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Shake on the Magic Salt Keene to use new de-icing road mixture

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LOOKS LIKE COFFEE — Scott Convery of N.H. Ice Melt sprays a liquid chemical on road salt as it is dumped out of a payload bucket at a Keene public works building on Lower Main Street Thursday. The white salt turns into brown “magic salt” and is ready for road use in minutes.
STEVE HOOPER / Sentinel Staff

It’s an experiment designed to get Keene roads out of the Ice Age.

The Keene Department of Public Works is trying a new technique to make roads safer this winter. It involves a solution that looks like coffee, smells like molasses and is called — no kidding — “magic salt.”

On Thursday, about 125 tons of regular road salt in the public works shed at 580 Main St. was hosed with a concoction called “Magic -0°,” a brown liquid that is half magnesium chloride and half distilled solubles — throwaway products from, for example, a vodka manufacturing plant.

The post-spray result? A 10-foot heap of cinnamon-brown “magic salt,” which city officials expect to outclass regular road salt in every way.

“Magic salt” is designed to melt ice and snow faster and at lower temperatures than road salt can do, last longer on the road, and be less corrosive. It’s also biodegradable.

Plus, said Keene highway superintendent Bruce Tatro, it’s easier on the city’s checkbook.

Salt costs \$40 a ton, Tatro said, and Keene uses about 5,000 tons per winter. “Magic salt” costs more, about \$62 a ton, but the city will probably only use about 2,200 tons — about \$64,000 less.

If all goes to plan, the city government could save tens of thousands of dollars.

The experiment is a first for Keene and for the spraying company, N.H. Ice Melt of Manchester.

Its owner, Matthew J. Scott, started the business in April. Keene became his first customer when it placed its first order a couple of months ago.

Tatro said Keene's road crews have already used the "magic salt" twice.

"It really worked," he said.

Magic -0° is sprayed onto regular salt heaps from an amped-up hose attached to 220-gallon tanks. The spray neutralizes the salt's corrosiveness, and the mixture becomes like a brine.

Then it gets worked over until it's a cinnamon-brown color. Within 10 minutes, it's officially magic salt — ready to melt ice and snow in temperatures as low as 35 degrees below zero — at least 50 degrees colder than the temperature at which salt stops working

When it's applied to the roads, Scott said, it's "like spraying Pam on a frying pan" — it's like a no-stick spray for streets. So when plows clear off roads where magic salt has been used, there shouldn't be any hard-packed snow or black ice left over.

Tatro said in the old days — meaning every year up until now — city crews would spread 800 pounds of regular salt on the roads in 25-degree weather. And more salt must be spread as the temperature sinks to 15 degrees.

Colder than that, city crews had to rely on spreading sand to keep slippery streets passable. Sand treatment requires constant touch-ups and leaves a mess in ditches and drains.

Now, with magic salt, Tatro said 400 pounds will cover city roads in pretty much any temperature — from 25 degrees above zero to 35 below zero.

The beauty of the salt, Scott said, is that it should do its job without needing a second dose.

"It saves crews from being out at 2 a.m.," Tatro said. "When it's done ahead of time, we're not trying to play catch-up."