

## Put Your Sidewalk and Driveway on a Low-Salt Diet\*

For safety reasons, we need to keep driveways and sidewalks clear of ice and snow. However, choosing the right product and using it correctly is important to help protect our water resources.

1. *Shovel early, shovel often.* There's no substitute for muscle and elbow grease for snow and ice removal. Remove as much snow as you can during the storm if possible. Use a hoe or other tools to chip or scrape ice off the surface before any deicers are applied. Deicers work best when there is only a thin layer of snow or ice that must be melted. Divert the melting snow away from your sidewalk and driveway to an area where ice won't be a problem.

2. *Buy early.* Make sure to buy your deicing product well before the big storm hits, otherwise you will be looking at empty shelves, and have few, if any, environmental choices to make at the store.

3. *Check the label.* The table below shows how the main ingredients of common de-icing products compare. Check the package closely to see what you're buying—often a product may contain several of the ingredients listed below, but the first one listed is usually the main ingredient.

On the label:	Works Down to:	Cost	Environmental Concerns
Calcium Chloride	-25 degrees F	three times more than rock salt	Use three times less than rock salt No Cyanide Chloride impact
Magnesium Chloride	5 degrees F	n/a	less toxic and safer for environment than calcium chloride
NaCl: Sodium Chloride or "rock salt"	15 degrees F	about \$5 for a 50 pound bag	Contains cyanide Chloride impacts
Urea	20 to 25 degrees F	Five times more than rock salt	Needless nutrients Less Corrosion
Calcium Magnesium Acetate (CMA)	22 to 25 degrees F	20 times more than rock salt	Less toxic
Sand	No melting effect	about \$3 for a 50 lb bag	Accumulates in streets and streams; needs to be swept up

4. *Apply salt early, but sparingly.* No matter which chloride product you choose, a little goes a long way. Additional salt won't speed up the melting process, so follow directions for application carefully and remember to first remove as much snow and ice as you can. The recommended application rate for sodium chloride is about a handful per square yard. Calcium chloride works at much colder temperatures and you need a lot less (about a handful per three square yards—about the area of a single bed). Choose calcium chloride over sodium chloride when you can.

5. *Avoid kitty litter and ashes.* Although these products may seem environmentally friendlier, they don't work to melt snow and ice—they merely provide some traction and make a mess on your floors. Stick with sand for traction, which is cheaper and easier to clean up.

6. *Avoid Products that Contain Urea.* Urea has been recommended as a safer alternative, reasoning that it does not contain chlorides and, as a form of nitrogen, will help fertilize your

yard when it washes off. However, urea-based deicing products are a poor choice as it is fairly expensive and performs poorly when temperatures drop below 20 degrees F. The application rate for urea during a *single* deicing is ten times greater than that needed to fertilize the same area of your yard, and ultimately, very little of the urea will actually get onto your lawn, but will end up washing into the street and storm drain and eventually to the nearest lake or stream. Given that nitrogen is a problem for surface water resources, it doesn't make sense to use nitrogen-based products for de-icing.

7. *Consider nearby vegetation.* Look at the plants growing within five or ten feet of your driveway, sidewalk and road. Salt-sensitive plants are listed in the table below. If you have salt-sensitive tree, shrub or grass close to these paved surfaces, you should avoid any de-icing product that contains chlorides (magnesium chloride, rock salt or calcium chloride), or use very small amounts. You may want to use CMA as a safer alternative, or use sand for traction.

<b>Landscaping Areas</b>	<b>Species at Risk from Salting</b>
Deciduous Trees	Tulip poplar, Green ash, Hickory, Red maple, Sugar Maple
Conifers	Balsam fir, White pine, Hemlock, Norway Spruce
Shrubs	Dogwood, redbud, hawthorn, rose, spirea
Grasses	Kentucky bluegrass, Red fescue

\* Adapted from *Snow, Road Salt and the Chesapeake Bay* by Tom Schueler, Center for Watershed Protection