

How Calcium Chloride Affects Concrete

Myth vs. Reality

Are calcium chloride deicers safe for concrete? The answer is yes—when used as recommended. While calcium magnesium acetate (CMA) and sodium acetate products make the claim of being safer to use on concrete, they are ineffective at melting snow and ice at low temperatures. These products also work more slowly and tend to cost more than calcium chloride.

The best choice is a product that will effectively remove the hazards presented by snow and ice on concrete surfaces properly prepared for winter.

DON'T: Use Calcium Chloride on New or Unsealed Concrete or Unprotected Rebar

Calcium chloride products for deicing concrete should only be used on surfaces that are at least one year old and were designed, constructed, and adequately cured for winter weather conditions and deicer usage. When concrete meets these standards, it is better equipped to handle deicing applications. Surfaces that are more porous or not fully cured may be more vulnerable to natural freeze-thaw cycles, where absorbed moisture can refreeze and potentially lead to spalling or scaling.

For recommendations on how to properly design, construct, and cure concrete for winter weather conditions and deicer use, please consult publications from the [American Concrete Institute Committee 201](#).

Additionally, when using chloride-based deicers, chloride ions can permeate porous concrete. When chloride, oxygen and moisture come together on the surface of unprotected steel reinforcement (rebar) embedded in concrete, corrosion can result. This corrosion can cause a loss of the bond between the concrete and the rebar and reduce the rebar cross-sectional area. Both have the potential to result in serious structural problems. Additionally, rust formation on rebar places pressure on the concrete that can result in cracking, spalling and delamination.

However, options are available to protect rebar against corrosion. Companies and trade organizations with expertise in concrete construction technology are familiar with options available for new or rehabilitated structures. With support from these experts, each user should determine if application of chloride-based deicers is appropriate for their given situation.

DO: [Melt Responsibly](#) with PELADOW®

When you choose PELADOW® Premier Snow and Ice Melter, you can melt ice up to 3X faster than competing materials, outperforming other products across a wide range of temperatures. Its round shape helps to penetrate ice and break the bond with pavement more quickly than flat or crystal-shaped ice melters, allowing easy removal of ice and snow.

PELADOW melts faster and covers the same area with less product than magnesium chloride ice melter, saving you time and money. Because PELADOW delivers greater ice melting capability with less product, you can introduce less chlorides into the environment while keeping your walkways and parking lots safe.

Melt Responsibly by following these simple 5 steps:

- 1) Clear snow
- 2) Calibrate and fill your spreader using the application guidelines
- 3) Spread at the recommended rate
- 4) Clear slush and melted ice
- 5) [Recycle](#) your empty PELADOW® packages

DO: Choose PELADOW

When you apply [PELADOW Premier](#) at the [appropriate rate](#), you can melt more snow and ice in less time, with less cost and less waste. Reduce product waste, lower your costs, and introduce less chlorides into the environment by properly [calibrating your spreader](#) before applying deicer.

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