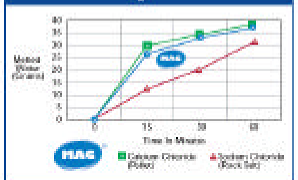
MAG® Ice Melting Performance Compares Favorably With Calcium Chloride

Ice melting performance is measured not only by the speed of the melting action but also by the quantity of melted water produced per unit of ice melter used. The following graph compares the ice melting performance of MAG, calcium chloride and sodium chloride.

Ice Melting Performance



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Comparison of Practical & Eutectic Melting Points of Selected Ice Melter Chemicals

Ice Melter	Eutectic Temp °F	Practical Temp °F
Calcium Chloride	-59	-25
MAG	-27	-13
Rock Salt (Halite)	-6	+20
Urea	+11	+25
Potassium Chloride	+12	+25
Calcium Magnesium Acetate	-17.5	+25

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MAG® As An Ice Melter

MAG is the best total ice melter. Compared to calcium chloride and sodium chloride (Rock Salt), MAG is less corrosive towards metal surfaces, creates less concrete spalling, is less toxic, and is environmentally safer.

The principal characteristics of MAG compared to calcium chloride and sodium chloride are:

	MAG	Calcium Chloride	Sodium Chloride
Toxicity mg/kg LD_{50}[1]	8100 (Low Toxicity)	1000 [illegible]	3000 [illegible]
Concrete Spalling/Chipping[2]	3.5g	92.3g	223g
Ice Melting Effectiveness at 27°F[3]			
After 15 minutes	27g	36g	13g
After 60 minutes	36g	38g	32g
Residue	Clear Liquid	Oily-Like Liquid Film	Dry White Powder
Corrosion—Steel (mils/year)[4]	0.5	19.6	22.9
Corrosion—Aluminum (mils/year)[5]	.375	2.0	1.5
Corrosion—Tin (mils/year)[6]	2.1	13.9	17.9
Chloride Content	34.9%	57.6% (pellet) 49.2% (flake)	61.2%
Effective Melting Temperature	-13°F	-25°F	+20°F

Notes:

1. [illegible]
2. [illegible]
3. [illegible]
4. [illegible]
5. [illegible]
6. [illegible]

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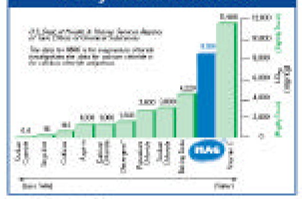
MAG® Is Much LESS Toxic Than Salt and Calcium Chloride

Accidental ingestion by pets, animals and children is a concern to all of us. MAG is much safer than all other popular ice melting chemicals because of its very low toxicity. The following is a chart of common chemical substances (and a few not so common) and their LD_{50} (Lethal Dose 50%) levels.

Toxicity of Common Chemicals



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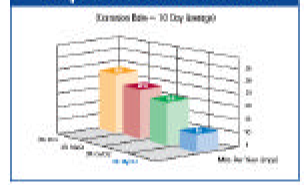
Safer for People, Pets, Concrete and the Environment

MAG® Is Less Corrosive Than Other Ice Melters

MAG is commonly used in the workplace. As the chart shows, MAG is less corrosive on steel which can affect work equipment, piping, building infrastructure and more. MAG makes an altogether safer work environment.

Comparison of Corrosion on Steel

Corrosion Rate — 10 Day Average



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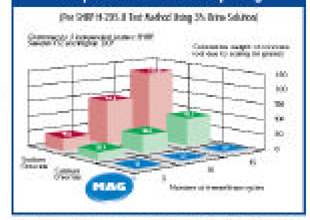
MAG® Is Less Damaging to Concrete Than Calcium Chloride and Sodium Chloride

All ice melting chemicals lower the freezing point of water and increase the number of freeze/thaw cycles. As a result of water repeatedly freezing and expanding, concrete surfaces will tend to spall, scale or break into small chips. New concrete surfaces and concrete of poor quality are particularly vulnerable to spalling. (Ice melting chemicals should not be used on concrete less than one year old.) As shown below in tests performed by the Strategic Highway Research Program (SHRP), National Research Council, Washington, D.C., the use of MAG as an ice melter resulted in significantly less concrete spalling than calcium chloride or sodium chloride.

Comparison of Concrete Spalling



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