



# SAFETY DATA SHEET

**MATERION**

## 1. Product and company identification

Name of the chemical	Calcium fluoride
Other means of identification	
SDS number	1GJ
Materion Code	1GJ
CAS number	7789-75-5
Synonyms	Calcium fluoride (CaF <sub>2</sub> ) * Calcium fluoride * Calcium difluoride (as F)
Recommended use of the chemical and restrictions on use	
Recommended use	Not available.
Recommended restrictions	None known.
Manufacturer/Importer/Supplier/ Distributor information	Materion Advanced Chemicals Inc.
Address	407 N 13th Street 1316 W. St. Paul Avenue Milwaukee WI 53233 United States
Telephone	414.212.0257
E-mail	advancedmaterials@materion.com
Contact person	Laura Hamilton
Emergency telephone number	Chemtrec 800.424.9300

## 2. Hazards identification

Hazard classification	
Physical hazards	Not classified.
Health hazards	Acute toxicity, oral Category 5 Specific target organ toxicity, single exposure Category 3 respiratory tract irritation Specific target organ toxicity, repeated exposure Category 2
Environmental hazards	Not classified.

### Label elements

#### Symbols



#### Signal word

Warning

#### Hazard statement

May be harmful if swallowed. May cause respiratory irritation. May cause damage to organs through prolonged or repeated exposure.

#### Precautionary statement

##### Prevention

Use only outdoors or in a well-ventilated area. Do not breathe dust.

##### Response

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

##### Storage

Store in a well-ventilated place. Keep container tightly closed. Store locked up.

##### Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

#### Other hazards

None known.

#### Supplemental information

Not applicable.

## 3. Composition/information on ingredients

### Substance

Chemical name	CAS Number	Concentration (%)
Calcium fluoride	7789-75-5	90 - 100

## 4. First aid measures

### First aid measures for different exposure routes

<b>Inhalation</b>	If dust from the material is inhaled, remove the affected person immediately to fresh air. Call a POISON CENTER or doctor/physician if you feel unwell.
<b>Skin contact</b>	Get medical attention if irritation develops and persists.
<b>Eye contact</b>	Rinse with water. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Rinse mouth. Call a POISON CENTER or doctor/physician if you feel unwell.

**Most important symptoms and effects** Prolonged exposure may cause chronic effects.

**Personal protection for first-aid responders** In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

**Notes to physician** Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

## 5. Fire-fighting measures

<b>Extinguishing media</b>	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO <sub>2</sub> ).
<b>Extinguishing media to avoid</b>	None known.
<b>Specific hazards during fire fighting</b>	During fire, gases hazardous to health may be formed.
<b>Special fire fighting procedures</b>	Use water spray to cool unopened containers.
<b>Protection of fire-fighters</b>	Wear suitable protective equipment.
<b>General fire hazards</b>	No unusual fire or explosion hazards noted.
<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials.

## 6. Accidental release measures

<b>Personal precautions</b>	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate personal protective equipment. Avoid inhalation of dust. Wear a dust mask if dust is generated above exposure limits. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained.
<b>Environmental precautions</b>	Avoid discharge into drains, water courses or onto the ground.
<b>Spill cleanup methods</b>	If sweeping of a contaminated area is necessary use a dust suppressant agent which does not react with the product. Collect dust using a vacuum cleaner equipped with HEPA filter. Minimize dust generation and accumulation. Following product recovery, flush area with water. Sweep up or vacuum up spillage and collect in suitable container for disposal.

## 7. Handling and storage

<b>Handling</b>	Minimize dust generation and accumulation. Provide appropriate exhaust ventilation at places where dust is formed. Do not breathe dust. Avoid contact with skin and eyes. Avoid prolonged exposure. In case of insufficient ventilation, wear suitable respiratory equipment. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. When using, do not eat, drink or smoke. Wash hands thoroughly after handling. Practice good housekeeping.
<b>Storage</b>	Store in original tightly closed container. Store in a cool, dry place out of direct sunlight. Store in a well-ventilated place. Keep out of the reach of children.

## 8. Exposure controls/personal protection

### Exposure limits

#### OELs. (Standards on Workplace Atmosphere of Dangerous and Hazardous Materials)

Material	Type	Value
Calcium fluoride (CAS 7789-75-5)	TWA	2.5 mg/m <sup>3</sup>

## US. ACGIH Threshold Limit Values

Material	Type	Value
Calcium fluoride (CAS 7789-75-5)	TWA	2.5 mg/m <sup>3</sup>

### Biological limit values

#### ACGIH Biological Exposure Indices

Material	Value	Determinant	Specimen	Sampling Time
Calcium fluoride (CAS 7789-75-5)	3 mg/l	Fluoride	Urine	*
	2 mg/l	Fluoride	Urine	*

\* - For sampling details, please see the source document.

**Appropriate engineering controls** Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Ventilation should be sufficient to effectively remove and prevent buildup of any dusts or fumes that may be generated during handling or thermal processing. If engineering measures are not sufficient to maintain concentrations of dust particulates below the Occupational Exposure Limit (OEL), suitable respiratory protection must be worn.

### Individual protection measures, such as personal protective equipment

**Eye/face protection** Use tight fitting goggles if dust is generated.

#### Skin protection

**Hand protection** Not normally needed.

**Other** Wear suitable protective clothing.

**Respiratory protection** Wear respirator with dust filter.

**Thermal hazards** Wear appropriate thermal protective clothing, when necessary.

**General hygiene considerations** When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking.

## 9. Physical and chemical properties

<b>Appearance</b>	Powder.
<b>Physical state</b>	Solid.
<b>Form</b>	Powder.
<b>Color</b>	Not available.
<b>Odor</b>	Not available.
<b>Odor threshold</b>	Not available.
<b>Melting point/freezing point</b>	2557.4 °F (1403 °C)
<b>pH</b>	Not available.
<b>Boiling point, initial boiling point, and boiling range</b>	4532 °F (2500 °C)
<b>Flammability (solid, gas)</b>	Not available.
<b>Flash point</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	Not available.
<b>Flammability limit - upper (%)</b>	Not available.
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	< 0.0000001 kPa at 25 °C
<b>Vapor density</b>	Not available.

Density	3.18 g/cm <sup>3</sup> estimated
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Evaporation rate	Not available.
Other data	
Molecular formula	Ca-F <sub>2</sub>
Molecular weight	78.07 g/mol
Specific gravity	3.18

## 10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).
Incompatible materials	None known.
Hazardous decomposition products	No hazardous decomposition products are known.

## 11. Toxicological information

### Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful. May cause damage to organs by inhalation. Inhalation of dusts may cause respiratory irritation.
Skin contact	Due to lack of data the classification is not possible.
Eye contact	Dust in the eyes will cause irritation.
Ingestion	May be harmful if swallowed.

Symptoms Direct contact with eyes may cause temporary irritation.

### Information on toxicological effects

Acute toxicity May be harmful if swallowed. May cause respiratory irritation.

Product	Species	Test Results
Calcium fluoride (CAS 7789-75-5)		
<b>Acute</b>		
<b>Oral</b>		
LD50	Rat	4250 mg/kg
Skin corrosion/irritation	Due to lack of data the classification is not possible.	
Serious eye damage/eye irritation	Dust in the eyes will cause irritation.	
<b>Respiratory or skin sensitization</b>		
Respiratory sensitization	Due to lack of data the classification is not possible.	
Skin sensitization	Due to lack of data the classification is not possible.	
Germ cell mutagenicity	Due to lack of data the classification is not possible.	
Carcinogenicity	Due to lack of data the classification is not possible.	
<b>ACGIH Carcinogens</b>		
Calcium fluoride (CAS 7789-75-5)	A4 Not classifiable as a human carcinogen.	
<b>IARC Monographs. Overall Evaluation of Carcinogenicity</b>		
Calcium fluoride (CAS 7789-75-5)	3 Not classifiable as to carcinogenicity to humans.	
Reproductive toxicity	Due to lack of data the classification is not possible.	
Specific target organ toxicity - single exposure	Respiratory tract irritation.	

<b>Specific target organ toxicity - repeated exposure</b>	May cause damage to organs through prolonged or repeated exposure.
<b>Aspiration hazard</b>	Due to lack of data the classification is not possible.
<b>Chronic effects</b>	Prolonged inhalation may be harmful. May cause damage to organs through prolonged or repeated exposure.

## 12. Ecological information

<b>Ecotoxicity</b>	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
<b>Persistence and degradability</b>	No data is available on the degradability of this product.
<b>Bioaccumulation</b>	No data available.
<b>Mobility in soil</b>	No data available.
<b>Other hazardous effects</b>	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

## 13. Disposal considerations

<b>Disposal instructions</b>	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Residual waste</b>	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
<b>Contaminated packaging</b>	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.
<b>Local disposal regulations</b>	Dispose in accordance with all applicable regulations.

## 14. Transport information

<b>IATA</b>	Not regulated as dangerous goods.
<b>IMDG</b>	Not regulated as dangerous goods.
<b>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b>	Not applicable.

## 15. Regulatory information

<b>Applicable regulations</b>	This material safety data sheet was prepared in accordance with the Rules on Hazardous Communication of Dangerous Materials and Toxic Materials.
<b>Methods and Facilities Standards for the Storage, Clearance and Disposal of Industrial Waste</b>	Not listed.
<b>Priority Management Chemical List (Regulations on Handling Priority Managed Chemicals), as amended</b>	Not listed.
<b>Toxic Chemical Substances (TCS) List (EPA Toxic Substances Notice No. 0960095331E, Tables 1-3, Dec. 17, 2007, as amended)</b>	Not listed.
<b>Standards on Workplace Atmosphere of Dangerous and Hazardous Materials</b>	
Calcium fluoride (CAS 7789-75-5)	Listed.
<b>GHS Classification List: GHS implementation phase 1, 2 and 3 (CLA No. 0980145063, 0990146707, and 1020146801)</b>	
Calcium fluoride (CAS 7789-75-5)	
<b>International regulations</b>	
<b>Stockholm Convention</b>	Not applicable.

**Rotterdam Convention**

Not applicable.

**Montreal Protocol**

Not applicable.

**Kyoto protocol**

Not applicable.

**Basel Convention**

Not applicable.

**International Inventories**

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	Yes
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

**16. Other information****References**

ACGIH  
 EPA: AQUIRE database  
 NLM: Hazardous Substances Data Base  
 US. IARC Monographs on Occupational Exposures to Chemical Agents  
 Taiwan. Dangerous Materials (Rules on Hazard Communication of Dangerous Materials and Toxic Materials)  
 Taiwan. Industrial Precursor Chemicals (Categories and Regulations Governing Inspection and Declaration of Industrial Precursor Chemicals, MOEA Decree No. 87, as amended)  
 Taiwan. OELs. (Standards on Workplace Atmosphere of Dangerous and Hazardous Materials)  
 Taiwan. Toxic Chemical Substances (TCS) (List of Toxic Chemical Substances announced by the Environmental Protection Administration)  
 Taiwan. Toxic Materials (Rules on Hazard Communication of Dangerous Materials and Toxic Materials)

**Issued by**

Not available.

**Prepared by**

Not available.

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The information in the sheet was written based on the best knowledge and experience currently available.

**Issue date**

05-14-2019

**Revision information**

Product and Company Identification: Synonyms