ADVANCED LIQUIDS APPLICATION

2020 Salt Symposium
August 4th and 5th
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www.waconia.org
Define Anti-icing as an action of Direct Liquid Application

Define De-icing as an action of Direct Liquid Application

Products and Impacts

Management Strategies for Positive Results
Anti-Icing:
1. A proactive approach to Winter Maintenance
2. Preventing the bond of snow and ice to a pavement surface
3. Reduces operational costs and environmental impacts
4. Not recommended before a rain fall or freezing rain
Direct Liquid Application Anti-icing

100% Brine
Application Rate 35 to 50 Gal/LM
Consideration of Cycle Times from dilution

Blend to Manage Conditions
90 Brine, 10 MG/CA
80 Brine, 20 MG/CA
85 Brine, 15 RG-8 or Geomelt 55, 5 MG/CA
Application Rate 35 Gal/LM
Consideration of Cycle Times from dilution
De-Icing With Liquids

1. Forward Thinking

2. Must be managed appropriately

3. Product Knowledge is Critical
Direct Liquid Application De-icing

100% Brine
Application rate
35 to 50 Gal/LM
Consideration of Cycle Times from dilution

Blend to Manage Conditions
Mixtures
90 Brine, 10 Mg/CA
80 Brine, 20 Mg/CA
85 Brine, 15 RG-8 or Geomelt 55, 5 Mg/CA
Application Rate
35 Gal/LM
Consideration of Cycle Times from dilution
1. Discuss products with supplier; Your intended use, and obtain information on its limitations
2. Visit Organizations that are advanced in the practice your desiring
3. Attend training to obtain information and bring back to your organization
4. Look at the products and their environmental impacts; then as a budgetary impact item

<table>
<thead>
<tr>
<th>Product</th>
<th>Lowest Possible Melting Point</th>
<th>Eutectic Temperature</th>
<th>Optimal Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Chloride</td>
<td>15</td>
<td>-6</td>
<td>23%</td>
</tr>
<tr>
<td>Magnesium Chloride</td>
<td>-10</td>
<td>-28</td>
<td>27-30%</td>
</tr>
<tr>
<td>Calcium Chloride</td>
<td>-20</td>
<td>-60</td>
<td>30%</td>
</tr>
<tr>
<td>Calcium Magnesium Acetate</td>
<td>20</td>
<td>-18</td>
<td>32%</td>
</tr>
<tr>
<td>Potassium Acetate</td>
<td>-15</td>
<td>-76</td>
<td>50%</td>
</tr>
<tr>
<td>Sand</td>
<td>No Melting</td>
<td>No Melting</td>
<td></td>
</tr>
</tbody>
</table>

Critical Knowledge of Products and Impacts
Management Strategies for Positive Results

1. Understanding limitations for yourself, staff, equipment

2. Obtain support from Boards or Councils

3. Educate Staff and the Public in General of your intentions, but start SMALL
4. Build your program knowing it is challenging and that you will most likely fail at times. Monitor and react to failures immediately.

5. Light snow and frost events are easily accomplished with DLA. Start with these event types and grow from there.
Management Strategies for Positive Results; Cont.

6. Moderate snow fall events that you have knowledge of its end-time and future forecasting

7. Light to Moderate rain, or Freezing rain can be managed keeping in mind that Cycle Times are necessary

8. Expunge information from periodicals and on the Web. Good Source is Clear Roads, DLA Study