

### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Cesium fluoride

Product Number : 198323  
Brand : Aldrich

Supplier : Sigma-Aldrich  
3050 Spruce Street  
SAINT LOUIS MO 63103  
USA

Telephone : +1 800-325-5832  
Fax : +1 800-325-5052  
Emergency Phone # (For both supplier and manufacturer) : (314) 776-6555

Preparation Information : Sigma-Aldrich Corporation  
Product Safety - Americas Region  
1-800-521-8956

### 2. HAZARDS IDENTIFICATION

#### Emergency Overview

##### OSHA Hazards

Toxic by inhalation., Toxic by ingestion, Toxic by skin absorption, Corrosive

##### Target Organs

Bone

##### GHS Classification

Acute toxicity, Oral (Category 3)  
Acute toxicity, Inhalation (Category 3)  
Acute toxicity, Dermal (Category 3)  
Skin corrosion (Category 1B)  
Serious eye damage (Category 1)

##### GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

H301 + H311  
H314  
H331

Toxic if swallowed or in contact with skin  
Causes severe skin burns and eye damage.  
Toxic if inhaled.

Precautionary statement(s)

P261  
P280  
P305 + P351 + P338  
P310

Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.  
Wear protective gloves/ protective clothing/ eye protection/ face protection.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
Immediately call a POISON CENTER or doctor/ physician.

##### HMIS Classification

Health hazard:

3

**Flammability:** 0  
**Physical hazards:** 0  
**NFPA Rating**  
**Health hazard:** 3  
**Fire:** 0  
**Reactivity Hazard:** 0

#### Potential Health Effects

**Inhalation** Toxic if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.  
**Skin** Toxic if absorbed through skin. Causes skin burns.  
**Eyes** Causes eye burns.  
**Ingestion** Toxic if swallowed.

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Formula : CsF  
Molecular Weight : 151.9 g/mol

Component	Concentration
<b>Caesium fluoride</b>	
CAS-No. 13400-13-0	-
EC-No. 236-487-3	-

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### 4. FIRST AID MEASURES

#### General advice

Move out of dangerous area. 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. Consult a physician.

#### In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

#### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.

#### If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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### 5. FIREFIGHTING MEASURES

#### Suitable extinguishing media

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

#### Special protective equipment for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

#### Hazardous combustion products

Hazardous decomposition products formed under fire conditions. - Hydrogen fluoride, Cesium/cesium oxides

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### 6. ACCIDENTAL RELEASE MEASURES

#### Personal precautions

Wear respiratory protection. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

#### Environmental precautions

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

### 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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## 7. HANDLING AND STORAGE

### Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

### Conditions for safe storage

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

hygroscopic Keep in a dry place.

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Basis
Caesium fluoride	13400-13-0	TWA	2.5 mg/m <sup>3</sup>	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
Remarks	Varies with compound			
		TWA	2.5 mg/m <sup>3</sup>	USA. Occupational Exposure Limits (OSHA) - Table Z2
	Z37.28-1969			
		TWA	2.5 mg/m <sup>3</sup>	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	2.5 mg/m <sup>3</sup>	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000

### Personal protective equipment

#### 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).

#### Hand 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.

#### Eye 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 and 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.

#### Hygiene measures

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

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

Form	powder
Colour	white

### Safety data

pH	6.5 - 7.5 at 152 g/l at 20 °C (68 °F)
Melting point/freezing point	Melting point/range: 682 °C (1,260 °F) - lit.
Boiling point	1,251 °C (2,284 °F) at 1,013 hPa (760 mmHg)
Flash point	not applicable
Ignition temperature	no data available
Autoignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Vapour pressure	no data available
Density	4.115 g/mL at 25 °C (77 °F)
Water solubility	ca.455.7 g/l at 20 °C (68 °F)
Partition coefficient: n-octanol/water	no data available
Relative vapour density	no data available
Odour	odourless
Odour Threshold	no data available
Evaporation rate	no data available

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## 10. STABILITY AND REACTIVITY

### Chemical stability

Stable under recommended storage conditions.

### Possibility of hazardous reactions

no data available

### Conditions to avoid

hygroscopic

### Materials to avoid

Strong oxidizing agents, acids

### Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Hydrogen fluoride, Cesium/cesium oxides  
Other decomposition products - no data available

### Thermal decomposition

> 602 °C

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## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

#### Oral LD50

no data available

#### Inhalation LC50

**Dermal LD50****Other information on acute toxicity**

no data available

**Skin corrosion/irritation**

no data available

**Serious eye damage/eye irritation**

no data available

**Respiratory or skin sensitization**

no data available

**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.

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

**Teratogenicity**

no data available

**Specific target organ toxicity - single exposure (Globally Harmonized System)**

no data available

**Specific target organ toxicity - repeated exposure (Globally Harmonized System)**

no data available

**Aspiration hazard**

no data available

**Potential health effects**

<b>Inhalation</b>	Toxic if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
<b>Ingestion</b>	Toxic if swallowed.
<b>Skin</b>	Toxic if absorbed through skin. Causes skin burns.
<b>Eyes</b>	Causes eye burns.

**Signs and Symptoms of Exposure**

Salivation, Nausea, Vomiting, Fever, Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.

**Synergistic effects**

no data available

**Additional Information**  
RTECS: FK9650000

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## 12. ECOLOGICAL INFORMATION

### Toxicity

no data available

### Persistence and degradability

no data available

### Bioaccumulative potential

no data available

### Mobility in soil

no data available

### PBT and vPvB assessment

no data available

### Other adverse effects

no data available

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## 13. DISPOSAL CONSIDERATIONS

### Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

### Contaminated packaging

Dispose of as unused product.

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## 14. TRANSPORT INFORMATION

### DOT (US)

UN number: 2923 Class: 8 (6.1) Packing group: II  
Proper shipping name: Corrosive solids, toxic, n.o.s. (Caesium fluoride)  
Marine pollutant: No  
Poison Inhalation Hazard: No

### IMDG

UN number: 2923 Class: 8 (6.1) Packing group: II EMS-No: F-A, S-B  
Proper shipping name: CORROSIVE SOLID, TOXIC, N.O.S. (Caesium fluoride)  
Marine pollutant: No

### IATA

UN number: 2923 Class: 8 (6.1) Packing group: II  
Proper shipping name: Corrosive solid, toxic, n.o.s. (Caesium fluoride)

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## 15. REGULATORY INFORMATION

### OSHA Hazards

Toxic by inhalation., Toxic by ingestion, Toxic by skin absorption, Corrosive

### SARA 302 Components

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

### SARA 313 Components

SARA 313: 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

Acute Health Hazard

**Massachusetts Right To Know Components**

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

**Pennsylvania Right To Know Components**

Caesium fluoride

CAS-No.  
13400-13-0

Revision Date  
2008-06-01

**New Jersey Right To Know Components**

Caesium fluoride

CAS-No.  
13400-13-0

Revision Date  
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.

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**16. OTHER INFORMATION****Further information**

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