

Frequently Asked Questions

Cryotech provides Cryotech CMA® and a high quality grade of salt pre-blended in a CMA concentration of 40%, by weight (CMA40®). This product is recommended where protection from corrosion and concrete spalling is needed, but limited quantities of salt can be tolerated. Although CMA does provide protection against corrosion of exposed steel, as the CMA in CMA40 biodegrades, chloride may penetrate the concrete. Due to this, Cryotech recommends that only 100% CMA be used where steel or steel reinforcing may be present.

Product Information

What is CMA?

CMA is a simple combination of dolomitic lime and acetic acid (a principal component of vinegar) and is produced at Cryotech's manufacturing facility in Fort Madison, Iowa.

Why was CMA developed?

There has long been a concern for damage to the environment and to structures like bridges and parking garages caused by the use of chloride deicers. In the 1970's, the Federal Highway Administration (FHWA) identified calcium magnesium acetate as the only low-corrosion chemical alternative to road salt that also protected the environment. Years of research and field applications have proven CMA is no more corrosive than tap water and does not harm vegetation or receiving waters.

Why blend CMA and sodium chloride?

Laboratory studies have shown that CMA, when mixed with sodium chloride at a minimum 20%, by weight, inhibits salt's naturally corrosive properties to exposed steel. The more CMA in the blend, the better the corrosion and concrete spalling protection.

What is CMA40?

Cryotech CMA40 is a blend of 40%, by weight, solid calcium magnesium acetate (Cryotech CMA), a low-corrosion, environmentally safe deicer and 60% sodium chloride (rock salt).

How does CMA40 work?

CMA40, like road salt, works best above 20°F (-7°C), and is used at about the same rates as salt. Applied early in the storm, CMA40 prevents the formation of snow pack and the bonding of ice to the pavement surface. CMA40 interferes with the ability of snow and ice particles to adhere to each other or to the pavement, and therefore, the loose residue can be easily removed by broom or plow.

A key to successful use of CMA40 is a thorough understanding of the deicer's performance characteristics. Trained and experienced operators quickly adapt their applications and plowing techniques to take advantage of CMA40's unique properties.

How long does CMA40 last?

The refreeze temperature of a CMA40 solution rises more slowly than that of sodium chloride, calcium chloride, or magnesium chloride solutions. This tendency allows CMA40 to remain on the pavement surface longer than ordinary deicers, providing prolonged bond prevention. This residual action also reduces application frequency and makes snow removal easier.

Does CMA40 require any special handling or equipment?

No, CMA40 is applied with the same equipment as other deicers. Furthermore, CMA40 can be stored indefinitely when kept dry.

Does CMA40 affect health?

CMA40 is essentially non-toxic. A series of oral, inhalation, eye, and skin tests conducted in accordance with the U.S. Environmental Protection Agency (EPA) guidelines classify CMA as no more harmful to handle than common table salt.

How much does CMA40 cost?

The purchase price of CMA40 is more than salt. However, studies of the life-cycle costs of salt indicate that when considering corrosion damage and environmental impact, the cost of salt often exceeds that of CMA40.

What can I do to be sure I am purchasing the correct blend?

Read Labels Closely: Many products state they are made with CMA yet only contain 1-2% CMA, by weight, and the rest of the mixture is chloride-based. This small amount of CMA would be ineffective in stopping corrosion.

Ask Questions: Your distributor should be able to provide the exact amount of each ingredient in the deicer blend to ensure you are receiving an adequate amount of pure CMA.

Double-Check Pricing: If one price quote is much lower or higher than the others, be sure to ask the above questions to verify the same amount of CMA is being used in all products.

Customers also need to be aware that some products claim they contain CMA or calcium magnesium acetate but they actually contain a physical blend of calcium acetate and magnesium acetate. Cryotech CMA is a patented formulation and each pellet contains a specific ratio of calcium and magnesium. It has undergone significant testing to show it is safe for concrete.

Frequently Asked Questions

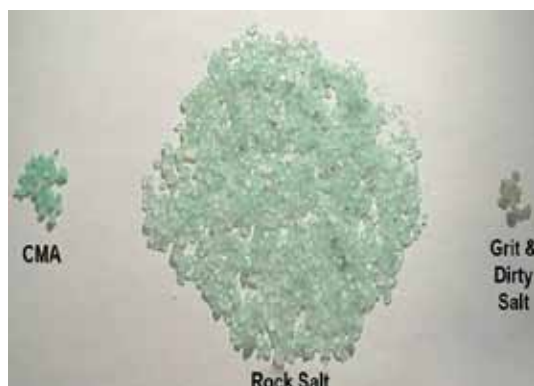
A number of laboratory tests suggest that Cryotech CMA® may be used as an effective corrosion inhibitor when combined with salt. Although tests were different in type and duration of exposure, all indicated that a minimum of 20% CMA, by weight, is needed in a CMA/salt blend to provide acceptable corrosion protection. Testing at 20% CMA and 80% salt, by weight, resulted in a 70 to 80% reduction in corrosion over testing with pure road salt (sodium chloride). The best corrosion protection results from the use of pure CMA. In order to receive the maximum corrosion protection benefit from CMA deicer blends, it is important to verify the amount of CMA being used in the mixture. Cryotech CMA is the only commercially available pure calcium magnesium acetate produced and sold in the United States. This product is often blended with other chloride deicers and marketed as "Containing CMA" when it actually contains only a negligible amount of pure CMA. The below examples are offered to help you determine the quantity of CMA in your deicer blend.



Cryotech CMA is a minimum of 96%, by weight, hydrated calcium magnesium and other acetates with less than 4%, by weight, water-insoluble material. Notice the uniform appearance of the pellets. This is Unipel technology, a unique process which ensures each pellet receives the same distribution of active ingredient. CMA provides the most protection from concrete spalling and is less corrosive than tap water.



Cryotech CMA40® is a pre-blended mixture of a high quality grade sodium chloride (road salt) and 40%, by weight, Cryotech CMA. Laboratory studies show that pure Cryotech CMA when blended with road salt at a minimum of 20%, by weight, inhibits the salt's corrosive properties. Cryotech's blend of 40%, by weight, ensures better spalling and corrosion protection than other commercially available blends. Notice the amount of Cryotech CMA pellets in this blend. The more CMA in the blend the better the protection.



This product that contains calcium magnesium acetate blended to less than 20%, by weight. This analysis, performed by an independent laboratory shows this blend to be less than 5% CMA, by weight, providing little or no protection against concrete spalling and corrosion.

FOR MORE INFORMATION CONTACT:

Cryotech Deicing Technology
6103 Orthoway

Fort Madison, IA 52627

Ph: +1 319.372.6012 or +1 800.346.7237

Fax: +1 319.372.2662

E-mail: deicers@cryotech.com

WWW.CRYOTECH.COM