

## ICE BAN® 200M Product Data Sheet

### Ice Ban, the Original Organic Inhibitor

In 1995 we started the revolution by introducing organically inhibited chloride based anti-icing / deicing fluids. Combining a corn based inhibitor with a liquid chloride solution, this patented (U.S. Patent No<sup>™</sup>s. 5,635, 0 & 5,965,058) anti-icing, deicing liquid provided superior performance at an affordable price. First introduced as a series of blends based on one inhibitor, the organic inhibitors have now been engineered to address the most significant applications encountered by today<sup>™</sup>s snow and ice control professionals.

Ice Ban 200 is designed as an effective direct spray liquid and stockpile treatment. In a direct spray application 200 delivers an environmentally safe liquid that passes the standards established by the Pacific Northwest Snowfighters (PNS) and the American Association of State Highway & Transportation Officials (AASHTO). Ice Ban 200 is a golden colored liquid with a mildly viscous nature and low odor.

The tables below illustrate the engineered chemical and physical characteristics of Ice Ban 200. Ice Ban 200 exhibits no separation or stratification tendencies, eliminating concerns with clogged nozzles, screens and pumps.

### Chemical Analysis

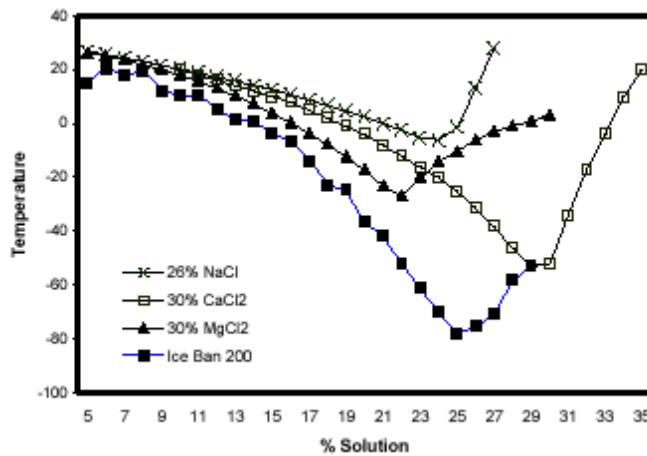
Component	Units	Typical	PNS Limit
MgCl <sub>2</sub>	%	25	25
Phosphorus	ppm	14.2	25
Cyanide	ppm	<0.05	0.2
Arsenic (As)	ppm	<1.0	5
Copper (Cu)	ppm	0.2	0.2
Lead (Pb)	ppm	<0.50	1
Mercury (Hg)	ppm	<0.02	0.05
Chromium (Cr)	ppm	<0.50	0.5
Cadmium (Cd)	ppm	<0.05	0.2
Barium (Ba)	ppm	<0.50	10
Selenium (Se)	ppm	<1.0	5
Zinc (Zn)	ppm	4.6	10
pH (1:4 Solution)		4.0-5.0	6-10
Corrosion Rate	%	8.4	<30

## Physical Properties

Component	Units	Typical
Specific Gravity	SGU (at 20°C)	1.282
TTL Settleable Solids (V/V)	%	<=1
Solids Passing # 10 Sieve (V/V)	%	>=99
Freeze Point		-61 ° C / -77° F

## Increased Working Range, Decreased Maintenance Costs

The phase curve diagram below illustrates the increased effective range that Ice Ban 200 offers over 30% Magnesium Chloride, 30% Calcium Chloride and 26% Sodium Chloride (Salt). Ice Ban 200 has a eutectic point of .77° F at a 25% Magnesium Chloride concentration solution. The increased working range of 200 greatly reduces the likelihood that the melted snow and ice will re-freeze between applications, reducing the need for excess treatments and additional trips by workers.



## Safe for the Environment, Safe for the Public

Testing performed by Forensic Dynamics, Inc. in July 2000 on the friction characteristics of Ice Ban 200 show that a concrete surface treated with 200 had a friction coefficient slightly less than that of concrete wetted with water. When dry, the Ice Ban treated surface has a friction coefficient higher than that of dry concrete. In fact, Ice Ban 200 was one of the highest performing Magnesium Chloride based products ever tested.

