

Classified as hazardous in accordance with the criteria of EPA New Zealand

## Section 1 - Identification

### Product Identifier

<b>Product Name</b>	<u>Calcium fluoride target</u>
<b>CAS No</b>	7789-75-5
<b>Synonyms</b>	Fluorspar; Fluorite; Calcium difluoride
<b>Molecular Formula</b>	CaF <sub>2</sub>
<b>Molecular Weight</b>	78.08
<b>Recommended Use</b>	Laboratory chemicals.
<b>Uses advised against</b>	No Information available

<b>Product Code</b>	<b>S55468</b>
<b>Address</b>	Thermo Fisher Scientific New Zealand Ltd 244 Bush Road, Albany, Auckland, New Zealand
<b>Emergency Tel.</b>	<b>CHEMTREC®</b> <b>09 980 6780 or +64 9 980 6780</b>
<b>Telephone / Fax Numbers</b>	Tel: 09 980 6700 Fax: 09 980 6788
<b>E-mail address</b>	<u>ANZinfo@thermofisher.com</u>

## Section 2 - Hazard(s) Identification

### Classification under Work Safe New Zealand

Classified as hazardous in accordance with the criteria of EPA New Zealand

**HSNO Approval Number**     **HSR002503**

### GHS Classification

#### Physical hazards

Based on available data, the classification criteria are not met

#### Health hazards

#### Environmental hazards

Based on available data, the classification criteria are not met

Label Elements                      None required

Other hazards which do not result in classification

## Section 3 - Composition and Information on Ingredients

Component	CAS No	Weight %
Calcium fluoride (CaF <sub>2</sub> )	7789-75-5	100

## Section 4 - First Aid Measures

### Description of first aid measures

<b>General Advice</b>	If symptoms persist, call a physician.
<b>New Zealand Emergency Tel.</b>	CHEMTREC® 09 980 6780 or +64 9 980 6780
<b>Inhalation</b>	Remove to fresh air. Get medical attention immediately if symptoms occur.
<b>Eye Contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
<b>Skin Contact</b>	Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur.
<b>Ingestion</b>	Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.
<b>Self-Protection of the First Aider</b>	No special precautions required.
<b>First Aid Facilities</b>	Eyewash, safety shower and washroom.
<b>Most important symptoms and effects</b>	None reasonably foreseeable.
<b>Notes to Physician</b>	Treat symptomatically.

## Section 5 - Fire Fighting Measures

### Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

### Extinguishing media which must not be used for safety reasons

No information available.

### Specific Hazards Arising from the Chemical

Thermal decomposition can lead to release of irritating gases and vapors.

### Hazardous Combustion Products

None under normal use conditions.

### Special protective equipment and precautions for fire fighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## Section 6 - Accidental Release Measures

### Personal Precautions, Protective Equipment and Emergency Procedures

#### Emergency procedures

Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust formation.

#### Environmental Precautions

Should not be released into the environment. See Section 12 for additional Ecological Information.

#### Methods for Containment and Clean Up

Sweep up and shovel into suitable containers for disposal. Avoid dust formation.

#### Precautions to prevent secondary hazards

Clean contaminated objects and areas thoroughly observing environmental regulations

#### Reference to Other Sections

Refer to protective measures listed in Sections 8 and 13.

## Section 7 - Handling and Storage

### Precautions for Safe Handling

#### Advice on safe handling

Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid ingestion and inhalation. Avoid contact with skin, eyes or clothing. Avoid dust formation.

#### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

### Conditions for Safe Storage, Including any Incompatibilities

#### Storage Conditions

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

#### Incompatible Materials

None known.

AS/NZS 2243.10:2004, Safety in laboratories - Storage of chemicals

## Section 8 - Exposure Controls and Personal Protection

### Control parameters

#### Exposure limits

**ACGIH** - Threshold Limit Values - Ceiling (TLV-C) guidelines by the American Conference of Governmental Industrial Hygienists (ACGIH) for controlling worker exposure to airborne chemical concentrations in the workplace.

**AUS** - Exposure Standards for Atmospheric Contaminants in the Occupational Environment - Guidance Note on the Interpretation of Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:3008(1995)]

Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995)] updated in August, 2005. Safe Work Australia

**UK** - EH40/2005 Work Exposure Limits, Fourth edition. Published 2020.

Component	New Zealand WEL	Australia	ACGIH TLV	The United Kingdom
Calcium fluoride (CaF <sub>2</sub> )		TWA: 2.5 mg/m <sup>3</sup>	TWA: 2.5 mg/m <sup>3</sup>	STEL: 7.5 mg/m <sup>3</sup> 15 min TWA: 2.5 mg/m <sup>3</sup> 8 hr

#### Biological limit values

**ACGIH** - American Conference of Governmental Industrial Hygienists (ACGIH) TLVs® and BEIs®- Threshold Limit Values for

Chemical Substances and Physical Agents &amp; Biological Exposure Indices. 2022 Edition

Component	New Zealand	Australia	ACGIH - Biological Exposure Indices	United Kingdom
Calcium fluoride (CaF <sub>2</sub> )			2 mg/L Medium: urine Time: prior to shift Determinant: Fluoride 3 mg/L Medium: urine Time: end of shift Determinant: Fluoride	

**Appropriate engineering controls****Engineering Measures**

Ensure that eyewash stations and safety showers are close to the workstation location. Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

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

<b>Eye Protection</b>	Goggles (Australian/New Zealand Standard AS/NZS 1337 - Eye protectors for Industrial applications)
<b>Hand Protection</b>	Protective gloves

Glove material	Breakthrough time	Glove thickness	AUS/NZ Standard	Glove comments
Natural rubber, Nitrile rubber, Neoprene, PVC.	See manufacturers recommendations	-	AS/NZS 2161	(minimum requirement)

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

<b>Skin and body protection</b>	Long sleeved clothing
<b>Respiratory Protection</b>	Use an AS/NZS 1716 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained in line with AS/NZS 1715 on the use and maintenance of respiratory protective devices
<b>Recommended Filter type:</b>	Particulates filter conforming to EN 143 (or AUS/NZ equivalent)
<b>Recommended half mask:-</b>	Particle filtering: EN149:2001 (or AUS/NZ equivalent) When RPE is used a face piece Fit Test should be conducted

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice.

**Environmental exposure controls** No information available.

## Section 9 - Physical and Chemical Properties

**Information on basic physical and chemical properties**

<b>Physical State</b>	Solid
<b>Appearance</b>	White
<b>Odor</b>	Odorless
<b>Odor Threshold</b>	No data available
<b>pH</b>	No information available
<b>Melting Point/Range</b>	1422.8 °C / 2593 °F

Softening Point	No data available	
Boiling Point/Range	No information available	
Flammability (liquid)	Not applicable	Solid
Flammability (solid,gas)	No information available	
Explosion Limits	No data available	
Flash Point	Not applicable	<b>Method -</b> No information available
Autoignition Temperature	No data available	
Decomposition Temperature	No data available	
Viscosity	Not applicable	Solid
Water Solubility	Insoluble	
Solubility in other solvents	No information available	
Partition Coefficient (n-octanol/water)		
Vapor Pressure	No information available	
Density / Specific Gravity	3.180	
Bulk Density	No data available	
Vapor Density	Not applicable	Solid
Particle characteristics	No data available	
<b>Other information</b>		
Molecular Formula	CaF <sub>2</sub>	
Molecular Weight	78.08	
Evaporation Rate	Not applicable - Solid	

## Section 10 - Stability and Reactivity

Reactivity	None known, based on information available
Stability	Stable under normal conditions.
Sensitivity to Mechanical Impact	No information available
Sensitivity to Static Discharge	No information available
Hazardous Polymerization	No information available.
Hazardous Reactions	None under normal processing.
Conditions to Avoid	Heat, flames and sparks.
Incompatible Materials	None known.

**Hazardous Decomposition Products** None under normal use conditions.

## Section 11 - Toxicological Information

### Acute Effects

### Information on likely routes of exposure

#### Product Information

Inhalation	Not an expected route of exposure.
Eyes	Not an expected route of exposure.
Skin	No known effect based on information supplied.
Ingestion	No known effect based on information supplied.

### Numerical measures of toxicity

(a) acute toxicity;

<b>Oral</b>	Based on available data, the classification criteria are not met
<b>Dermal</b>	No data available
<b>Inhalation</b>	No data available

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Calcium fluoride (CaF <sub>2</sub> )	LD50 = 4250 mg/kg ( Rat )		LC50 > 5070 mg/m <sup>3</sup> ( Rat ) 4 h

(b) skin corrosion/irritation; No data available

(c) serious eye damage/irritation; No data available

(d) respiratory or skin sensitization;  
 Respiratory No data available  
 Skin No data available

(e) germ cell mutagenicity; No data available

(f) carcinogenicity; No data available  
 There are no known carcinogenic chemicals in this product

(g) reproductive toxicity; No data available

(h) STOT-single exposure; No data available

(i) STOT-repeated exposure; No data available  
 Target Organs No information available.

(j) aspiration hazard; Not applicable  
 Solid

**Symptoms / effects, both acute and delayed**  
 No information available.

## Section 12 - Ecological Information

### Ecotoxicity

**Aquatic ecotoxicity**

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**Terrestrial ecotoxicity** There is no data for this product

**Persistence and Degradability** No information available

**Degradability** Not relevant for inorganic substances.

**Bioaccumulative Potential** No information available

**Mobility** No information available.

**Other adverse effects****Endocrine Disruptor Information**  
**Persistent Organic Pollutant**  
**Ozone Depletion Potential**

This product does not contain any known or suspected endocrine disruptors

This product does not contain any known or suspected substance

This product does not contain any known or suspected substance

## Section 13 - Disposal Considerations

**Waste treatment methods****Waste from Residues/Unused Products**

Do not allow into drains or watercourses or dispose of where ground or surface waters may be affected. Wastes, including emptied containers, are controlled wastes and should be disposed of in accordance with all federal, E.P.A., state and local regulations. Assure conformity with all applicable regulations.

**Contaminated Packaging**

Dispose of this container to hazardous or special waste collection point.

**Other Information**

Disposal agencies or waste contractors must comply with the New Zealand Hazardous Substances (Disposal) Regulations . Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains.

## Section 14 - Transport Information

**NZS 5433:2020**

Not regulated

**IATA**

Not regulated

**IMDG/IMO**

Not regulated

**Environmental hazards**

No hazards identified

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable, packaged goods

**Special Precautions**

No special precautions required. Please refer to the applicable dangerous goods regulations for additional information.

**Additional information**

None known

## Section 15 - Regulatory Information

**Safety, health and environmental regulations/legislation specific for the substance or mixture**

<b>HSNO Approval Number</b>	HSR002503
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**National Regulations**

There are no applicable tolerable exposure limits or environmental exposure limits according to the EPA Controls for Hazardous Substances

**Certified handlers, tracking and controlled substance license requirements**

Certified handlers are required for some substances. This includes substances requiring a controlled substance license, and most

explosives, vertebrates toxic agents, and certain fumigants. Acutely toxic substances which are a Category 1 or 2, such as pesticides also require Certified handlers. Please check the Health and Safety at Work Act 2015 for further information. Tracking is required for some highly hazardous substances. These substances need to be under the control of an appropriately trained person or appropriately secured. Please check the Health and Safety at Work Act 2015 for further information.

#### Prohibition or notification/licensing requirements

Shown below are details of specific prohibition/notifications or licensing requirements when they apply.

#### International Regulations

<b>Ozone Depletion Potential</b>	This product does not contain any known or suspected substance
<b>Persistent Organic Pollutant</b>	This product does not contain any known or suspected substance
<b>Rotterdam Convention (PIC)</b>	Not applicable
<b>Authorisation/Restrictions according to EU REACH</b>	Not applicable

#### International Inventories

New Zealand (NZIoC), Australia (AICS), Europe (EINECS/ELINCS/NLP), Korea (KECL), China (IECSC), Taiwan (TCSI), Japan (ENCS), Japan (ISHL), Canada (DSL/NDL), Philippines (PICCS). US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

Component	CAS No	NZIoC	AICS	EINECS	ELINCS	NLP	KECL	IECSC	TCSI
Calcium fluoride (CaF <sub>2</sub> )	7789-75-5	X	X	-	-	-	KE-04538	X	X

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	DSL	NDL	PICCS	ISHL	ENCS
Calcium fluoride (CaF <sub>2</sub> )	7789-75-5	X	ACTIVE	X	-	X	X	X

**Legend:** X - Listed '-' - Not Listed

**KECL** - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

## Section 16 - Other Information

**This safety data sheet complies with the requirements of the EPA Hazardous Substances (Hazard Classification) Notice 2020 and WorkSafe New Zealand Regulations**

#### Legend

**NZIoC** - New Zealand Inventory of Chemicals

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List

**IECSC** - Chinese Inventory of Existing Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**TWA** - Time Weighted Average

**IARC** - International Agency for Research on Cancer

**NZS 5433:2020** - Transport of Dangerous Goods on Land

**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association

**MARPOL** - International Convention for the Prevention of Pollution from Ships

**LD50** - Lethal Dose 50%

**EC50** - Effective Concentration 50%

**WEL** - Workplace Exposure Limit

**DNEL** - Derived No Effect Level

**AICS** - Australian Inventory of Chemical Substances

**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

**ENCS** - Japanese Existing and New Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**CAS** - Chemical Abstracts Service

**ACGIH** - American Conference of Governmental Industrial Hygienists

**PNEC** - Predicted No Effect Concentration

**OECD** - Organisation for Economic Co-operation and Development

**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code

**ADG** - Australian Code for the Transport of Dangerous Goods by Road and Rail

**LC50** - Lethal Concentration 50%

**ATE** - Acute Toxicity Estimate

**RPE** - Respiratory Protective Equipment

**NOEC** - No Observed Effect Concentration



**POW** - Partition coefficient Octanol:Water  
**vPvB** - very Persistent, very Bioaccumulative  
**VOC** - (Volatile Organic Compound)

**BCF** - Bioconcentration factor  
**PBT** - Persistent, Bioaccumulative, Toxic

**Key literature references and sources for data**

HSNO classifications provided in the New Zealand Chemical Classification Information Database (CCID).

<https://echa.europa.eu/information-on-chemicals>

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

EPA Guide to classifying hazardous substances in New Zealand

EPA - Assigning a product to an existing HSNO approval guide

**Training Advice**

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.

First aid for chemical exposure, including the use of eye wash and safety showers.

**Revision Date** 14-Mar-2023  
**Revision Summary** Not applicable

**Disclaimer**

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## End of Safety Data Sheet