

DOWFLAKE™ Xtra

83-87% Calcium Chloride

Unique Properties for “Xtra” Advantage



Application

DOWFLAKE™ Xtra 83-87% Calcium Chloride possesses distinctive properties that make it the ideal choice for ice melting, dust control, concrete acceleration and many other applications. Its higher concentration provides a lower application rate than conventional 77-80% calcium chloride flake.

DOWFLAKE™ Xtra releases heat to melt snow and ice faster and across a wider range of temperatures than other materials. Mix it with rock salt, sand and gravel to improve their performance.

It reduces dust on unpaved surfaces by absorbing moisture from its surroundings, keeping the surface damp and binding dust particles to the gravel.

Adding it to concrete results in reduced time for initial and final set, increased early strength and protection in cold weather.

When put into solution, DOWFLAKE™ Xtra is effective in many other applications, including tire weighting and brine refrigeration. (See tables on reverse.)

Description

DOWFLAKE™ Xtra is a purified inorganic salt produced by removing water from a naturally occurring brine solution. Unlike other processes used to produce calcium chloride, the brine process does not involve reactions with chemicals such as hydrochloric acid or ammonia. The National Organic Standards Board noted this distinction when it classified the brine process as “non-synthetic.”

DOWFLAKE™ Xtra meets or exceeds ASTM D98 and AASHTO M144 requirements for calcium chloride purity. ASTM classification for DOWFLAKE™ Xtra is Type S, Grade 1, Class A.

Properties

| Characteristic | Typical Value |
|---|---------------|
| Calcium chloride assay | >83% |
| Flake size distribution | |
| Larger than 4.8 mm | <20% |
| From 0.6 to 4.8 mm | >75% |
| Smaller than 0.6 mm | <5% |
| ASTM D98 purity requirements ⁽¹⁾ | |
| Total alkali chlorides (as NaCl) | <6% |
| Total magnesium (as MgCl ₂) | >0.5% |
| Calcium hydroxide | >0.2% |

(1) On an active ingredient basis.

Storage

Solid calcium chloride is both hygroscopic and deliquescent. This means that the product can absorb moisture from the air, even to the point of converting to liquid brine. For this reason, solid calcium chloride should be protected from excessive exposure to moisture to maintain product quality while in storage. Store in a dry area. Opened packages should be tightly resealed after each use.

For full safety and handling details, refer to the current Material Safety Data Sheet for this product, available at www.oxycalciumchloride.com.

Availability

DOWFLAKE™ Xtra is available in various package sizes, and in bulk truck and bulk rail.

Making Calcium Chloride Solutions From DOWFLAKE™ Xtra

Calcium chloride releases heat when it is dissolved. Make sure that the dissolving vessel is appropriately constructed for handling hot solutions. Fill the vessel with cool water (less than 80°F/26°C), then slowly add calcium chloride while continuously stirring. Solids kept in motion will dissolve quickly; however, solids that sit motionless on the vessel bottom may form a hard cake that will dissolve more slowly.

Making 100 Gallons of Solution From DOWFLAKE™ Xtra Calcium Chloride⁽¹⁾

| % CaCl ₂ Target | Specific Gravity (77°F) | Density @ 77°F (lb/gal) | Weight of Product to Dissolve (lb) | Water Volume (gal) | Expected Temp. Rise (°F) | Solution Freeze Point (°F) |
|----------------------------|-------------------------|-------------------------|------------------------------------|--------------------|--------------------------|----------------------------|
| 26 | 1.251 | 10.50 | 319 | 87 | 62 | -31 |
| 28 | 1.275 | 10.60 | 350 | 86 | 67 | -46 |
| 30 | 1.298 | 10.79 | 382 | 84 | 72 | -52 |
| 32 | 1.322 | 10.99 | 415 | 82 | 77 | -17 |
| 34 | 1.345 | 11.18 | 448 | 81 | 80 | +10 |
| 36 | 1.369 | 11.38 | 483 | 79 | 84 | +30 |
| 38 | 1.392 | 11.57 | 518 | 77 | 87 | +48 |
| 40 | 1.416 | 11.77 | 555 | 75 | 88 | +61 |
| 42 | 1.439 | 11.96 | 592 | 73 | 89 | +69 |

Making 100 Liters of Solution From DOWFLAKE™ Xtra Calcium Chloride⁽¹⁾

| % CaCl ₂ Target | Specific Gravity (26°C) | Density @ 25°C (kg/L) | Weight of Product to Dissolve (kg) | Water Volume (L) | Expected Temp. Rise (°C) | Solution Freeze Point (°C) |
|----------------------------|-------------------------|-----------------------|------------------------------------|------------------|--------------------------|----------------------------|
| 26 | 1.251 | 1.247 | 38 | 87 | 34 | -35 |
| 28 | 1.275 | 1.271 | 42 | 86 | 37 | -43 |
| 30 | 1.298 | 1.294 | 46 | 84 | 40 | -47 |
| 32 | 1.322 | 1.318 | 50 | 82 | 43 | -27 |
| 34 | 1.345 | 1.341 | 54 | 81 | 44 | -12 |
| 36 | 1.369 | 1.365 | 58 | 79 | 49 | -1 |
| 38 | 1.392 | 1.388 | 62 | 77 | 48 | +9 |
| 40 | 1.416 | 1.412 | 67 | 75 | 49 | +16 |
| 42 | 1.439 | 1.435 | 71 | 73 | 49 | +21 |

(1) To make up solution volumes different from those used as the basis above (100 gallons or 100 liters), simply adjust the "Weight of Product to Dissolve" and the "Water Volume" numbers in the tables by the ratio of the desired solution volume to 100. For example, to make 2000 gallons of 32% solution: Weight of Product to Dissolve = 415 x (2000/100) = 8300 lbs; Water Volume = 82 x (2000/100) = 1640 gals

For more information or to find an authorized distributor of OxyChem's calcium chloride products, please call or visit our website.

(888) 293-2336

www.oxycalciumchloride.com

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