

Like magic: Chemical enhancement makes rock salt more effective

By Aidan Levy

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New England highway workers have added a new trick to their repertoire: Magic Salt, a tonic for the times. And they're not the only magicians in the business.

Freezing rain, snow, sleet – a familiar refrain for another grueling Connecticut winter – are rarely coupled with the earthy smell of molasses. This season, however, a substance that resembles the syrupy, southern sluce is cropping up on treacherous streets and parking lots throughout New England as those responsible for snow and ice removal increasingly turn to Magic Salt, a juiced-up, purportedly more effective variation of conventional rock salt.

Currently, no Connecticut towns have made the switch, but Loomis Chaffee School in Windsor has used Magic Salt for the past three years.

“I love it. It gives you some residue that buys you time in the middle of a snowstorm and it doesn't let the ice adhere to the pavement after it's applied,” says Steve Bianchi, grounds superintendent for the school. “It has a tendency to smell like molasses, but it doesn't last long.”

A chemist discovered the product in the dead of winter behind a Hungarian vodka distillery, where a pond laced with the discarded, gritty mash – an agricultural byproduct of the distillation process that oozed from the building's pipes – miraculously never froze.

The chemist manipulated the sugary swill, blending it with magnesium chloride, another de-icer, and converted it into a potent brown syrup that could be applied to rock salt to better prevent dangerous road conditions. Later, the chemist found that Magic Salt is not limited to vodka. The range of possible alcoholic beverages that can be used is infinite.

In 1997, Sears Ecological Applications Co. of Rome, N.Y., bought the patent and licensed it to Innovative Municipal Products Inc., also based in Rome, the only current U.S. manufacturer.

“By being able to melt the ice faster, you can cut down on your operating expense with equipment and manpower,” says Robert St. Jacques, president of Four Seasons Landscaping and operations manager of St. Jacques Family Enterprises, based in Windsor. St. Jacques is one of five Connecticut distributors of the product. “You get two to three times the melt by using about half the salt product.”

In addition, Magic Salt has fewer environmental hazards. In fact, it has none of the harmful effects caused when conventional rock salt spreads onto roadside vegetation areas or ponds. Also, unlike conventional rock salt, Magic Salt does not corrode concrete and steel.

“The big benefit is increasing service levels and reducing the amount of chloride emissions,” says Tim Dyck, vice president of sales and marketing for Innovative Municipal. Dyck points to Canada, one of the world’s leaders in this technology, where the government controls the use of rock salt in municipalities. Many towns have also curbed sand and grit use, says Dyck, due to severe environmental repercussions that surpass those caused by rock salt, in addition to using Magic Salt.

“It’s very friendly as far as the environment goes,” says Scott C. Lappen, Windsor Locks director of Public Works. “I’ve actually seen people stick their finger in the stuff and eat it.”

Some proponents of Magic Salt claim that it is effective down to negative 30 degrees, compared to conventional rock salt, which is useless if the temperature dips below 18 degrees. Lappen takes these claims with a grain of salt, however.

“What their Web site says and what’s actually practical differs,” says Lappen. “That’s what we’ve seen in the field anyway.”

Yet Lappen’s doubts have not deterred him from heavily considering establishing a salt route in Windsor Locks, on account of a 10 percent price hike in road salt this year and a 67 percent hike in the price of sand.

The town has a budget of approximately \$47,000 for snow and ice removal materials – \$11,000 more than last year – and a similar cost for labor. With the continuing inflation in the sand and salt markets, however, Lappen says using Magic Salt could be a cost-effective move. Even though the product is more expensive, Lappen projects that the change will lower sand usage and defray the cost of cleanup in the spring.

New York and the Pacific Northwest were quick to switch to Magic Salt, but the product is not so commonplace in New England.

Gradually, towns in New Hampshire and Vermont have begun to use it, with Massachusetts implementing an aggressive Magic Salt campaign in 25 towns and on the Mass Turnpike.

Pepperrell, Mass., began supplementing conventional rock salt and sand with Magic Salt five years ago. “If cost was no object, I guarantee we would use it on every foot of roadway, but we have to be judicious in its use,” says Bob Lee, director of Public Works. As far as working down to negative 30 degrees, Lee can’t verify that claim. “When it gets really, really cold, it’s usually dry. How many times does it snow when it’s 30 below zero?”

Bean Town, however, is reluctant to prescribe its dose of southern seasoning.

“There’s a certain degree of skepticism,” says Joseph Casazza, commissioner of Public Works for Boston. “Our experience with a similar product a couple years ago had adverse qualities.”