

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.

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www.oxycalciumchloride.com

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