical and chemical properties

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### 9.1. Information on basic physical and chemical properties

Appearance	: Form: powder Color: white
Odor	: odorless
Odor Threshold	: No data available
pH	: no data available
Melting point/freezing point	: No data available
Initial boiling point and boiling range	: 2,500 °C (4,532 °F) - lit.
Flash point	: Not applicable
Evaporation rate	: no data available
Flammability (solid, gas)	: No data available
Upper/lower flammability or explosive limits	: No data available
Vapor pressure	: No data available
Vapor density	: No data available
Relative density	: 3.18 g/mL at 25 °C (77 °F)
Water solubility	: 0.015 g/l at 18 °C (64 °F)
Partition coefficient: n-octanol/water	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity	: No data available
Explosive properties	: No data available
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

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Reacts dangerously with glass.

### 10.5. Incompatible materials

acidsglass

### 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 LD50 Oral - Rat - 4,417 mg/kg LDLO Oral - Guinea pig - > 5,000 mg/kg Dermal: No data available No data available
Skin corrosion/irritation	: Skin - Rabbit Result: No skin irritation (OECD Test Guideline 404)
Serious eye damage/irritation	: Eyes - Rabbit Result: No eye irritation (OECD Test Guideline 405)
Respiratory or skin sensitization	: in vivo assay - Mouse Result: Did not cause sensitization on laboratory animals. (OECD Test Guideline 429)
Germ cell mutagenicity	: No data available

### Carcinogenicity

This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

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.



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OSHA:	:	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
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	:	RTECS: EW1760000 Fluoride ion can reduce serum calcium levels possibly causing fatal hypocalcemia.

### SECTION 12: Ecological information

#### 12.1. Toxicity

Toxicity to daphnia and other aquatic invertebrates : 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.

12.3. Mobility in soil : No data available

12.4. 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.

### SECTION 14: Transport information

#### DOT (US)

Not dangerous goods

#### IMDG

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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

Calcium fluoride	CAS-No.	Revision Date
	7789-75-5	2008-06-01

#### New Jersey Right To Know Components

Calcium fluoride	CAS-No.	Revision Date
	7789-75-5	2008-06-01

#### California Prop. 65 Components

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

#### HMIS Rating

Health Hazard	:	1
Chronic Health Hazard	:	
Flammability	:	0
Physical Hazard	:	0

#### NFPA Rating

Health hazard	:	0
Fire Hazard	:	0
Reactivity Hazard	:	0

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### Further Information

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