

Quick Reference Guide to Winter De-Icing

Here's a list of products commonly used by home owners to improve traction on icy sidewalks and driveways. There are over 100 commercially available products, most of which are blends of the basic components shown below. We suggest that you focus on product composition rather than the claims on the package. For example, many manufacturers tout the environmental and safety benefits of one of their product's components when, in fact, that component comprises only an insignificant part of the blend. You might have to ask for a MSDS (Material Safety Data Sheet) if you're not sure of the composition. Please keep in mind that chlorides contaminate our soils and water, so the goal is to choose a product that is effective, safe, and economical while keeping chloride levels to a minimum. Of course, it is always a good idea to remove as much snow and ice mechanically before applying traction controls. We hope this short list helps you find a product right for your application.

Pure Sand: Sand is very inexpensive and readily available at hardware and big box stores. Play sand is grittier than all-purpose sand, and is therefore a better choice. Pure sands add NO chlorides to the environment. Sand improves traction on surfaces but doesn't melt ice and in cold weather may slide on top of the ice surface while giving a false sense of security. You'll probably need to sweep the sand buildup at the end of the season.

Town Sand: Residents may fill five 5-gallon pails of sand at the highway garage on North Sandwich Road, courtesy of the Highway Dept. and Town of Sandwich. This sand contains about 3% (by volume) sodium chloride, so be careful where you apply it because even at this low level sodium chloride will kill grass and vegetation on the borders of your walkway, driveway, or parking lot. Tracking sand into the home can be an issue with the person doing the cleaning.

Wood Ash: Sprinkled on walks and driveways, wood ashes will melt ice and provide traction. They don't work quite as well as salt, and they can be messy if you don't take steps to prevent the ashes from getting tracked into the house. But they're free, and they won't damage alkali-loving plants, animal paws, or paved surfaces. One cord of wood produces about 50 lb. of wood ash. You may want to screen raw wood ash before use.

Magnesium Chloride: ($MgCl_2 \cdot 6H_2O$) In its pure form, this chemical melts ice down to 13 deg. below zero Fahrenheit. Pellets are more effective than flakes. A 50 lb. bag costs about \$18 - \$25. The chief advantage of Mag is that it releases 40% less chloride ions to the environment than sodium or calcium chloride. It is relatively safe for concrete and pets.

Calcium Chloride: ($CaCl_2$) This product is effective to -25 deg F. and costs about \$15 for a 50 lb. bag. This chemical is also used for dust control. Unfortunately, it is harder to store (may become soggy), harmful to skin & paws, and releases as many chloride ions as sodium chloride.

Sodium Chloride: ($NaCl$) Also called 'rock salt', this material is very inexpensive but doesn't melt ice below 25 deg. F. and adds significant sodium and chloride ions to our soil and water.

Acetates & Other Non-Chloridic Compounds: Although these products contain no chlorides, they are very expensive or less effective than the products listed above. CMA (Calcium Magnesium Acetate) has the best properties available. It is free of chlorides, non-corrosive to metal, and is safe for concrete as well as pets. It was our favorite choice last year but is no longer available in the area. Again, take care to avoid claims such as 'enhanced with CMA', since most of these blends contain less than 5% CMA.

Kitty Litter or Oil Absorbing Pellets: These silica-clay based materials don't contain salt, but also don't melt ice and may present a cleaning problem when tracked into your house.

The Town of Sandwich continues to follow its low-salt approach to winter road maintenance. In fact, the town's sand/salt blend has one of the lowest chloride levels in New Hampshire. Many New England towns are abandoning road sand as this commodity becomes more and more expensive, but fortunately for Sandwich, our proximity to the Ambrose Pit helps keep our costs to a minimum (for now).

Questions? Call 284-6294

Sandwich Agriculture Commission

Bob Butcher (chair), Maggie Porter, Dick Devens, Holly Cook,
Pat Russell, Betty Alcock, Pat Russell, Ginger Heard, Mark Longley

