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## WHY USE LIQUIDS FOR SNOW & ICE CONTROL?

### PREWETTING / ANTI-ICING

The Erie Canal, an engineering marvel that connected the Great Lakes to New York's Hudson River in 1825, was called "the ditch that salt built." Salt tax revenues paid for half the cost of the construction of the canal.

Salt has been a part of this earth probably since the beginning. Millions of years ago the earth was completely covered with salt water. Through time salt has been left in different solutions and deposits and has been utilized by civilizations for many different and important processes that could be largely considered to have improved life, as we know it.

Since ancient times, salt has been used to flavor and preserve food. Early trade routes and many of the first roads were established for transporting salt. Many ancient civilizations levied taxes on salt. Salt was considered so precious that it was traded ounce for ounce for gold. In ancient China, coins were made of salt. Salt continues to be an integral part of our society. Since the 1940s with increased traffic, faster cars and an ever-growing road infrastructure, the demand for the ability to safely travel on slippery winter roads increased.

Rock Salt, readily and widely available at a low cost was the obvious choice for municipalities and states to meet those demands to travel safely on our nations highways. Rock Salt works well for ice and snow control with one exception... it becomes ineffective at lower temperatures. WHY? To be effective as a deicing agent, rock salt requires moisture. Moisture dissolves the salt, releasing heat and thereby melting the ice and snow. When temperatures drop below freezing there is no moisture on the road, and the salt alone is ineffective. Prewetting salt, however ensures that there will be enough moisture to facilitate the melting process. Then, prewetted salt works faster and at lower temperatures than does dry salt, with less waste.

There are several ways to combine liquids with rock salt known as PREWETTING. A commonly used ratio is eight gallons of liquid per ton of rock salt. Rock Salt stock piles can be sprayed, dump trucks, after loaded can be sprayed, each loader bucket can be sprayed before dumping into the truck, cab controlled on-board prewetting systems are available that can spray the rock salt before it hits the spinner.

ANTI-ICING is the process of using liquids applied prior to a storm to help prevent snow and ice from bonding to the road surface. The liquid is sprayed directly on the road surface with a spray bar supplied by a truck-mounted tank. Amounts are determined by road temperature, humidity, road traffic air temperature and type of liquid being used. The liquid will prevent bonding and allow subsequent plowing to remove existing snow to the pavement. At that time more liquid should be applied if needed based on the conditions and weather forecast.

An effective prewetting or anti-icing program can improve the conditions of winter roads at lower temperatures, thereby increasing the safety of the traveling public as well as decreasing the amount of rock salt used.