

PRODUCT IDENTIFICATION



Product Name: Calcium Chloride
CAS Number: 10043-52-4
Molecular Formula: CaCl_2
Molecular Weight: 110.98 g/mol
Grade: Technical Grade
Purity / Concentration: 94-97
Synonyms: Calcium Dichloride, CaCl_2

PRODUCT OVERVIEW

Calcium Chloride (CAS 10043-52-4) is a highly effective Technical Grade chemical provided as a white, crystalline solid with a 94-97% purity concentration. Known for its exceptional hygroscopic properties, this versatile compound is widely utilized in industrial de-icing, moisture control, and chemical synthesis processes.

Grade Significance: Technical Grade indicates that this product is formulated for industrial and commercial applications where high purity and cost-effectiveness are required, rather than for food or pharmaceutical use.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay	%	94	94	—	Titration/Gravimetric
pH	—	9.7	7	10	pH Meter
Calcium Ca	%	0.04	0	0.2	ICP-MS
Heavy Metals As Pb	ppm	6	—	50	ICP-MS (as Pb)
Iron	%	0.0010	—	0.0050	ICP
Magnesium	%	0.15	—	0.5	Per specification
Magnesium Mg	%	ND	—	0.5	ICP-MS
Chloride Cl	%	4.2	0	5	ICP
Sulfate (SO_4^{2-})	%	0.02	—	0.2	ICP-MS
Alkalinity	—	0.03	—	0.1	Per specification
Insoluble Matter	%	0.045	0	0.15	Gravimetric

ND = Not Detected. Values are typical and may vary by lot.

PHYSICAL & CHEMICAL PROPERTIES

Appearance	White, fine crystalline powder, hygroscopic	Odor	Odorless
Form	Solid	Boiling Point	1935°C (3515°F)
Melting / Freezing Point	782°C (1440°F)	Flash Point	Not applicable
Specific Gravity	2.15	Solubility	Highly soluble in water, moderate in alcohol
Molecular Formula	CaCl ₂	Molecular Weight	110.98 g/mol
Vapor Pressure (20°C)	0.0 mmHg (negligible)	Density (25°C)	2.15 g/mL

APPLICATIONS

1. **Infrastructure** — Used extensively for melting ice and snow on roads and sidewalks to maintain safe travel conditions during winter months.
2. **Construction** — Effective in controlling humidity levels at construction sites to protect sensitive materials and improve workspace conditions.
3. **Industrial Processing** — Utilized in various drying applications due to its strong ability to absorb moisture from the surrounding environment.
4. **Chemical Manufacturing** — Serves as a reliable reagent in a wide range of chemical reactions, providing consistent performance for industrial formulation.

STORAGE & HANDLING

Because calcium chloride is highly hygroscopic, it must be stored in a tightly sealed container in a dry, well-ventilated area to prevent it from absorbing moisture from the air and clumping. Proper storage is essential to maintain product integrity and ensure safety, as the material can cause serious eye irritation if handled improperly.

- Store in a cool, dry place away from moisture.
- Use appropriate personal protective equipment (PPE) such as gloves and goggles.
- Avoid contact with incompatible materials such as strong acids.
- Ensure proper ventilation in storage areas to prevent dust accumulation.
- Keep containers tightly closed when not in use.

AVAILABLE PACKAGING

- 2 lbs.
- 5 Lbs.
- 50 Lbs.

SAFETY SUMMARY (CROSS-REFERENCE TO SDS)

Signal Word: Warning



Hazard Statements:

- H319: Causes serious eye irritation [Warning Serious eye damage/eye irritation]

Emergency Contact: CHEMTEL - 800-255-3924 (24 Hours/Day, 7 Days/Week)

For complete safety information, refer to the Safety Data Sheet (SDS) for this product.

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