

# SAFETY DATA SHEET

## 1. Identification

**Product identifier:** Calcium Chloride

### Other means of identification

**Synonyms:** Caltac; Calcium dichloride  
**Product No.:** 1311, 3630, 4880

### Recommended use and restriction on use

**Recommended use:** For Laboratory, Research or Manufacturing Use.  
**Restrictions on use:** Not determined.

### Details of the supplier of the safety data sheet

Avantor Performance Materials, LLC  
100 Matsonford Rd, Suite 200  
Radnor, PA 19087

Telephone: Customer Service: 855-282-6867

Fax: Product Information Compliance  
Contact Person: info@avantormaterials.com  
E-mail:

### Emergency telephone number:

CHEMTREC: 1-800-424-9300 within US and Canada (24 hrs/day, 7 days/week)

## 2. Hazard identification

### Hazard Classification

#### Health Hazards

Acute toxicity (Oral)	Category 4
Serious Eye Damage/Eye Irritation	Category 2A
Specific Target Organ Toxicity - Single Exposure	Category 3 <sup>1</sup>

#### Target Organs

1. Respiratory tract irritation.

#### Unknown toxicity - Health

Acute toxicity, inhalation, dust or mist	100 %
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### Label Elements

**Hazard Symbol:**



<b>Signal Word:</b>	Warning
<b>Hazard Statement:</b>	Harmful if swallowed. Causes serious eye irritation. May cause respiratory irritation.
<b>Precautionary Statements</b>	
<b>Prevention:</b>	Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid breathing dust. Use only outdoors or in a well-ventilated area. Wear protective clothing. Wear eye protection.
<b>Response:</b>	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
<b>Storage:</b>	Store in a well-ventilated place. Keep container tightly closed.
<b>Disposal:</b>	Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.
<b>Other hazards which do not result in GHS classification:</b>	None.

**3. Composition/information on ingredients**

**Substances**

Chemical name	Common name and synonyms	CAS number	Content in percent (%)*
Calcium chloride		10043-52-4	90 - 100%

\* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

**4. First-aid measures**

<b>General information:</b>	Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.
<b>Ingestion:</b>	Rinse mouth thoroughly. Call a POISON CENTER/doctor if you feel unwell.
<b>Inhalation:</b>	Move to fresh air. Get medical attention if symptoms persist.
<b>Skin Contact:</b>	Wash skin thoroughly with soap and water. Get medical attention if irritation persists after washing. Wash contaminated clothing before reuse.
<b>Eye contact:</b>	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention if symptoms persist.

**Most important symptoms/effects, acute and delayed**

**Symptoms:** Irritating to eyes, respiratory system and skin.  
**Hazards:** None known.

**Indication of immediate medical attention and special treatment needed**

**Treatment:** Treat symptomatically. Symptoms may be delayed.

**5. Fire-fighting measures**

**General Fire Hazards:** The product is non-combustible.

**Suitable (and unsuitable) extinguishing media**

**Suitable extinguishing media:** Use fire-extinguishing media appropriate for surrounding materials.

**Unsuitable extinguishing media:** None known.

**Specific hazards arising from the chemical:** During fire, gases hazardous to health may be formed.

**Special protective equipment and precautions for firefighters**

**Special fire fighting procedures:** Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool. Cool containers exposed to flames with water until well after the fire is out.

**Special protective equipment for fire-fighters:** Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

**6. Accidental release measures**

**Personal precautions, protective equipment and emergency procedures:** Keep unauthorized personnel away. Use personal protective equipment. See Section 8 of the SDS for Personal Protective Equipment.

**Methods and material for containment and cleaning up:** Sweep up and place in a clearly labeled container for chemical waste. Clean surface thoroughly to remove residual contamination.

**Notification Procedures:** Prevent entry into waterways, sewer, basements or confined areas. Inform authorities if large amounts are involved.

**Environmental Precautions:** Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

**7. Handling and storage**

**Precautions for safe handling:** Use personal protective equipment as required. Avoid contact with eyes, skin, and clothing. Avoid inhalation of dust. Wash thoroughly after handling.

**Conditions for safe storage, including any incompatibilities:** Keep containers tightly closed. Store in a well-ventilated place. Store in a dry place.

**8. Exposure controls/personal protection**

**Control Parameters**

**Occupational Exposure Limits**

Chemical Identity	Type	Exposure Limit Values	Source
Calcium chloride	TWA	5 mg/m3	Canada, Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)

**Appropriate Engineering Controls** No data available.

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

- General information:** 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.
- Eye/face protection:** Use tight fitting goggles if dust is generated.
- Skin Protection**
  - Hand Protection:** Chemical resistant gloves
  - Other:** Wear suitable protective clothing.
- Respiratory Protection:** In case of inadequate ventilation use suitable respirator.
- Hygiene measures:** Provide eyewash station and safety shower. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

**9. Physical and chemical properties**

**Appearance**

- Physical state:** Solid
- Form:** Granules
- Color:** White
- Odor:** Odorless
- Odor threshold:** No data available.
- pH:** 8 - 9 (20 °C) (aqueous solution)
- Melting point/freezing point:** 772 °C
- Initial boiling point and boiling range:** 1.670 °C
- Flash Point:** Not applicable
- Evaporation rate:** No data available.
- Flammability (solid, gas):** No data available.
- Upper/lower limit on flammability or explosive limits**
  - Flammability limit - upper (%):** No data available.
  - Flammability limit - lower (%):** No data available.
  - Explosive limit - upper (%):** No data available.
  - Explosive limit - lower (%):** No data available.
- Vapor pressure:** No data available.
- Vapor density:** No data available.

<b>Density:</b>	2,15 g/ml (20 °C)
<b>Relative density:</b>	2,15 (20 °C)
<b>Solubility(ies)</b>	
<b>Solubility in water:</b>	745 g/l (20 °C) 1.590 g/l (100 °C)
<b>Solubility (other):</b>	acetic acid: Soluble ethanol: Very soluble acetone: Soluble
<b>Partition coefficient (n-octanol/water):</b>	No data available.
<b>Auto-ignition temperature:</b>	No data available.
<b>Decomposition temperature:</b>	No data available.
<b>Viscosity:</b>	No data available.
<b>Other information</b>	
<b>Molecular weight:</b>	110,99 g/mol (CaCl <sub>2</sub> )

## 10. Stability and reactivity

<b>Reactivity:</b>	No dangerous reaction known under conditions of normal use.
<b>Chemical Stability:</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions:</b>	Hazardous polymerization does not occur. The substance is hygroscopic and will absorb water by contact with the moisture in the air.
<b>Conditions to avoid:</b>	Excessive heat. Water, moisture.
<b>Incompatible Materials:</b>	Zinc. Strong oxidizing agents.
<b>Hazardous Decomposition Products:</b>	Oxides of calcium. Hydrogen Chloride.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation:</b>	May cause irritation to the respiratory system.
<b>Skin Contact:</b>	Causes mild skin irritation.
<b>Eye contact:</b>	Causes serious eye irritation.
<b>Ingestion:</b>	Harmful if swallowed. May cause irritation of the gastrointestinal tract.

### Information on toxicological effects

#### Acute toxicity (list all possible routes of exposure)

<b>Oral</b>	
<b>Product:</b>	LD 50 (Rat): 1.000 - 4.179 mg/kg
<b>Dermal</b>	
<b>Product:</b>	LD 50 (Rabbit): > 5.000 mg/kg
<b>Inhalation</b>	
<b>Product:</b>	No data available.

**Repeated dose toxicity**

**Product:** No data available.

**Skin Corrosion/Irritation**

**Product:** Causes mild skin irritation.

**Serious Eye Damage/Eye Irritation**

**Product:** Causes serious eye irritation.

**Respiratory or Skin Sensitization**

**Product:** Not a skin nor a respiratory sensitizer.

**Carcinogenicity**

**Product:** This substance has no evidence of carcinogenic properties.

**IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:**

No carcinogenic components identified

**US. National Toxicology Program (NTP) Report on Carcinogens:**

No carcinogenic components identified

**ACGIH Carcinogen List:**

No carcinogenic components identified

**Germ Cell Mutagenicity**

**In vitro**

**Product:** No mutagenic components identified

**In vivo**

**Product:** No mutagenic components identified

**Reproductive toxicity**

**Product:** No components toxic to reproduction

**Specific Target Organ Toxicity - Single Exposure**

**Product:** Respiratory tract irritation.

**Specific Target Organ Toxicity - Repeated Exposure**

**Product:** None known.

**Aspiration Hazard**

**Product:** Not classified

**Other effects:** None known.

**12. Ecological information**

**Ecotoxicity:**

**Acute hazards to the aquatic environment:**

**Fish**

**Product:** No data available.

**Specified substance(s):**

Calcium chloride LC 50 (Bluegill (*Lepomis macrochirus*), 96 h): 9.500 - 11.300 mg/l

LC 50 (Western mosquitofish (*Gambusia affinis*), 96 h): 13.400 mg/l  
LC 50 (Fathead minnow (*Pimephales promelas*), 96 h): 3.930 - 5.360 mg/l

**Aquatic Invertebrates**

**Product:** No data available.

**Specified substance(s):**

Calcium chloride EC 50 (Calanoid copepod (*Eudiaptomus padanus padanus*), 48 h): 2.933 - 5.455 mg/l  
EC 50 (Water flea (*Daphnia magna*), 48 h): 464 - 2.400 mg/l  
EC 50 (Cyclopid copepod (*Cyclops abyssorum prealpinus*), 48 h): 5.302 - 9.242 mg/l  
LC 50 (Water flea (*Ceriodaphnia dubia*), 48 h): 1.770 - 2.030 mg/l  
LC 50 (Water flea (*Daphnia magna*), 48 h): 760 - 3.230 mg/l

**Chronic hazards to the aquatic environment:**

**Fish**

**Product:** No data available.

**Aquatic Invertebrates**

**Product:** No data available.

**Toxicity to Aquatic Plants**

**Product:** No data available.

**Persistence and Degradability**

**Biodegradation**

**Product:** There are no data on the degradability of this product.

**BOD/COD Ratio**

**Product:** No data available.

**Bioaccumulative potential**

**Bioconcentration Factor (BCF)**

**Product:** No data available on bioaccumulation.

**Partition Coefficient n-octanol / water (log Kow)**

**Product:** No data available.

**Mobility in soil:** The product is water soluble and may spread in water systems.

**Other adverse effects:** The product components are 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.

**13. Disposal considerations**

**Disposal instructions:** Discharge, treatment, or disposal may be subject to national, state, or local laws.

**Contaminated Packaging:** Since emptied containers retain product residue, follow label warnings even after container is emptied.

**14. Transport information**

**TDG**

Not regulated.

**IMDG**

Not regulated.

**IATA**

Not regulated.

**Transport in bulk according to Annex II of MARPOL and the IBC Code:** Not applicable**15. Regulatory information****Canada Federal Regulations****List of Toxic Substances (CEPA, Schedule 1)**

Not Regulated

**Export Control List (CEPA 1999, Schedule 3)**

Not Regulated

**National Pollutant Release Inventory (NPRI)****Canada. National Pollutant Release Inventory (NPRI) Substances, Part 5, VOCs with Additional Reporting Requirements**

NPRI PT5                      Not Regulated

**Canada. National Pollutant Release Inventory (NPRI) (Schedule 1, Parts 1-4)**

NPRI                              Not Regulated

**Greenhouse Gases**

Not Regulated

**Controlled Drugs and Substances Act**

CA CDSI                      Not Regulated

CA CDSII                      Not Regulated

CA CDSIII                      Not Regulated

CA CDSIV                      Not Regulated

CA CDSV                      Not Regulated

CA CDSVII                      Not Regulated

CA CDSVIII                      Not Regulated

**Precursor Control Regulations**

Not Regulated

**International regulations****Montreal protocol**

Not applicable

**Stockholm convention**

Not applicable

**Rotterdam convention**

Not applicable

**Kyoto protocol**

Not applicable



<b>16. Other information</b>
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**Source of information:** Sources of information used in preparing this SDS included one or more of the following: results from in house or supplier toxicology studies, information from the Toxicology Data Network (TOXNET), European Chemical Agency (ECHA) substance dossiers, IARC Monographs, US National Toxicology Program data, the Agency for Toxic Substances and Disease Registry, other manufacturer's SDSs and other sources, as appropriate.

**Further Information:** No data available.

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