

**Material Safety Data Sheet**

Version 3.0  
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**1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : Calcium chloride

Product Number : 21074  
Brand : Sigma-Aldrich

Company : Sigma-Aldrich Canada, Ltd  
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CANADA

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**2. COMPOSITION/INFORMATION ON INGREDIENTS**

Formula :  $\text{CaCl}_2$   
Molecular Weight : 110.98 g/mol

| CAS-No.                 | EC-No.    | Index-No.    | Concentration |
|-------------------------|-----------|--------------|---------------|
| <b>Calcium chloride</b> |           |              |               |
| 10043-52-4              | 233-140-8 | 017-013-00-2 | -             |

**3. HAZARDS IDENTIFICATION****WHMIS Classification**

D2B Toxic Material Causing Other Toxic Effects Moderate eye irritant

**HMIS Classification**

Health Hazard: 2  
Flammability: 0  
Physical hazards: 0

**Potential Health Effects**

**Inhalation** May be harmful if inhaled. Causes respiratory tract irritation.  
**Skin** May be harmful if absorbed through skin. Causes skin irritation.  
**Eyes** Causes eye irritation.  
**Ingestion** Harmful if swallowed.

**4. FIRST AID MEASURES****General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

**If inhaled**

If breathed in, move person into fresh air. If not breathing give artificial respiration. Consult a physician.

**In case of skin contact**

Wash off with soap and plenty of water. Consult a physician.

**In case of eye contact**

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**If swallowed**

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

**5. FIRE-FIGHTING MEASURES****Flammable properties**

Flash point no data available

Ignition temperature no data available

**Suitable extinguishing media**

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

**Special protective equipment for fire-fighters**

Wear self contained breathing apparatus for fire fighting if necessary.

**6. ACCIDENTAL RELEASE MEASURES****Personal precautions**

Use personal protective equipment. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation.

**Environmental precautions**

Do not let product enter drains.

**Methods for cleaning up**

Pick up and arrange disposal without creating dust. Keep in suitable, closed containers for disposal.

**7. HANDLING AND STORAGE****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.

**Storage**

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

Moisture sensitive.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Components with workplace control parameters**

| Components       | CAS-No.    | Value     | Control parameters  | Update     | Basis                |
|------------------|------------|-----------|---------------------|------------|----------------------|
| Calcium chloride | 10043-52-4 | TWAE<br>V | 5 mg/m <sup>3</sup> | 2005-12-17 | Canada. Ontario OELs |

**Personal protective equipment****Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a dust mask type N95 (US) or type P1 (EN 143) respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Hand protection**

Handle with gloves.

**Eye protection**

Safety glasses with side-shields conforming to EN166

**Skin and body protection**

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

**Hygiene measures**

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

**9. PHYSICAL AND CHEMICAL PROPERTIES****Appearance**

|        |             |
|--------|-------------|
| Form   | crystalline |
| Colour | white       |

**Safety data**

|                       |                                       |
|-----------------------|---------------------------------------|
| pH                    | no data available                     |
| Melting point         | 772 °C (1,422 °F) - lit.              |
| Boiling point         | 1,670 °C (3,038 °F)                   |
| Flash point           | no data available                     |
| Ignition temperature  | no data available                     |
| Lower explosion limit | no data available                     |
| Upper explosion limit | no data available                     |
| Vapour pressure       | 0.01 hPa (0.01 mmHg) at 20 °C (68 °F) |
| Density               | 2.150 g/cm <sup>3</sup>               |
| Water solubility      | no data available                     |

**10. STABILITY AND REACTIVITY****Storage stability**

Stable under recommended storage conditions.

**Materials to avoid**

Strong acids, Borane/boron oxides, Zinc, Calcium oxide, Methyl vinyl ether, Calcium chloride is attacked by bromine trifluoride

**Hazardous decomposition products**

Hazardous decomposition products formed under fire conditions. - Hydrogen chloride gas, Calcium oxide

**11. TOXICOLOGICAL INFORMATION****Acute toxicity**

LD50 Oral - rat - 1,000 mg/kg

**Irritation and corrosion**

Eyes - rat - Severe eye irritation

**Sensitisation**

no data available

**Chronic exposure**

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.

Genotoxicity in vivo - rat - Intraperitoneal  
Unscheduled DNA synthesis

**Signs and Symptoms of Exposure**

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**Potential Health Effects**

|                   |  |
|-------------------|--|
| <b>Inhalation</b> | May be harmful if inhaled. Causes respiratory tract irritation.  |
| <b>Skin</b>       | May be harmful if absorbed through skin. Causes skin irritation. |
| <b>Eyes</b>       | Causes eye irritation.   |
| <b>Ingestion</b>  | Harmful if swallowed.  |

**Additional Information**

RTECS: EV9800000

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**12. ECOLOGICAL INFORMATION****Elimination information (persistence and degradability)**

no data available

**Ecotoxicity effects**

|  |   |
|--|---|
| Toxicity to fish                                     | LC50 - <i>Lepomis macrochirus</i> - 10,650 mg/l - 96 h    |
| Toxicity to daphnia and other aquatic invertebrates. | EC50 - <i>Daphnia magna</i> (Water flea) - 52 mg/l - 48 h |

**Further information on ecology**

no data available

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**13. DISPOSAL CONSIDERATIONS****Product**

Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

**Contaminated packaging**

Dispose of as unused product.

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**14. TRANSPORT INFORMATION****DOT (US)**

Not dangerous goods

**IMDG**

Not dangerous goods

**IATA**

Not dangerous goods

## 15. REGULATORY INFORMATION

### DSL Status

All components of this product are on the Canadian DSL list.

### WHMIS Classification

D2B      Toxic Material Causing Other Toxic Effects      Moderate eye irritant

## 16. OTHER INFORMATION

### Further information

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