

SYNTECH UNI-MELT[®]

Universal Ice Melt Liquid

Uni-Melt[®] is the latest advancement in agriculturally engineered deicers.

100% biodegradable made from Green Renewable Resources
Safe, Environmentally Friendly, Non Corrosive & Non Hazardous

Replaces

- Glycols
- Acetates
- Calcium Chloride
- Magnesium Chloride
- Sodium Chloride
- Urea

Uses

- Deicer & Anti-Icer
- Freeze Conditioning Agent
- Belt Deicer
- Pressure Testing
- Brine Additive
- Salt Stockpile Admix
- Bridge Spray Systems
- Frost Prevention
- Dust Suppression
- Release Agent

Applications

Building entrances, Side walks, Driveways, Vehicle running boards, Steps, Catwalks, Loading docks, Ramps, Intersections, Crosswalks, Railroad switches, Switching gears, Conveyors, Bulk handling systems, Chutes, Car and door locks; virtually anywhere ice is problematic!

Features& Benefits

- Low freeze point; -36F.
- Reduces negative impacts on vegetation, metals, concrete, equipment & the environment.
- Extremely versatile- can be used in virtually any winter application.
- Extremely safe to use & emits no harsh odor.

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Freeze Conditioning Agent

Uni-Melt[®] modifies the crystal structure of ice before it forms. Off-loading from railcars or trucks, and material handling is greatly improved because of the free movement of treated material. Typical treatment rates vary from 2 to 4 pints per ton of material depending on the moisture levels and the fines content.

Conveyors- Bulk Handling Systems

Uni-Melt[®] is perfect for belts, rollers, pulleys, idlers, hoist cables, construction equipment, docks, railroad tracks, switches, or any other areas essential to your operational safety and production during freezing weather. Conveying systems moving coal and aggregates in winter conditions may encounter issues with water freezing on belts. This can result in material slippage. A winter belt management program with **Uni-Melt**[®] is capable of solving these problems. **Uni-Melt**[®] can be used as a belt deicer that melts existing ice and acts as a preventative against further build up. It should be applied in a light coating to the belt as necessary to maintain proper material transport.

Pressure Testing

Uni-Melt[®] is a convenient and economical glycol replacement for industrial pipe pressure testing. **Uni-Melt**[®] is biodegradable clean water soluble liquid that will pressurize with no known problems. When pressure testing is completed simply purge lines with air.

Anti-Icing/ Frost Prevention on Roads

To prevent the bond of snow & ice to road surfaces; Anti-ice with **Uni-Melt** at 20-30 gallons per lane mile (10-15 gallons for frost prevention) and have confidence at any temperature.

Stockpile Treatment/ Pre-wet Systems for Salt

Reduce salt use and keep your stockpile free flowing by adding 6-8 gallons of **Uni-Melt**[®] per ton of salt or salt/grit mix. Both stockpile treatments and wetting at the spinner with **Uni-Melt**[®] will allow salt to work at lower temperatures, reduce applications rates, and provide greater residual effects

Dust Suppression

Uni-Melt[®] is effective under extreme weather conditions at a broad range of temperatures. Applications range from material handling, transfer points, & road dust control.

Handling and Storage

Handling: Use reasonable and prudent care and caution while handling material.
Storage: Material can be stored in aluminum, stainless steel, fiber glass or resin lined steel vessels. Material should be stored in clean airtight containers.

Standard Shipments

Uni-Melt[®] is shipped to customers in the following units:
Tank Trucks— approximately 4,000 gallons, Totes—275 gallons, Drums—55 gallons

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Typical Corrosion Performance:

The Pacific Northwest States DOT coalition has adopted a test based on a modified version of NACE TM-01-69 to measure and rank deicing chemicals in terms of relative corrosion toward ferrous metals. In this test distilled water and salt are assigned relative corrosion rates of 0 and 100 respectively and deicing chemicals are ranked relative to these two standards. To be considered for use in the PNS states, a deicer must score 30 or less (70% less corrosive than salt) on this scale. In this test SynTech Uni-Melt was found to be similar to distilled water.

Metal Corrosion Tendency

Deicing Fluid	Corrosion Rate
Distilled Water	0
Rock Salt (NaCl)	100
Calcium Chloride (CaCl ₂) 38%	121
Calcium Chloride (CaCl ₂) 30%	86
Magnesium Chloride (MgCl ₂) 30%	80
SynTech Uni-Melt	0

Total Immersion Corrosion ASTM F483

Test Metal Coupon	SAE AMS 1424 Requirements Wt.Loss,mg/cm ² /2h	Uni-Melt Results
Carbon Steel	0.8 max.	<0.01
Titanium	0.1 max.	<0.01
Aluminum 2024 Anodized	0.3 max.	<0.01
Aluminum 2024 Alclad	0.3 max.	<0.01
Aluminum 7075 Alclad	0.3 max.	<0.01
Copper	Not Established	<0.01

Typical Performance Properties:

In order to be truly effective, an anti-icing/deicing fluid must not only exhibit low freezing point, it must have the capacity to absorb large amounts of water from melting ice and continue to function at high dilution.

SynTech Uni-Melt provides both of these important attributes, having a freezing point of -36°F (-38°C) and high dilution capacity.

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Environmental Performance:

SynTech Products prides itself on offering the most complete line of high performance de-icers on the market. We also realize that we have a responsibility for protecting the environment. Uni-Melt exceeds the stringent environmental specifications set by the PNS.

Typical Analysis

Appearance	Clear Amber
Odor	Mild
Specific Gravity	1.14–1.17
Flash Point, COC	None
Water Miscibility	Complete
Freezing Point	-38°F

Uni-Melt is composed primarily of materials derived from the processing of starches and sugars making it economical and readily available. It is nontoxic and non-hazardous to plant and animal life, and in the environment

Chemical Analysis

	Uni-Melt	Specifications
Arsenic	< 1	5.00 ppm Max.
Barium	<0.02	10.00 ppm Max.
Cadmium	< 0.05	0.20 ppm Max.
Chromium	< 0.2	0.50 ppm Max.
Copper	< 0.2	0.20 ppm Max.
Cyanide	0.15	0.20 ppm Max.
Lead	<0.5	1.00 ppm Max.
Mercury	< 0.005	0.05 ppm Max.
Selenium	< 0.1	5.00 ppm Max.
Zinc	0.81	10.00 ppm Max.
Phosphates	1.1	25.00 ppm Max.

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