



Safety Data Sheet – Granular Calcium Chloride

403-AD-RE-101-V01

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Research & Development Department

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Report Document

Report Topic					
Safety Data Sheet – Granular Calcium Chloride					
Purpose of Report					
Awareness and clarification of safety issues related to Granular Calcium Chloride					
Target Audience					
Organization stakeholders (including colleagues, customers, consumers, etc.)					
Other required details					
Revision number	Writing start date	Date of completion of writing	Prepared by	Approved by	Description
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White (Gray)	8
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Does not burn	8
Odor	8
Not specified	8
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Not specified	8
Odor Threshold	8
Not specified	8
Explosion Limits	8

Not specified	8
pH	8
7	8
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Melting Point	8
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Section 1: Product Information

- **Product Name:** Granular Calcium Chloride
- **Trade Name:** Calcium Chloride
- **CAS Number:** 10043-52-4
- **Appearance:** White granules

Applications

- Used in **concrete**
- **Wastewater treatment**
- **Oil and gas drilling**
- **De-icing and snow melting** for roads
- **Plastic industries**
- **Moisture-absorbing processes**
- **Calcium salt production**
- **Soil stabilization and dust control** for roads and deserts

Manufacturer Information

- **Company:** Asia Potash Industry
- **Phone:** +98 (21) 8888 6036 / +98 (21) 8866 1968
- **Fax:** +98 (21) 8866 0379
- **Address:** Tehran, Gandhi South Street, 17th Alley, No. 8, Unit 1
- **Email:** info@apic.ir

Section 2: Hazard Identification

- **Classification:** According to **(EC) No 1272/2008**
- **Hazard Category:** **Eye Irritant (Category 2, H319)**
- **Labeling Elements:** **Warning**

GHS07



- **Hazard Statements:**
 - Causes serious eye irritation.
- **Precautionary Statements:**
 - **P280:** Wear protective gloves, clothing, eye protection, and face protection.
 - **P264:** Wash thoroughly after handling.
 - **P305 + P351 + P338:** If in eyes, rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do—continue rinsing.
 - **P337 + P313:** If eye irritation persists, seek medical attention.

Section 3: Composition / Information on Ingredients

- **Substance Name:** Granular Calcium Chloride
- **Concentration:** ≥94% Calcium Chloride
- **Molecular Weight:** 110.98 g/mol
- **CAS Number:** 10043-52-4

Section 4: First Aid Measures

- **Inhalation:** Move to fresh air. If necessary, provide artificial respiration. Keep the affected person warm and seek immediate medical attention.
- **Skin Contact:** Wash immediately with water and soap, rinse thoroughly. Seek medical attention.
- **Eye Contact:** Rinse open eyes with running water for several minutes. Consult a doctor.

Most Important Symptoms & Effects

- Causes serious eye irritation.

Immediate Medical Attention and Special Treatment

- No further specific information available.

Section 5: Firefighting Measures

- **Flammability:** Not flammable
- **Fire Hazards:** In case of fire, hydrogen chloride (HCl) and calcium oxide (CaO) may be released.
- **Firefighting Instructions:** Use appropriate fire suppression methods to control surrounding fires.
- **Firefighter Protection:** Wear suitable protective clothing.

Section 6: Accidental Release Measures

- **Personal Precautions:**
 - Use respiratory protection.
 - Keep unprotected individuals away.
 - Ensure adequate ventilation.
- **Environmental Precautions:**
 - Do not release the material into the environment without legal authorization.
 - Prevent entry into sewage systems, water bodies, and soil.
- **Cleanup Measures:**
 - Mechanically collect the spilled material.

Refer to:

- **Section 7** for safe handling
- **Section 8** for personal protective equipment
- **Section 13** for disposal guidelines

Section 7: Handling and Storage

Handling Precautions

- Keep containers **tightly sealed**.
- **Avoid inhalation, ingestion, and contact with skin and eyes.**
- **Wear appropriate protective clothing.**
- **Use respiratory protection** in poorly ventilated areas.
- **If exposed, seek medical attention immediately and provide the product label.**
- **Store in a dry place** and avoid moisture exposure.

Storage Conditions

- **Hygroscopic** (absorbs moisture).
- Store in a **cool, well-ventilated place**.
- **Do not store above 30°C.**
- Containers must be **airtight and sealed properly**.

Section 8: Exposure Controls / Personal Protection

- **Exposure Limits (Canada): TLV-TWA = 5 mg/m³**
- **General Precautions:**
 - Follow standard **chemical safety measures**.
 - **Do not store near food or beverages.**
 - Remove **contaminated clothing immediately**.
 - Wash hands before breaks and after work.
 - Avoid contact with **eyes and skin**.

Personal Protective Equipment (PPE)

- **Respiratory Protection:**
 - **Use suitable respiratory protection** if high concentrations are present.
- **Hand Protection:**
 - **Wear impermeable gloves.**
 - **Check glove integrity before use.**
- **Eye Protection:**
 - **Wear safety goggles.**
- **Body Protection:**
 - **Wear protective work clothing.**

Section 9: Physical and Chemical Properties

Property	Value	Property	Value
Appearance	Granules	Decomposition Temperature	Not specified
Color	White (Gray)	Auto-ignition Temperature	Does not burn
Odor	Not specified	Explosion Hazard	Not specified
Odor Threshold	Not specified	Explosion Limits	Not specified
pH	7	Vapor Pressure	Not available
Melting Point	782°C	Density (at 20°C)	2.15 g/cm ³
Boiling Point	~1600°C	Relative Density (at 20°C)	2.15
Sublimation Temperature	Not specified	Evaporation Rate	Not specified
Flash Point	Not specified	Water Solubility	740 g/L
Flammability	Not specified	Partition Coefficient	Not specified
Ignition Temperature	Not specified	Viscosity	Not specified

Section 10: Stability and Reactivity

- **Reactivity:** Dissolves **exothermically** in water.
- **Stability:** Stable under normal conditions.
- **Hazardous Reactions:**
 - Reacts with **boron trifluoride (BF₃)** and **vinyl methyl ether**, generating heat.
 - May react with **metals**, releasing hydrogen gas.
- **Incompatible Materials:**
 - **Strong oxidizers and reducers.**

Section 11: Toxicological Information

- **Oral LD50 (Lethal Dose 50%):** 1000 mg/kg
- **Dermal LD50:** 5000 mg/kg
- **Skin Irritation:** May cause mild skin irritation.
- **Eye Damage:** Causes serious eye injury.
- **Mutagenic Effects:** Data available in RTECS.
- **Carcinogenicity:** Data available in RTECS.

Section 12: Ecological Information

- **Environmental Toxicity:** Not specified.
- **Persistence and Degradability:** Not applicable.
- **Bioaccumulation Potential:** No significant accumulation.
- **Mobility in Soil:** No further data available.

Environmental Precautions

- **Do not release into water bodies, soil, or sewage systems** without proper authorization.

Section 13: Disposal Considerations

- **Waste Disposal:**
 - **Consult legal authorities for proper disposal methods.**
 - Contaminated packaging must comply with legal requirements.
 - Recommended **cleaning agent: Water (with cleaning additives if needed).**

Section 14: Transport Information

- **Not classified as hazardous for transport.**

Section 15: Regulatory Information

- Listed under **U.S. EPA Toxic Substances Control Act (TSCA).**

Section 16: Other Information

- **Preparation Date:** Winter 2025
- **Prepared by:** Amir Hossein Heratian

