



in a WINTER MAINTENANCE PROGRAM

LuGr Enterprises introduces **Beet 55**®, a liquid organic accelerator which aids chlorides in melting snow & ice at lower than conventional temperatures. **Proactively, Beet 55**® enables you to prepare your road surfaces *before* the onslaught of snow events.



Beet 55™

Beet 55™ is derived from sugar beets, a 100% renewable resource!



Blending Sodium Chloride brine with Beet 55® gives us a product we call "Beet 55 Juice".

(65% brine at 23.3% NaCl) / 35% Beet 55®)

To be the best, you've got to Beet the rest!!

Studies have shown that sodium chloride is the only product not to seriously degrade the integrity of concrete; meaning your curbs, bridges, and road surfaces are better positioned to last their intended life-cycle. Not calcium chloride, magnesium chloride, or CMA can say this, as all (concrete) "Experienced significant deterioration, including scaling, cracking, mass loss, and compressive strength loss"* when exposed to these chemicals.

*Report No. UT-13.09; Physical and Chemical Effects of Deicers on Concrete pavement: Literature Review; July 2013

For more information, visit <u>www.lugrenterprises.com</u> or contact us

1.403.597.7325

Luke@Lugrenterprises.com





Beet 55® is recognized by the following organizations:

- Clear Roads (formerly PNS) (Category A3)
- ▶ British Columbia Ministry of Transportation (Recognized Products List - Anti & De-Icing Chemicals)
- ► Alberta Transportation (Trial Products List De-Icing Chemicals)

Three Main Actions of Beet 55® Juice



Aids chlorides melt snow & ice at much lower temperatures (In excess of -26°C road surface temperature (65%NaCl brine/35% Beet 55®))

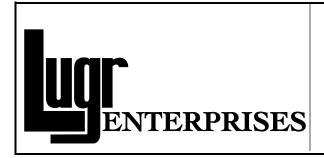


Provides corrosion inhibiting ability

Leaves a "Residual Effect", which creates barrier between roadways & snow/ice

Methods of using Beet 55® Juice

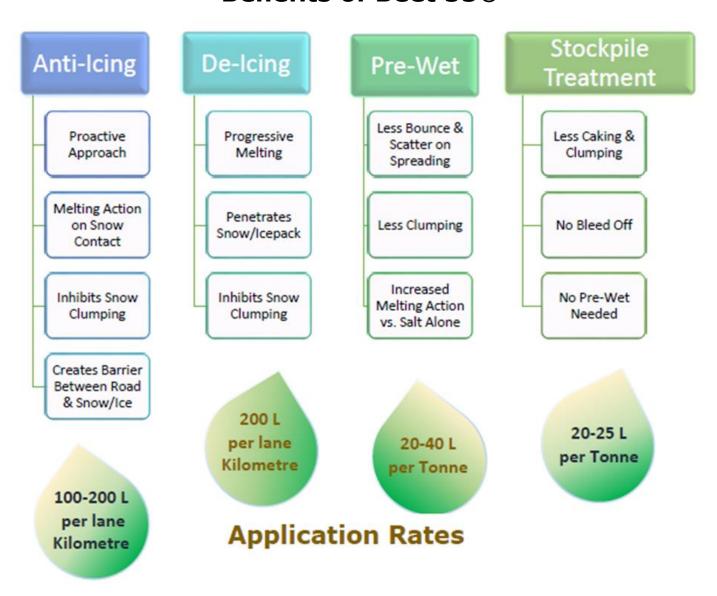
- Proactive Anti-Icing, direct to road surface application
- De-Icing direct to road surface application
- Pre-wetting solids spun from truck
- Sand & Salt Stockpile Treatment





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Benefits of Beet 55®



Applying Beet 55® Juice

The suggested usage rates are considered as starting points and should be adjusted based on weather expectations, current local conditions, performance levels, and road usage/condition/material. Beet 55® is always mixed with a chloride brine and should not be applied as a stand alone product.

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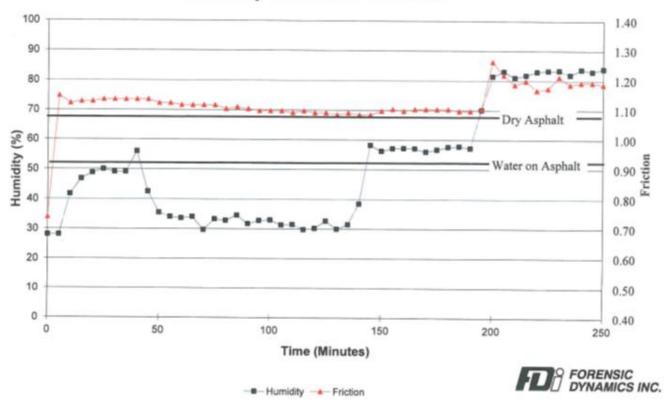




BENEFITS of BEET 55® in a WINTER MAINTENANCE PROGRAM

Beet 55® Friction Test

SFG - Beet C-55 Humidity & Friction vs. Time



The chart above represents results of a lab based test comparing traction levels of "Beet Juice" (in red, applied on dry asphalt) to that of water on asphalt and dry asphalt, which were used as baselines. Shortly after application, the "Beet juice" solution provides, for the duration of the test, a friction level which exceeds that of dry asphalt.





Environmental Benefits of using Beet 55®







BENEFITS of BEET 55® in a WINTER MAINTENANCE PROGRAM

Potential Savings

- Reduces sand and salt usage
- Fewer applications per event
- Fewer applications per season
- Less sand to clean up in the spring
- Fewer corrosion concerns
- Savings on fuel due to less time equipment on roads
- Savings due to *less* wear & tear on equipment & infrastructure
- Reduces sand and salt output when pre-wetting as "bounce and scatter" is cut down
- Minimal clumping or caking of sand and salt piles
- Product lasts longer on road surface, possibly reducing the number potholes – less to repair in springtime
- Cities, towns, and municipalities could see less corrosion damage on storm water drains, and less clogging from sand, providing long term maintenance cost related savings

It's only a tool, yet used correctly is hard to BEET!!

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