

Helpful Terms Snow Professionals Should Know

- 1. <u>Salt Brine:</u> Is rock salt (sodium chloride) dissolved in water. For the purpose of deicing, it's important that your salt brine has a salinity of 23.3%. At this salinity rate, salt brine has no shelf life and will remain a solution forever.
- 2. Effective Temperature vs. Eutectic Temperature: There is no standard definition for Effective Temperature. It is more of a subjective range depending on how much snow/ice you need to melt, the surface temperature, and how fast you want it to melt. Eutectic Temperature is based on science, in that the chemicals in the products will not work below a certain temperature. (For Example: Rock Salt- Sodium Chloride. Effective Temperature: 15°F Eutectic Temperature: -6°F)
- 3. **Endothermic:** Draws heat from its surroundings to create the change from granular salt into a liquid salt brine mixture. (Sodium Chloride works this way)
- 4. **Exothermic**: Gives off heat which makes them work much faster. (Magnesium and Calcium Chlorides work this way)
- 5. <u>Hygroscopic:</u> Absorbs moisture from the air. All chlorides have hygroscopic properties, however calcium and magnesium chlorides are much more hygroscopic than traditional rock salt (sodium chloride). That's why using sodium chloride in high moisture events is more effective than other chlorides.
- 6. Anti-Icing: A proactive strategy to prevent snow and ice from bonding to the surface. Anti-icing can be done before, during, or after a storm by using a liquid deicer product. However, once the snow and ice has started to stick to the surface, you need to switch to a de-icing strategy.
- 7. **<u>De-Icing:</u>** A reactive strategy of applying a granular deicer product to snow and ice that has already bonded to the surface to help break up that bond.
- 8. <u>Pretreating Salt:</u> This is when you apply a liquid additive to a stockpile of rock salt to improve the effectiveness at lower temperatures. You mix the liquid additive with the granular salt so it becomes a liquid coated salt (or treated salt). Using treated salt can reduce your salt application rates by up to 40%.

9.	<u>Pre-Wetting Salt:</u> This is where a liquid deicer is applied to the granular rock salt at the spinner as it is dispersed to the surface. By wetting the rock salt, it starts the chemical reaction as it lands on the surface and will start to work more quickly.