

ICE B'GONE MAGIC[®]

Sodium Chloride Brine/Salt Brine 101

Over the last several years, sodium chloride (NaCl) brine (Salt Brine) has gained widespread approval with municipalities and contractors. Brine, when blended and applied correctly, has been proven to be safe, effective, cost-effective, and better for our environment.

Implementation: Sodium chloride brine (Salt Brine) at 23.3% salinity can be manufactured easily and inexpensively. Contrary to popular belief, you don't need to spend tens of thousands of dollars to manufacture brine. A resourceful do-it-yourselfer can build high-volume brine makers inexpensively. The same can be said for a spray system or brine application unit. Tanks, totes, spray bars and pumps are relatively inexpensive. Even fully automated commercial units, which may be better suited for very large municipalities and contractors, are coming down slightly in price.

Costs and material management: Using sodium chloride brine (Salt Brine) can save you a substantial amount of money in applied material costs while dramatically increasing the coverage area. Switching from granular rock salt to brine can result in a large decrease in salt usage to do the same job. *For Example ... If you apply 500 lbs. of white salt per acre, 1 ton will cover 4 acres. With Salt brine that same 1 ton of salt will make approximately 874 gallons of salt brine. If you apply brine at 60 gallons per acre you can cover approx. 14.5 acres.* That's more than 3 times the amount of coverage.

Application methods and performance: Salt brine, applied as an anti-icing agent has the ability to melt a .5 inch to .75 inch of snow. Pretreating pavement with salt brine prior to a more significant snow event can reduce the time it takes to reach bare pavement dramatically, by acting as an anti-bonding agent. This will allow you to peel the ice and snow from the pavement, rather than needing to scrape it off and reapply. The Salt Institute estimates that pre-event anti-icing with brine can be 10 times more effective than deicing with salt after ice and snow have bonded to the surface. Brine uses one-third to one-quarter the amount of material used in deicing.

Brine shortfalls. Although Salt brine is pretty good in many scenarios Salt brine has some pretty significant shortfalls. Salt brine will never completely replace rock salt as a deicer, but it can be a valuable tool in your snow and ice tool box. Brine does have some limitations. At 20° F, brine loses most of its ice-melting ability. Contractors that are used to using straight IBG Magic will be sorely disappointed in brine's performance, even considering the cost savings. Because brine is only 23.3% salinity, it tends to dilute quickly in high moisture content snow events. As it dilutes, brine's anti-bonding properties diminish, its ice-melt capacity drops, and refreezing will occur.

Salt Brine Facts:

Salt Brine is simply salt that is dissolved in water with an ending concentration or salinity of 23.3% salt.

Salt Brine is only effective until temperature reaches 18°F to 20° F.

Salt Brine is 100% corrosive.

Salt Brine recommended application rates start at 60 gallons per lane mile or acre

Salt Brine— is micro particles of salt suspended in water, when applied directly to the road surface at 60 gallons per lane mile it appear as wet lines... which will dry ... become white lines And ultimately a white haze covering everything in close proximity. Once the water has evaporated from the brine the micro particles of salt will become aerated and will attach themselves to anything steel that is nearby thus leaving less brine on the road surface where it is useful

Remember this Example from above is using WHITE SALT and PLAIN SALT BRINE ...

If you apply 500 lbs. of white salt per acre, 1 ton will cover 4 acres.

(2000 lbs / 500 lbs = 4)

With Salt brine that same 1 ton of salt will make approximately 874 gallons of salt brine. If you apply brine at 60 gallons per acre you can cover approx. 14.5 acres.

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Organically Based Performance Enhanced Brine A.K.A. OBPE Super Brine 201

Power enhancers

Like rock salt, brine's performance can be enhanced. Organic based enhancement using Ice B' Gone Magic liquid is extremely effective when added at 20% to boost brine's performance.

Super blend. Blend both an exothermic chloride such as Magnesium Chloride and a high sugar content organic enhancer (DCS) and you'll have the ultimate brine that embodies the best of all possible characteristics. This super-blend brine will melt ice and snow to -5° F, provide superior anti-bonding and residual effect, and is less corrosive than salt brine or calcium chloride. This deicer performs so well that the application rate can be reduced from 60 gallons per acre to as little as 40 gallons per acre. When it comes to organic enhancers, the carbohydrate content is the single most important factor to consider. The higher the carbohydrate concentration, the better the enhancer will improve brine's performance. Enhancing brine with an organic enhancer reduces chloride emissions for two reasons. Pure organic enhancers are chloride free; therefore, the brine's overall chloride content will be reduced by the same percentage of organic enhancer added to the overall blend. That, coupled with a reduction in the application rate, will reduce overall chloride emissions dramatically. When enhancing brine with the IBG Magic liquid to create a super brine at a rate of 20%, the brine's ice-melt capacity and freeze point are enhanced without negatively affecting the brine's friction values.

Here are the facts, Features and benefits of salt brine & enhanced super brine.

Enhanced Super Brine:

Enhanced Super Brine – Reduced working temperature: is simply salt brine at 23.3% salinity with the small addition of 20% Ice B' Gone Magic liquid will now have an effective working temperature down to -5°. That is a dramatic change in working temperature... from 18° above zero to -5° below zero....that is a 23 degree change in working temp.

Enhanced Super Brine – Corrosion reduction: Salt brine that is enhanced with the Ice B' Gone Magic liquid will have a reduction in the corrosive nature of the brine.

Enhanced super brine – Reduction in application rate: will allow for a reduction in application rates compared to straight salt brine by a minimum of 30%

Enhanced Super Brine – Stays where you apply it: will work more effectively where it is applied since the Ice B' Gone Magic will perform as a tacaifier. Simply put, the addition of the IBG Magic will allow the water to evaporate while aiding the micro particles of salt to stay on the pavement surface where they have been applied. Keeping this Enhanced Super Brine on the pavement will ensure you achieve your goals.

Enhanced Super Brine – Chloride Reduction: Again reducing the total chloride load on the environment.

Here is the example for Ice B' Gone Magic treated salt and ICE B' Gone Magic enhanced super brine:

... If you apply 30% less material since you have treated your white salt with Ice B' Gone Magicyour application rate would be 350 lbs. of Ice B' Gone Magic Treated salt per acre, 1 ton will cover just under 6 acres (actually 5.71 acres).

(2000 lbs / 350 lbs = 5.71)

With Enhanced Super brine that same 1 ton of salt will make approximately 874 with 20% (175 gallons of IBG Magic Liquids) is 1049 gallons of Ice B' Gone Magic Enhanced Super brine. If you apply brine at 40 gallons per acre you can cover approx. 26 acres.

(874 gal x 20%=175 gal. 874 gal. +175 gal = 1049 gal) (1049gal / 40gal = 26.22 acres)

*That's more than 4.5 times the amount of coverage **Or** If you apply 30% less material since you have treated your white salt with Ice B' Gone Magic ... your application rate would be 350 lbs. of Ice B' Gone Magic Treated salt per acre, 1 ton will cover just under 6 acres (actually 5.71 acres).*

(2000 lb / 350 lbs = 5.71 acres)

With Enhanced Super brine you would reduce the amount of white salt used to make the brine to 1600 lbs of salt. This will make approximately 700 gallons with 20% (175 of IBG Magic Liquids) is 875 gallons of Ice B' Gone Magic Enhanced Super brine. If you apply brine at 40 gallons per acre you can cover approx. 22 acres.

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