

Pre-wet sand is a recommended mixture of 4 to 8 gallons of liquid product per ton of sand to better adhere to the road for traction purposes only.

Ice Slicer (Solid Sodium Chloride Based De-icer) is a solid product that is mainly sodium chloride with small amounts of other materials that help this product to work at lower temperatures than traditional white rock salt. Ice Slicer tends to remain in place and persist longer between applications than liquids.

Ice Slicer is more expensive by weight than traditional white rock salt, but a little bit of this product goes a very long way.

Rapid Thaw is a manufactured solar salt product that is generally red in color.

Quick Salt is a solar salt product that is enhanced with a liquid de-icer

The use of anti-icing and deicing products are outlined in Policy Directive 1055.

Testing and evaluating

Staff maintenance will be made aware of any plans to test new products and will be advised of the information, including the product to be tested, location of testing and timing of testing. Any Maintenance Section proposing to test and evaluate any new products or products not approved by staff maintenance, is required to maintain complete record keeping including TAPER logs to document the results obtained and appropriateness of the material for use in CDOT. A report should be prepared and sent to the M&O Branch. Full testing shall be conducted on these materials following those testing parameters specified by Pacific Northwest Snowfighters (PNS).

Material Specifications:

All products used in CDOT should conform to an approved set of specifications for each specific material. No material should be purchased as a sole source product. Approval shall be by the entire Maintenance Superintendents Team and Chief Engineer where required.

Liquid De-icer Material Testing Procedures:

All liquid products used at CDOT shall undergo quality assurance testing, conducted by CDOT's Maintenance and Operations (M&O) Branch through third party testing facilities. Such testing should be conducted randomly, as directed by M&O Branch. M&O Branch will manage a products testing pool for this purpose. The Maintenance Section and/or M&O Branch personnel will obtain samples from the delivery tankers. The M&O Branch shall be responsible to submit the samples to the testing facility under contract for testing in accordance with the specifications.

Materials Storage

All materials containing any anti-icing/deicing properties or Chlorides shall be stored in such a manner as to protect the environment from liquids or salts leaching into the ground or waterways or bodies of water.

Chlorides or de-icer/sand mixtures shall be stored on pads that are designed and constructed to be impermeable. They must not permit drainage from the pad, which would allow salts to reach unprotected ground and ultimately the ground water. Wherever possible, sand sheds should be constructed. Crews must be vigilant to clean up any drainage that may leave a pad or sand shed and correct any problems, construct berms or curbs to curtail such drainage as soon as noted.

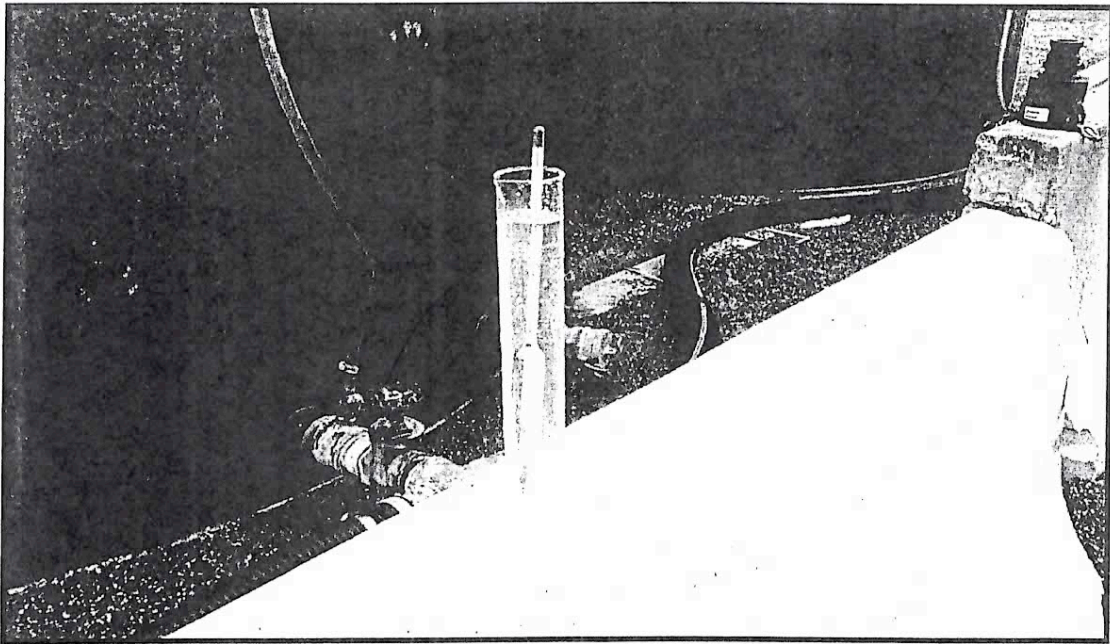
Liquid product storage tanks should be installed in secondary containment areas (secondary containment should be constructed as soon as funds are available and be capable of holding 110% of the largest tanks capacity). Crews must be cautious when filling snow removal equipment with liquids to ensure that spillage is kept to a minimum and cleaned up as soon as possible. Care must be taken to ensure that valves are shut off after completing pumping operations and that hoses are disconnected from vehicles and properly stored before leaving the tank locations.

CDOT DE-ICER SAMPLING PROGRAM

De-icer Sampling

This procedure sets forth the method to be followed when obtaining liquid de-icer samples for quality assurance testing.

Prior to obtaining the sample, the load should be checked for proper specific gravity. A clean, dry container – not the one to be used for the quality assurance testing – should be used to transfer a sufficient amount of the material to allow for testing with an appropriate hydrometer capable of measuring specific gravity in a 1/1000th scale. An initial sample should be pulled and tested for specific gravity. The reading obtained should be compared with the appropriate specific gravity chart for that product. If the sample is found to indicate that the material may be 2% or lower in concentration than specified, the sample should be placed in a garage area to allow the material to come to 60°F before performing a final test for the specific gravity. Such readings should be shared with the local crews so that they will know the exact mag chloride percentage for application rates. All liquid samples found to be 2% or lower in concentration of specific gravity of material ordered shall have a sterile sample collected from the delivery vehicle and submitted for testing as well.



The sample for laboratory Quality Assurance (QA) testing is to be collected into the sterile sample container, either gallon or half gallon in size, provided by CDOT Staff Maintenance and Operations Branch.