

# A Citizen's Guide to Cold Weather Practices

Winter brings with it lots of fun activities, like sledding, ice skating and skiing. But winter also means mounds of snow to shovel and layers of ice to remove from our sidewalks and driveways. We often make the job easier by applying deicers like salt. Besides sodium chloride, many deicers also contain chemicals like cyanide. When ice melts, the salts and chemicals dissolve and flow into street drains that lead directly to the river, endangering aquatic life. Here are a few tips to reduce salt use and prevent pollution year-round.

## Help prevent stormwater pollution this winter!

### 1. Try an alternative!

Calcium magnesium acetate (CMA) was developed as a deicing alternative because it has fewer adverse environmental impacts than salt and doesn't cause corrosion. Although CMA is more expensive than rock salt, it is recommended for environmentally sensitive areas.

### 2. Reduce your salt use.

By limiting the amount of salt we use on sidewalks and driveways, we can reduce the amount of polluted stormwater washing into our waterways.

### 3. Use De-icing Products Based On Winter Conditions

Before applying a deicer to your sidewalk, think about the air temperature, potential for sun exposure, and how much product you'll need. Remember to follow label directions carefully and use products sparingly. It's easy to over apply deicers, but applying more than you need won't melt your ice any faster.

- ✳️ For Dry, Powdery Snow: Shovel or sweep snow immediately to avoid using deicer.
- ✳️ For Wet, Heavy Snow: Apply deicer product as soon as snow begins falling in order to prevent it from bonding.
- ✳️ For Sleet & Freezing Rain: Apply deicer product early on during these conditions to prevent ice from building up.
- ✳️ For Significant Snowfall: When more than 2 inches of snow falls, plow or shovel first and then use a deicing product to melt any underlying layers of ice that have built up due to packed down snow.

<http://www.thriftyfun.com/tf16691674.tip.html>

The most important step is to physically remove as much ice as possible before applying salt. Use a shovel to break up the ice before you add another layer of salt to your sidewalk. Adding more salt without removing what has melted can result in over-application, meaning more salt and chemicals end up in the river.

You can also reduce salt use by limiting access to your home to one entrance. For every doorway that is not used, there will be less salt running into the catch basin in your street.

## Other De-icing Products

### **Potassium Acetate (KC2H3O2)**

**Pros:** Works to -75° F. Potassium Acetate is considered safer than salt for steel and other metal structures. It is biodegradable and non-corrosive.

**Cons:** It attracts moisture from the air so it may keep pavement wet, leaving a slick residue. It also lowers oxygen levels in waterways if allowed to enter storm drains and is not always readily available to the public.

**Cost:** Eight times more than rock salt.

### **Magnesium Chloride**

**Pros:** Effective to -13° F.

**Cons:** Is corrosive and attracts moisture from the air, which can keep pavement wet.

**Cost:** Two times more costly than rock salt, and you also need twice as much of the product for effective results.

### **Ethylene Glycol & Propylene Glycol**

**Pros:** Propylene Glycol is considered a safer alternative for mammals than Ethylene Glycol. It is often found in "pet friendly" deicers.

**Cons:** Both products are considered by the EPA to be highly toxic to aquatic organisms.

**Cost:** Three to four times the cost of rock salt.

### **Sand**

**Pros:** A salt and chemical-free alternative that poses no potential threats to plants.

**Cons:** Dry sand does not readily "stick" to ice or cause it to melt effectively. It may need to be dampened before application. If not cleaned up promptly in the spring, sand can clog storm drains and transport absorbed contaminants into local waterways.

**Cost:** Three to four times more costly than rock salt.