

Calcium Chloride

CAS 10043-52-4 · CaCl_2 · 94–97% anhydrous prill · 74–77% flake · 32–35% soln

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1. Product identity

Product name	Calcium Chloride
Synonyms	calcium dichloride, CaCl_2 , calcium chloride anhydrous, calcium chloride dihydrate
C.A.S. number	10043-52-4 (anhydrous); 10035-04-8 (dihydrate)
Molecular formula	CaCl_2 (anhydrous); $\text{CaCl}_2 \cdot 2\text{H}_2\text{O}$ (dihydrate)
Molecular weight	110.98 g/mol (anhydrous); 147.01 g/mol (dihydrate)
Grade supplied against	94–97% anhydrous prill · 74–77% flake · 32–35% soln
Appearance	White to off-white deliquescent prill, flake or powder; the 32–35% solution is a clear, colourless liquid
Product group	Industrial Salts & Inorganics
HSN code	2827 20 00
Country of origin	As stated on the producer's documents for the lot supplied; confirmed at offer stage
Packing	25 / 50 kg bag · 1 MT jumbo · drum
Storage	Deliquescent: keep bags sealed, palletised off the floor and under cover. At 25 °C and 70% RH, 94% anhydrous product can take up roughly two and a half times its own mass of water and will eventually run to brine; the assay on the COA is the assay at despatch in intact packaging. Caking and assay drift, not chemical instability, limit shelf life. Brine: do not store in ordinary austenitic stainless steel (304/316 — chloride stress corrosion cracking from as low as 38 °C). For bulk liquid storage the producer's preference is carbon steel with an epoxy-based interior lining; FRP or plastic for smaller tanks at near-ambient temperature. Aluminium 5454 shells and 6061 piping are the producer's road-tanker specification, not a storage specification. Never galvanised or zinc-coated vessels or pipework (hydrogen evolution). Bund and wash down brine handling areas.

2. Analytical specification

S. No.	Test parameter	Specification	Method
1	Description	White to off-white deliquescent prill, flake or powder; the 32–35% solution is a clear, colourless liquid	Visual
2	Identification	Conforms to the substance supplied	Instrumental or chemical test, per method agreed
3	Assay / grade	94–97% anhydrous prill · 74–77% flake · 32–35% soln	Titrimetry or instrumental, per method agreed
4	Physical state	Solid (prill, pellet, granule, flake or powder), deliquescent; also supplied as a 32–35% aqueous solution	Visual

S. No.	Test parameter	Specification	Method
5	Solubility in water	Very soluble — about 74.5 g per 100 g water at 20 °C (anhydrous basis). Dissolution is strongly exothermic: see section 7	Per the test method agreed
6	pH	Not a single number. IS 1314:1984 specified the pH of a 5% solution at 25 °C as 7.0–8.5 for the technical types; IS 1314 was superseded by IS 1314:2024, whose requirement tables have not been read, so treat 7.0–8.5 as the 1984 limit. A dilute solution of pure calcium chloride is essentially neutral to slightly acidic (about pH 6.0–6.5 at 0.1 mol/L); concentrated commercial liquor typically reads alkaline, around 8–10, because the process route often leaves residual lime-derived alkalinity, and pH measurement is unreliable at the ionic strength of a 35% brine. Agree the pH window against the current edition and the lot COA.	Potentiometry on an aqueous suspension
7	Relative density	2.15 g/cm ³ (anhydrous)	Pyknometry or gas displacement
8	Melting / freezing point	772 °C (anhydrous)	Thermal analysis
9	Boiling point	Data not verified — see producer SDS for the lot supplied	Distillation range
10	Flash point	Not flammable (inorganic salt, non-combustible)	Not applicable — the substance is not combustible
11	Additional parameters	To the specification agreed before order	As agreed

3. Transport classification

Not regulated · Class Not regulated · Packing group Not regulated

Proper shipping name: Not regulated — not a dangerous good in packaged form under the UN Model Regulations, ADR/RID, IMDG, ICAO/IATA and DOT; IMSBC position for bulk solid sea shipment not confirmed. Do not confuse with calcium CHLORATE (UN 1452 / UN 2429, Class 5.1)

What this document is. This is a product specification sheet. It states the grade this material is supplied against, its packing and its identity. **It is not a certificate of analysis, it carries no test results, and it certifies no batch.** Tested values for the consignment actually loaded appear on the batch certificate of analysis issued against that batch, which travels with the despatch documents. Identity and physical data are drawn from PubChem, the ECHA CLP inventory and ILO safety cards; the producer's documents for the grade quoted govern. Velora Chemicals Private Limited is a bulk supplier and trader, not a manufacturer.