



While some of us enjoy the winter snow, I don't know of many people that appreciate the ice. Selecting the best product to assist in removing the ice from sidewalks and driveways can get confusing. While we haven't needed deicers much yet this year, a little research beforehand can help you select the best product for your landscape to so its ready when ice begins to form.

De-icing products are widely available and help remove ice from hard surfaces. They melt down through the ice or snow to the hard surface and spread out underneath. This loosens the snow making shoveling and plowing more efficient, not to mention easier. They are not intended to be used as a way to completely melt the snow or ice. Just like with pesticides, reading and following the label is crucial to get the proper rate of the product applied to ensure success.

There are a wide range of de-icing products that are available and each has its pros and cons. Sodium chloride or rock salts will probably have the lowest price tag, but it can cause other problems down the line. It will have little or no effect on the concrete, but can damage plant material, change soil composition, and corrode metal. These salts when applied to surfaces can run off and enter the soil or even be splashed up onto plant material in the area. Once in the soils, salts can create a chemical drought situation and reduce the availability of water to the plants and significantly increase water stress during the spring and summer months. Sodium chloride is not as effective at low temperatures as calcium chloride.

Calcium chloride is the most effective deicing product at low temperatures. As the product reacts with ice, it creates heat. The concentration of a calcium chloride solution can cause different effects on the landscape. In weak solutions, it will have little effect on concrete and soils, but it can corrode metal. In concentrated solutions, it can damage plants, concrete, skin, and stain carpets and shoe leather.

Other chloride products work well, but aren't as readily available in the market. Magnesium chloride is sprayed on roadways before a snow storm to prevent ice bonds from forming, making ice and snow removal easier. Potassium chloride is used as a food salt substitute but due to its high salt index and potential for plant damage it is less commonly used.

Some de-icing products are known to have minimal impacts on plant materials. Calcium magnesium acetate (CMA) is a salt-free melting agent that is made from dolomitic limestone and acetic acid. Studies have shown that CMA has little impact on plants and animals. It often comes at a price of about 30 times that of rock salt and is often used in areas where damage to concrete surfaces cannot be tolerated.

Urea, ammonium sulfate, and other nitrogen salts are other products that might be marketed for de-icing. Urea is most commonly used as a fertilizer, but as a deicer, urea has a lower burn potential than potassium chloride. While it won't chemically damage concrete, vegetation, or metal, it does have limited effectiveness in melting ice. They can have the potential for nitrogen runoff and leaching into water sources. If it is used as a deicer on pavements located near lawns, be prepared come spring for the turf in those areas to grow excessively in the spring and have the potential for summer disease problems.

Be aware that salts splashed directly onto nearby plant material can also have some adverse effects. The salt can burn or kill the affected area that it comes into contact with. The damage is most noticeable on evergreen trees located near roadways where salt spray can come into direct contact with the foliage causing leaf burn. Accumulation of salt in the soil over several years can cause progressive decline and death of plants.

With proper selection and application, de-icing products can help make sidewalks safer and scooping easier all while minimizing impacts in the landscape.

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