

Brine Fact Sheet

The Township of West Milford has been working to improve its snow removal program taking advantage of new technology including the use of brine. During winter months, DPW personnel will continuously monitor forecasted storms. Township residents may see a small tanker-type truck with spray bars on the rear applying a brine solution to the roadways before anticipated snow events. The application of brine at these times is a preemptive measure to combat icy conditions and is more cost effective than the traditional process of salting and sanding after a snow event. The application of this brine solution lowers the freezing point of any water it comes into contact with even when temperatures fall below zero.

Roadway crews are now using more effective measures to improve winter storm road conditions. Using salt brines, which is any liquid salt mixture, before anticipated snowfall has proven to be more effective than using solid rock salt. Anti-icing can be accomplished by using traditional salt brine (usually a 23 percent salt solution, derived from rock salt) and applying that solution to roadways in preparation for snow and ice.

What is Brine?

Brine is a high concentration solution of salt in water. In different contexts, brine may refer to salt solutions ranging from about 3.5% up to about 26%.

How is Brine made?

A mixture of salt and water is put into a large tank where it is mixed together to 23% salinity.

How it works.

Brine is sprayed onto a roadway as a pre-treatment before snow storms. It settles into tiny crevices on roadways, creating a layer that prevents the ice and snow from bonding with the pavement.

When is Brine applied?

Brine can be applied up to 48 hours in advance of an anticipated storm.

Salt versus Brine

Dry salt in frigid temperatures often just lies on top of the snow, blows around and takes a while to work. However, if you wet the salt with a substance such as brine, it sticks to the roadway better, which allows it to do its job. The Brine-enhanced salt also enables the mixture to work better in frigid temperatures.

Why use Salt Brine?

The use of Salt Brine returns pavement to bare conditions faster, improving traction and also provides a reduction in the quantity of deicer used, resulting in cost savings and fewer environmental concerns.

FAQs

- Salt Brine is salt dissolved in water.
- The salt is dissolved, therefore, stays on the road and doesn't bounce onto roadside vegetation or onto vehicles.
- Salt brine is applied before a snow or ice event. It can be applied up to 48 hours in advance.
- On a sunny day, Salt Brine dries quickly on the pavement. When dry, it stays on the pavement ready to be activated by moisture from precipitation.
- Re-applications are made whenever visual observation indicates that another application is needed to prevent icing, usually after a rain event.
- Pre-treating pavements with salt brine is 300 to 400% more efficient than waiting for ice to form and then applying salt.
- Salt applications may still be needed depending upon the duration and severity of the snow/ice storm. However, a brine treated roadway will normally not require an application of salt until well after the storm has begun.