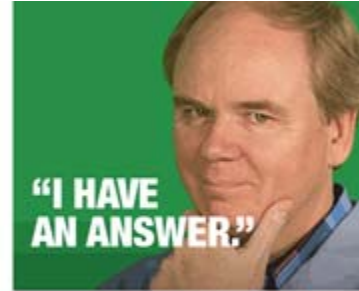


# THANK YOU FOR SUBMITTING YOUR QUESTION...



## Your question:

I am considering using an anti-icing brine as a pre-treatment for pavement, but I cannot find out info on coverage. (i.e does 1gal of 23% sodium chloride cover 1000sq./ft.?)

## My answer:

A good resource for anti-icing brine application rates is the FHWA Manual of Practice for an Effective Anti-Icing Program (which you can find online here: <http://www.fhwa.dot.gov/reports/mopeap/mop0296a.htm> ). It contains tables of suggested anti-icing application rates for various conditions in Appendix C. The application rates are given in units of pounds of dry chemical weight per lane mile. To convert these values to gallons of brine we need to consider the concentration and density of the particular brine being used. For a 23.3% sodium chloride brine the conversion factor from pounds of dry chemical to gallons of brine is 0.438, i.e. 100 pounds of dry salt is  $100 \times 0.438 = 43.8$  gallons of salt brine. To convert from gallons per lane mile to gallons per 1000 square foot, the conversion factor is 0.0158, i.e. 43.8 gallons per lane mile is equivalent  $43.8 \times 0.0158 = 0.692$  gallons per 1000 square feet (assuming a 12 foot lane width). To directly convert pounds of dry chemical weigh per lane mile to gallons of 23.3% NaCl brine per 1000 square feet, use the conversion factor 0.00692. So an application rate of 100 pounds of dry salt per lane mile is equivalent to  $100 \times 0.00692 = 0.692$  gallons of brine per 1000 square feet. Thus, depending on the conditions, the FHWA suggested application rates for salt brine would be between about 0.2 and 1.4 gallons of 23.3% brine per 1000 square feet.

Providing customers with deicing solutions that save lives, enhance commerce and reduce environmental impact.



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