



## Material Safety Data Sheet

Creation Date 14-Aug-2009

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Revision Number 1

### 1. PRODUCT AND COMPANY IDENTIFICATION

<b>Product Name</b>	<b>Calcium chloride</b>
<b>Cat No.</b>	<b>C77-212; C77-500; C614-3; C614-10; C614-500</b>
<b>Synonyms</b>	Dowflake; Calpus; Caltac (Anhydrous; Pellets; Certified; Desiccant; 4-20 Mesh and Finer)
<b>Recommended Use</b>	Laboratory chemicals
<b>Company</b> Fisher Scientific One Reagent Lane Fair Lawn, NJ 07410 Tel: (201) 796-7100	<b>Emergency Telephone Number</b> CHEMTREC®, Inside the USA: 800-424-9300 CHEMTREC®, Outside the USA: 703-527-3887

### 2. HAZARDS IDENTIFICATION

#### WARNING!

#### Emergency Overview

Irritating to eyes. May cause skin and respiratory tract irritation. Hygroscopic.

**Appearance** Beige

**Physical State** Solid

**Odor** odorless

**Target Organs**

Eyes, Central nervous system (CNS), Blood

#### Potential Health Effects

#### Acute Effects

#### Principle Routes of Exposure

**Eyes**

Irritating to eyes.

**Skin**

May cause irritation. May be harmful in contact with skin.

**Inhalation**

May cause irritation of respiratory tract. May be harmful if inhaled.

**Ingestion**

May be harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

#### **Chronic Effects**

Tumorigenic effects have been reported in experimental animals..

See Section 11 for additional Toxicological information.

**Aggravated Medical Conditions**

No information available.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Haz/Non-haz**

Component	CAS-No	Weight %
Calcium chloride	10043-52-4	>95

### 4. FIRST AID MEASURES

<b>Eye Contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain 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>Inhalation</b>	Move to fresh air. If breathing is difficult, give oxygen. Get medical attention immediately if symptoms occur.
<b>Ingestion</b>	Do not induce vomiting. Obtain medical attention.
<b>Notes to Physician</b>	Treat symptomatically.

### 5. FIRE-FIGHTING MEASURES

<b>Flash Point</b>	No information available.
<b>Method</b>	No information available.
<b>Autoignition Temperature</b>	No information available.
<b>Explosion Limits</b>	
<b>Upper</b>	No data available
<b>Lower</b>	No data available
<b>Suitable Extinguishing Media</b>	Substance is nonflammable; use agent most appropriate to extinguish surrounding fire..
<b>Unsuitable Extinguishing Media</b>	No information available.
<b>Hazardous Combustion Products</b>	No information available.
<b>Sensitivity to mechanical impact</b>	No information available.
<b>Sensitivity to static discharge</b>	No information available.

**Specific Hazards Arising from the Chemical**

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

**Protective Equipment and Precautions for Firefighters**

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

<b>NFPA</b>	<b>Health</b> 2	<b>Flammability</b> 0	<b>Instability</b> 1	<b>Physical hazards</b> N/A
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### 6. ACCIDENTAL RELEASE MEASURES

<b>Personal Precautions</b>	Ensure adequate ventilation. Use personal protective equipment. Avoid dust formation. Do not get in eyes, on skin, or on clothing.
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**Environmental Precautions** Should not be released into the environment.

**Methods for Containment and Clean Up** Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation.

## 7. HANDLING AND STORAGE

**Handling** Wear personal protective equipment. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid dust formation. Do not breathe dust.

**Storage** Keep containers tightly closed in a dry, cool and well-ventilated place.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Engineering Measures** Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas.

### Exposure Guidelines

Component	Quebec	Mexico OEL (TWA)	Ontario TWAEV
Calcium chloride			TWA: 5 mg/m <sup>3</sup>

**NIOSH IDLH:** Immediately Dangerous to Life or Health

### Personal Protective Equipment

#### Eye/face Protection

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

#### Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

#### Respiratory Protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Physical State

Solid

### Appearance

Beige

### Odor

odorless

### Odor Threshold

No information available.

### pH

8-10 100 g/L aq.sol.

### Vapor Pressure

No information available.

### Vapor Density

No information available.

### Viscosity

No information available.

### Boiling Point/Range

>1600°C / >2912°F @ 760 mmHg

### Melting Point/Range

782°C / 1439.6°F

### Decomposition temperature °C

No information available.

### Flash Point

No information available.

### Evaporation Rate

No information available.

### Specific Gravity

No information available.

### Solubility

Soluble in water

### log Pow

No data available

### Molecular Weight

110.99

### Molecular Formula

Ca Cl<sub>2</sub>

## 10. STABILITY AND REACTIVITY

<b>Stability</b>	Hygroscopic.
<b>Conditions to Avoid</b>	Avoid dust formation. Incompatible products. Excess heat. Exposure to moist air or water.
<b>Incompatible Materials</b>	Strong oxidizing agents, Metals
<b>Hazardous Decomposition Products</b>	Hydrogen chloride gas, Chlorine
<b>Hazardous Polymerization</b>	Hazardous polymerization does not occur.
<b>Hazardous Reactions .</b>	None under normal processing..

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity

#### Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Calcium chloride	1000 mg/kg ( Rat )	2630 mg/kg ( Rat )	Not listed

**Irritation** Irritating to eyes

**Toxicologically Synergistic Products** No information available.

### Chronic Toxicity

**Carcinogenicity** There are no known carcinogenic chemicals in this product

**Sensitization** No information available.

**Mutagenic Effects** Mutagenic effects have occurred in experimental animals.

**Reproductive Effects** No information available.

**Developmental Effects** No information available.

**Teratogenicity** No information available.

**Other Adverse Effects** Tumorigenic effects have been reported in experimental animals.. See actual entry in RTECS for complete information.

**Endocrine Disruptor Information** No information available

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Calcium chloride	Not listed	Lepomis macrochirus: LC50: 10650 mg/L/96h	Not listed	EC50: 52 mg/L/48h

**Persistence and Degradability** No information available

**Bioaccumulation/ Accumulation** No information available

**Mobility** No information available

## 13. DISPOSAL CONSIDERATIONS

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

## 14. TRANSPORT INFORMATION

**DOT** Not regulated

**TDG** Not regulated

**IATA** Not regulated

**IMDG/IMO** Not regulated

## 15. REGULATORY INFORMATION

### International Inventories

Component	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	CHINA	KECL
Calcium chloride	X	X	-	233-140-8	-		X	X	X	X	KE-04496 X

#### Legend:

X - Listed

E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.

F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.

N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.

P - Indicates a commenced PMN substance

R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.

S - Indicates a substance that is identified in a proposed or final Significant New Use Rule

T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.

XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).

Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.

Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

### U.S. Federal Regulations

**TSCA 12(b)** Not applicable

#### **SARA 313**

Not applicable

#### **SARA 311/312 Hazardous Categorization**

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

#### **Clean Water Act**

Not applicable

#### **Clean Air Act**

Not applicable

#### **OSHA**

Not applicable

#### **CERCLA**

Not Applicable

#### **California Proposition 65**

This product does not contain any Proposition 65 chemicals.

#### **State Right-to-Know**

Not applicable

#### **U.S. Department of Transportation**

Reportable Quantity (RQ):	N
DOT Marine Pollutant	N
DOT Severe Marine Pollutant	N

#### **U.S. Department of Homeland Security**

This product does not contain any DHS chemicals.

### **Other International Regulations**

**Mexico - Grade** No information available

**Canada**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

**WHMIS Hazard Class**

D2B Toxic materials

**16. OTHER INFORMATION**

<b>Prepared By</b>	Regulatory Affairs Thermo Fisher Scientific Tel: (412) 490-8929
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<b>Revision Summary</b>	"***", and red text indicates revision

**Disclaimer**

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

**End of MSDS**