All About Liquids

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What are Liquids and why use them?

In basic form... salt water or "Brine"

In advanced form

- Brine +...
- o CaCL2
- o MgCL2
- Organics





Liquids save...

Time

* Speed of pretreatment



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Money

Brine making can be cost effective.



Common Anti icers

- * Salt (NaCL)
- * Mag Chloride (MaCL2)
- * Calcium Chloride (CaCL2)
- * These three are the most popular.



Other liquids

* Beet juice

- * Brewers
- * And other organics (more to come later)



Choices Matter



The old cast iron skillet found in a 2nd hand antique store?

That new copper skillet seen on the infomercials at 5:00 am?





Anti-icing



Liquid deicer is applied to the pavement surface before the snow falls. It melts the snow from the bottom up.



Anti-icing How does it work?

Anti-icing is not meant to melt everything, only to have a thin layer of melting between the pavement and the snow.



Snow covered during the storm



Anti-icing Proactive Strategy

 Proactive: Anything we can do in advance of the roads becoming icy or snowy





Anti-icing

* Saves time, money and reduces environmental impacts.
* Helps reduce the amount of de-icing material needed.
* Should be part of your operation



Anti-icing Proactive Strategy

- * Melts from the bottom up.
- Weakens the bond between the road and snow/ice.
- * Prevents frost from occurring on roads or bridges.





Where should we Anti-ice?

Where frost or black ice is likely. On any roads that you de-ice Especially those demanding high level of service Hills, curves, bridges.



Anti-icing Decision Making Tools

Monitor Weather Is snow/frost expected in the next three days? No Do not apply anti icing materials. Yes Do not apply anti icing materials. Is rain predicted before the snow? Yes No Is the pavement temp 15 degrees or warmenr? No Do not apply anti icing materials. Yes Is the dewpoint at least 3 degrees below the air temp? Yes Do not apply anti icing materials. No Is RH level 70% or less? Do not apply anti icing materials. No Yes Is the pavement dry? Do not apply anti icing materials. Yes No Are winds less than 15 miles per hour if loose snow is present? Do not apply anti icing materials. Yes No Does Suffucient time exist for the payment to dry before temps fall below 20 degrees? Do not apply anti icing materials. Yes No Has visual inspection confirmed sufficient antiicing material does not exist on the pavement? Yes No Do not apply anti icing materials. Apply anti-icing material at 40 gallons per lane

mile.

