



## **Salt Additives for treating snow and ice.**

The Miami Township Service Department uses various tactics to reduce waste and treat streets for snow and ice. Road crews mix a solution composed of tap water and road salt, that when sprayed on traditional road salt, will make it stick to the pavement better and activate on contact.

The addition of the salt brine process for winter weather events is a cost-saving measure that enhances the Township's ability to help keep streets clear in the winter, while conserving the salt stockpile for more major storm events. The Township maintains its own brine making equipment.

### **Process - Above 20 Degrees**

The strategy is to keep road salt from hitting the pavement and simply bouncing into the grass. When temperatures are above 20 degrees, the salt brine will be mixed with the salt inside the auger of the truck or sprayed onto the salt at the spinner before it's spread onto the road. This helps keep the salt on the treated areas and helps reduce the overall salt application.

### **Ice B'Gone Magic Liquid - Under 20 Degrees**

Salt Brine is most useful for treating roads when the temperature reaches at least 20 degrees. Temperatures below this threshold require a much different solution. In the past, calcium chloride was the only treatment, which caused harm to plants and increased the corrosion rate for roads and sidewalks. There is now a much safer, more effective de-icing treatment solution called "Ice B'Gone Magic Liquid" which Miami Township road crews use in a mix of 80% salt brine with 20% Ice B'Gone.

IBG Magic Liquid is a highly effective liquid de-icing agent made from a patented blend of magnesium chloride combined with an agricultural by-product of the distilling process (i.e. grain and/or sugar based). The formula is non-toxic, bio-degradable and has a corrosion index lower than distilled water. IBG Magic Liquid can be sprayed onto regular rock salt transforming it into IBG Magic Solid, a highly effective ice melting product. IBG Magic Solid is safe to use on concrete, is non-corrosive, does not harm curbside grassed areas, or plants, and continues to melt ice to below -35F.

### **Advantages**

Using brine/IBG Magic Liquid for prewetting:

- Rock salt can be spread more uniformly and less is wasted on shoulders and ditches. This reduces the impact to the environment.
- Materials adhere to the surface because the salt & brine mixture has a thicker consistency. The slurry-like mixture tends to "plop" onto the roadway and better stay where it lands.

- Melting begins faster since a liquid has been introduced to the salt. (Salt must find moisture before it can begin to work.)
- Roads are safer sooner - Spreading speeds can be increased because more material stays on the roadway.
- Since the brine begins working and diluting as it hits the surface, it will dry much more rapidly, returning the roadway to normal winter driving conditions much sooner.
- Residual salt may remain on the road that will immediately begin working with the next storm.
- When dry materials are pre-wet with brine, the application rate can be cut back because more of the material remains on the roadway. In addition, the additional brine adds some quick melting action.