

Salt Brine

As a Pre-wetting Deicing Agent

Salt brine should be a major tool in your arsenal of snow-fighting techniques!

Salt brine is a cost-effective pre-wetting agent. Studies have shown that pre-wetting salt can reduce salt scatter on the roads by 15 to 30 percent, but did you know that pre-wetting with salt brine can also reduce the chlorides released into the environment by 14 to 29 percent? Research has indicated that pre-wetted salt accelerates melting action, but did you know that salt brine costs less than most alternative pre-wetting agents on the market? Salt brine also does not contain organic molecules which may have an impact on oxygen depletion in bodies of water.¹ In addition to these benefits, salt brine can be produced efficiently using rock salt already on-hand for deicing use thereby eliminating the need for inventories of multiple products in many instances.

One Michigan DOT report² documented reduced scatter using pre-wetted salt. Based on reduced scatter and using a salt brine solution at a 23.3 percent concentration, Dr. Wilfrid A. Nixon confirmed a chloride reduction potential of 14 to 29 percent.³ He further concluded, "I strongly recommend pre-wetting as a way to both reduce costs and reduce chloride loading on the environment...."

Melting of snow and ice pack can be accelerated with the addition of moisture to the rock salt. In order to start its deicing action, rock salt must form brine; adding moisture helps the rock salt dissolve more quickly and begin working faster. Salt brine is cost-effective; calcium chloride and corrosion-inhibited solutions can cost much more than salt brine.

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Using salt brine as a pre-wetting agent may give you the following benefits:

- **Accelerated melting action**
- **Reduced salt application rates**
- **Chloride reduction equivalent to or better than other deicing pre-wetting agents**
- **No impact on Chemical Oxygen Demand**
- **Cost savings comparable to or better than other deicing pre-wetting products**
- **Can be produced on site**

¹ Colorado Department of Transportation, "Evaluation of Selected Deicers Based on a Review of the Literature," October 30, 2001.

² Michigan Department of Transportation, "1974-1975 Pre-wetted Salt Report," Harold Lemon, June 1, 1975.

³ Asset Insight Technologies, LLC, "Review of Two Documents Pertaining to Chloride Reduction and Cost Savings Resulting from the Use of Pre-wetting in Winter Highway Maintenance," Dr. Wilfrid A. Nixon, March 24, 2003.

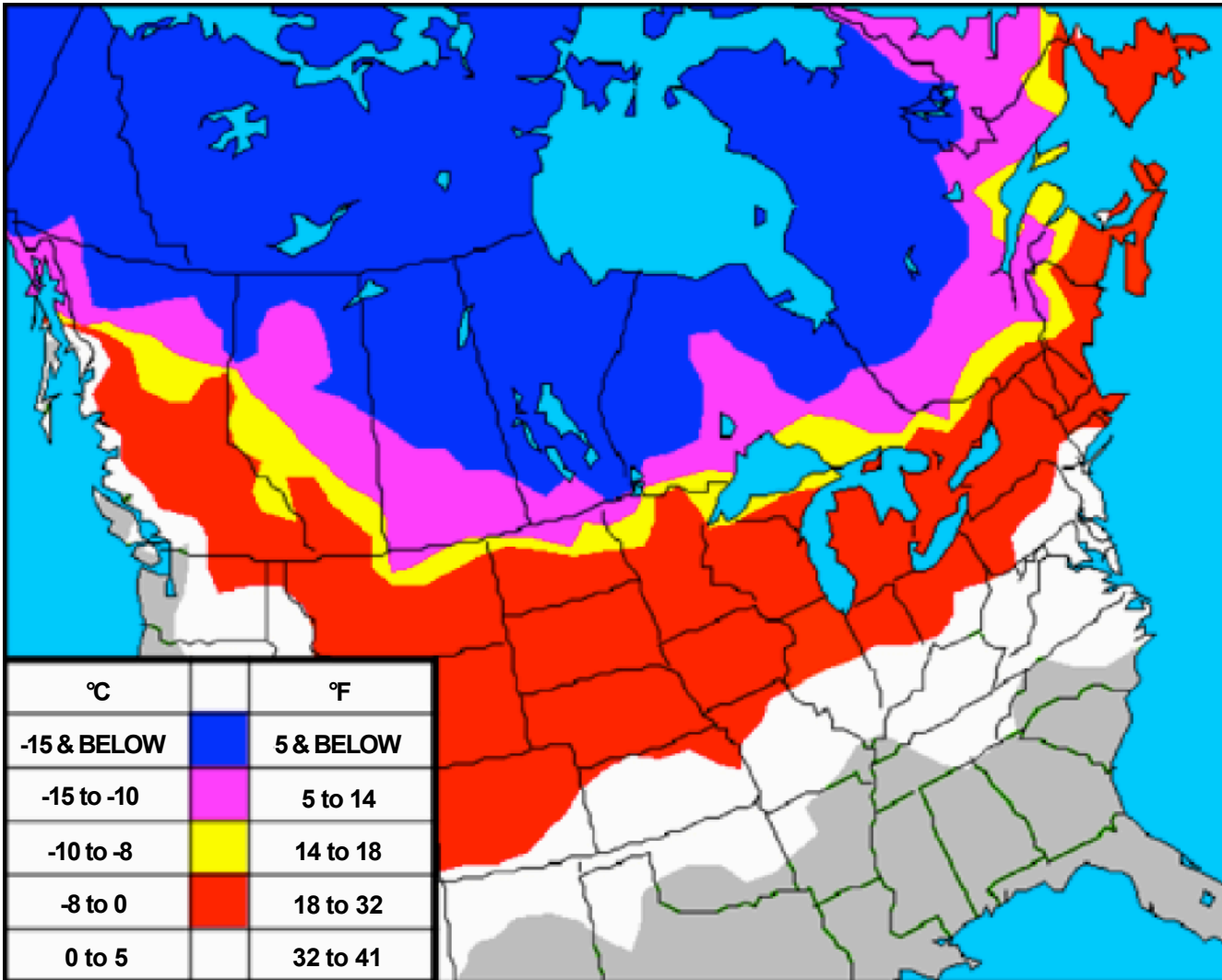


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Salt brine—an effective pre-wetting agent



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Salt brine is an effective pre-wetting agent in most areas of North America and may be the only pre-wetting agent needed in certain areas. The above map shows the average ambient winter temperature for North America based on a 30-year history. Salt brine can be effectively used in winter storm events where the temperatures are above minus 10° Celsius (or 14°F). Specific storms with temperatures less than minus 10°

Celsius (or 14°F) may require an additional chloride booster like calcium chloride for best pre-wetting performance.

Morton Salt, Inc. and The Canadian Salt Company Limited are excellent providers of quality rock salt and solar salt for your deicing needs. Visit our websites for ordering information.

The scientific information presented herein has been provided by the sources identified and is true to the best of our knowledge. Morton Salt, Inc. and The Canadian Salt Company Limited have not independently verified this information..



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