## Clear Roads Qualified Product List - PRODUCTS Date of Listing: October 17, 2024



Category 1 - Corrosion Inhibited Liquid Magnesium Chloride

Product Name	Manufacturer	Corrosion Rate % Effectiveness	Concentration	Date Approved	Expiration
Iceban 200*	Earth Friendly Chem.	8	26%	8/15/2002	12/31/2024
Caliber M1000 AP	Envirotech Services, LLC	21	28%	8/2/2004	12/31/2029
Hydro-Melt Green	Cargill	24	28%	8/1/2005	12/31/2029
FreezGard CI Plus	Compass Minerals	12	30%	8/28/2006	12/31/2029
Ice B'Gone II HF	Sears Ecological Appl.	29	25%	8/9/2007	12/31/2024
FreezGard LITE CI Plus	Compass Minerals	12	27%	6/13/2011	12/31/2029
HydroMelt Liquid Deicer	Cargill	28	29%	8/15/2011	12/31/2029
FreezGard CI Plus Sub Zero	Compass Minerals	14	28%	10/11/2011	12/31/2029
Torch IB	GMCO Corporation	25	27%	1/10/2013	12/31/2024
Torch CI	GMCO Corporation	21	30%	1/10/2013	12/31/2024
Meltdown Apex	Envirotech Services, LLC	22	30%	4/16/2014	12/31/2029
Meltdown Inhibited	Envirotech Services, LLC	24	30%	4/29/2014	12/31/2029
ProMelt MAG 30 INH	Innovative Surface Solutions	25	30%	7/31/2015	12/31/2029
ProMelt Ultra 1000 INH	Innovative Surface Solutions	28	27%	7/31/2015	12/31/2029
Torch LT	GMCO Corporation	25	30%	12/17/2015	12/31/2024
NexGen Liquid De-Icer	Paradigm Group	25	30%	5/12/2017	12/31/2024

Note-Iceban 200 was formerly Iceban Performance Plus M;

Torch IB was formerly Ice Ban 305; Torch CI was FreezGard 0 CCI; Torch LT was NextGen Torch

Those products marked with an asterisk (\*) indicates that the stratification can be seen and agitation is required.

#### Category 2 - Corrosion Inhibited Liquid Calcium Chloride

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Product Name	Manufacturer	Corrosion Rate % Effectiveness	Concentration	Date Approved	Expiration			
Liquid Dow Armor	Dow Chemical	26	30%	6/25/1999	12/31/2024			
Winter Thaw DI	Tetra Technologies	16	32%	9/13/1999	12/31/2024			
Road Guard Plus	Tiger Calcium	16	25%	6/5/2006	12/31/2024			
Calcium Chloride with Boost (CCB)	EnviroTech Services, LLC	18	32%	4/10/2014	12/31/2029			
MeltDown Apex-C	EnviroTech Services, LLC	24	29%	8/21/2015	12/31/2029			
C1000 Pro	EnviroTech Services, LLC	28	27%	9/8/2015	12/31/2029			
Apex-C 2.0	EnviroTech Services, LLC	26	30%	7/1/2023	12/31/2029			
Road Guard Eco-Plus*	Tiger Calcium	10	27%	9/1/2023	12/31/2028			
Meltdown Cascade*	EnviroTech Services, LLC	20	26%	3/4/2024	12/31/2029			

Those products marked with an asterisk (\*) indicates that friction tests results were not provided; lab not available.

## **Category 3 - Liquid Calcium Magnesium Acetate**

Product Name	Manufacturer	Corrosion Rate % Effectiveness	Concentration	Date Approved	Expiration					
Liquid CMA 25%	Cryotech	-11	25%	5/19/1998	12/31/2029					
SC CMA 25%	Sure Crop Farm Services	-3	25%	9/13/1999	12/31/2024					

## Category 4 - Corrosion Inhibited Solid Sodium Chloride

## Category 4A- Corrosion Inhibited Solid Sodium Chloride, Grade 2, Maximum Moisture Content 5.0% (Corrosion Percent Effectiveness of 30% or less)

Product Name	Manufacturer	Corrosion Rate % Effectiveness	Concentration	Date Approved	Expiration
CG-90 Non-Phosphate 2.8%	Cargill	27	N/A	5/19/1998	12/31/2029
IMC CI SALT A 3.5	Compass Minerals	28	N/A	8/21/2001	12/31/2029
IMC CI SALT B 4.5	Compass Minerals	19	N/A	8/21/2001	12/31/2029
Clear Lane PNS Enhanced Deicer	Cargill	29	N/A	8/1/2005	12/31/2029
Ice Slicer Elite	Envirotech Services, LLC	16	N/A	8/1/2005	12/31/2029

#### Category 4B- Corrosion Inhibited Solid Sodium Chloride - Modified Gradation, Maximum Moisture Content 5.0% (Corrosion Percent Effectiveness 31% to 85%)

Product Name	Manufacturer	Corrosion Rate % Effectiveness	Concentration	Date Approved	Expiration
Ice Slicer RS	Redmond Minerals, Inc.	80	N/A	10/13/2009	12/31/2029
Ice Slicer Super Blend Plus	Redmond Minerals, Inc.	60	N/A	10/13/2009	12/31/2029
Ice Breaker MG	Willow Creek Salt	35	N/A	10/4/2021	12/31/2026

#### Category 4C- Corrosion Inhibited Solid Sodium Chloride - Grade 2. Maximum Moisture Content 5.0% Standard Gradation (Corrosion Percent Effectiveness 31% to 85%)

Product Name	Manufacturer	Corrosion Rate % Effectiveness	Concentration	Date Approved	Expiration
Clear Lane Enhanced Deicer	Cargill	54	N/A	10/2/2015	12/31/2029
Ice Kicker	SaltWorx	50	N/A	7/5/2016	12/31/2029
SOS Treated Salt	Envirotech Services, LLC	66	N/A	5/12/2017	12/31/2029
Ice Slicer CB	Envirotech Services, LLC	61	N/A	5/12/2017	12/31/2029
Leed Melt G500	Leed Salt	68	N/A	6/6/2018	12/31/2029
Ice Breaker SG	Willow Creek Salt	80	N/A	10/4/2021	12/31/2026
Ice Slicer RS	Redmond Minerals, Inc.	75	N/A	1/26/2022	12/31/2029
SnowSlicer	Lyons Salt Company	51	N/A	9/6/2022	12/31/2027
Independent Salt	Envirotech Services, LLC	65	N/A	5/16/2024	12/31/2029
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#### Category 4D - Corrosion Inhibited Solid Sodium Chloride - Grade 1, Maximum Moisture Content 5.0% (Corrosion Percent Effectiveness 30% or less)

Product Name	Manufacturer	Corrosion Rate % Effectiveness	Concentration	Date Approved	Expiration
[currently no products]					

#### Category 4E - Corrosion Inhibited Solid Sodium Chloride - Grade 1, Maximum Moisture Content 5.0% (Corrosion Percent Effectiveness 31% to 85%)

Product Name	Manufacturer	Corrosion Rate % Effectiveness	Concentration	Date Approved	Expiration
[currently no products]					

#### Category 5 - Corrosion Inhibited Sodium Chloride Plus 10% Magnesium Chloride (Solid)

Product Name	Manufacturer	Corrosion Rate % Effectiveness	Concentration	Date Approved	Expiration
[currently no products]					

#### Category 6 - Corrosion Inhibited Sodium Chloride Plus 20% Magnesium Chloride (Solid)

Product Name	Manufacturer	Corrosion Rate % Effectiveness	Concentration	Date Approved	Expiration
CG-90 Surface Saver 22%	Cargill	26	N/A	5/19/1998	12/31/2029
Meltdown 20	Envirotech Services, LLC	27	N/A	8/8/2000	12/31/2029

## Category 7 - Solid Calcium Magnesium Acetate (CMA)

Product Name	Manufacturer	Corrosion Rate % Effectiveness	Concentration	Date Approved	Expiration
CMA	Cryotech	-7	96%	5/19/1998	12/31/2029

## Category 8 - Non Corrosion Inhibited Solid Sodium Chloride

## CATEGORY 8A-B Standard Gradation, Brining Salt, Insoluble Material Maximum 1%, and Maximum Moisture Content 0.5%.

Product Name	Manufacturer	Intentionally Left Blank	Intentionally Left Blank	Date Approved	Expiration		
DriRox Coarse Salt*	Compass Minerals			9/21/2012	12/31/2029		
Bulk Coarse Solar	Morton Salt			4/21/2006	12/31/2029		
Intrepid Coarse Salt	Intrepid Potash			6/3/2010	12/31/2024		
Kiln Dry Coarse Salt	Broken Arrow			12/17/2015	12/31/2029		
Salt	Surplus Salt			1/30/2019	12/31/2024		
New Mexico Brining Salt	Envirotech Services, LLC			9/11/2024	12/31/2029		
* Product was renamed from NAS	Product was renamed from NASC Salt (Coarse). The product has been approved since 8/2000.						

## CATEGORY 8A-R Standard Gradation, Road Salt, Insoluble Material Maximum 10%, and Maximum Moisture Content 0.5%.

Product Name	Manufacturer	Intentionally Left Blank	Intentionally Left Blank	Date Approved	Expiration
Cargill Dry Salt	Cargill			6/1/1998	12/31/2029
Rocanville Standard	NSC Minerals			6/1/1998	12/31/2029
DriRox Coarse Salt*	Compass Minerals			9/21/2012	12/31/2029
Kayway Salt (Coarse)	Kayway Industries			12/23/2003	12/31/2024
Bulk Coarse Solar	Morton Salt			4/26/2005	12/31/2029
Ice Slicer Super Blend	Redmond Minerals, Inc.			8/2/2006	12/31/2029
ISCO Bulk Rock Salt	K+S			6/23/2008	12/31/2024
Natural Alternative Ice Melt	NaturaLawn of America			5/17/2010	12/31/2024
Intrepid Coarse Salt	Intrepid Potash			6/3/2010	12/31/2024
Kiln Dry Coarse Salt	Broken Arrow			12/17/2015	12/31/2029
Vanscoy Coarse	NSC Minerals			12/5/2017	12/31/2029
Sodium Chloride	Independent Salt Co.			12/5/2017	12/31/2024
Bulk Rock Salt	Hutchinson Salt Co.			1/17/2018	12/31/2024
VS Rock Salt	Valley Salt Co			6/6/2018	12/31/2024
Bulk Deicing Salt	Lyons Salt**			9/12/2018	12/31/2024
Salt	Surplus Salt LLC			1/30/2019	12/31/2024
Independent Salt	Envirotech Services, LLC			5/16/2024	12/31/2029
New Mexico Brining Salt	Envirotech Services, LLC			5/16/2024	12/31/2029
* Draduat was reported from NAC		1	1		

<sup>\*</sup> Product was renamed from NASC Salt (Coarse). The product has been approved since 8/2000.

<sup>\*\*</sup> Formerly Central Salt

## CATEGORY 8B - Insoluble Material Maximum 10%, and Maximum Moisture Content 5.0%.

Product Name	Manufacturer	Intentionally Left Blank	%Moisture	Date Approved	Expiration
Ice Slicer RS	Redmond Minerals, Inc.		1.95	2/9/2003	12/31/2029
QwikSalt	Compass Minerals		2.54	6/30/2004	12/31/2029
Type C Treated Salt	Broken Arrow		2.94	8/2/2004	12/31/2029
SS-5.0	Shelton's Salt		0.90	9/16/2004	12/31/2024
Bulk Type C Road Salt	Morton Salt		2.63	4/26/2005	12/31/2029
ESSA Salt	ESSA		0.84	6/26/2007	12/31/2024
Rapid Thaw	Broken Arrow		2.49	3/4/2009	12/31/2029
Bulk Deicing Salt	Lyons Salt		0.24	6/24/2013	12/31/2024
Ice Kicker	SaltWorx		3.10	5/12/2017	12/31/2029
Ice Slicer CB	Envirotech Services, LLC		0.59	5/12/2017	12/31/2029
VS Rock Salt	Valley Salt Co		0.17	6/6/2018	12/31/2024
Icebreaker	Willow Creek		0.30	12/15/2020	12/31/2025
Safe-T-Salt	Morton Salt		2.30	2/4/2021	12/31/2029
Snow Slicer	NSC Minerals		1.48	4/2/2021	12/31/2026
SnowSlicer	Lyons Salt Company		1.37	9/16/2022	12/31/2027
Independent Salt	Envirotech Services, LLC		0.08	5/16/2024	12/31/2029

#### CATEGORY 8C-B Fine Gradation, Brining Salt, Insoluble Material Maximum 1%, and Maximum Moisture Content 0.5%.

Product Name	Manufacturer	Intentionally Left Blank	Intentionally Left Blank	Date Approved	Expiration
Rocanville Standard	NSC Minerals			3/1/2006	12/31/2029
Rocanville Fine	NSC Minerals			3/1/2006	12/31/2029
Rocanville Standard Road Salt	NSC Minerals			10/6/2006	12/31/2029
Medium Solar Salt	Compass Minerals			8/12/2009	12/31/2029
Mixing Solar Salt	Compass Minerals			8/12/2009	12/31/2029
Intrepid Medium Salt	Intrepid Potash			6/3/2010	12/31/2024
Kiln Dry Medium Salt	Broken Arrow			12/17/2015	12/31/2029
New Mexico Brining Salt	Envirotech Services, LLC			5/16/2024	12/31/2029

#### CATEGORY 8C-R, Fine Gradation, Road Salt, Insoluble Material Maximum 10% and Maximum Moisture Content 0.5%.

Product Name	Manufacturer	Intentionally Left Blank	Intentionally Left Blank	Date Approved	Expiration
Rocanville Standard	NSC Minerals			3/1/2006	12/31/2029
Vanscoy Standard	NSC Minerals			3/1/2006	12/31/2029
Rocanville Fine	NSC Minerals			3/1/2006	12/31/2029
Rocanville Standard Road Salt	NSC Minerals			10/6/2006	12/31/2029
Medium Solar Salt	Compass Minerals			8/12/2009	12/31/2024
Mixing Solar Salt	Compass Minerals			8/12/2009	12/31/2024
Intrepid Medium Salt	Intrepid Potash			6/3/2010	12/31/2024
Ice Slicer Near Zero	Redmond Minerals, Inc.			12/3/2010	12/31/2029
Kiln Dry Medium Salt	Broken Arrow			12/17/2015	12/31/2029
Bulk Fine Salt	Hutchinson Salt Co			6/6/2018	12/31/2024

#### Category 8D, Grade 1 Gradation, Combined Insoluble Material and Maximum Moisture Content 5.0%

Product Name	Manufacturer	Intentionally Left Blank	% Moisture	Date Approved	Expiration
[currently no products]					

#### Category 9 - Corrosion Inhibited Liquid Sodium Chloride

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Product Name	Manufacturer	Corrosion Rate % Effectiveness	Concentration	Date Approved	Expiration
Salt Brine + Brine CI	Cargill	25	23%	8/12/2009	12/31/2029
Brine with Headwaters Inhibitor	Pelican Chemicals	26	22%	11/24/2014	12/31/2024
Brine with Headwaters 10F Inhibitor	Pelican Chemicals	27	22%	11/24/2014	12/31/2024
Ice Bite S	Road Solutions Inc.	15.0	22%	10/21/2014	12/31/2024

#### Category 10 - Corrosion Inhibited Liquid Sodium Chloride Plus Calcium Chloride

Product Name	Manufacturer	Corrosion Rate % Effectiveness	% Concentration	Date Approved	Expiration
TC Econo*	Tiger Calcium Services	20	20/2 <sup>(1)</sup>	8/12/2009	12/31/2024
BEET HEET Severe	K-Tech Specialty Coatings	21	15/5 <sup>(2)</sup>	7/13/2011	12/31/2029
SO-CAL	Custom Spray Services	28.0	21/2 <sup>(4)</sup>	4/14/2014	12/31/2024

- 1 20% NaCl and 2% CaCl<sub>2</sub>
- 2 15.3% NaCl and 5.4% CaCl<sub>2</sub>
- 3- 18.8% NaCl and 2.3% CaCl<sub>2</sub>
- 4 20.8% NaCl and 2.5% CaCl<sub>2</sub>

#### Category 11 - Corrosion Inhibited Liquid Chloride Blended Brines

Product Name	Manufacturer	Corrosion Rate % Effectiveness	% Concentration	Date Approved	Expiration
Road Guard Plus*	Tiger Calcium Services	16	30 <sup>(1)</sup>	8/12/2009	12/31/2024
IB 7/93-Thermapoint	Millennium Roads	24	27 <sup>(4)</sup>	5/1/2013	12/31/2024
ProMelt MAG Plus INH**	Innovative Surface Solutions	27	28 <sup>(5)</sup>	5/3/2023	12/31/2028
ProMelt Ultra 1000 Plus INH**	Innovative Surface Solutions	26	26 <sup>(6)</sup>	5/3/2023	12/31/2028
Clear Guard Advanced***	Tiger Calcium	10	32 <sup>(7)</sup>	9/1/2023	12/31/2028
Road Guard Eco-Plus***	Tiger Calcium	10	30 <sup>(8)</sup>	9/1/2023	12/31/2028
Meltdown Cascade***	EnviroTech Services, LLC	20	30 <sup>(9)</sup>	3/4/2024	12/31/2029
KorProtect Clear	Ward Chemical	18	31 <sup>(10)</sup>	9/1/2024	12/31/2029

- 1 26% Calcium Chloride and 4% Magnesium Chloride
- 4 17.8% Calcium Chloride, 5.4% Sodium Chloride, and 3.5% Magnesium Chloride
- 5 21.7 % Magnesium Chloride and 5.9% Calcium Chloride
- 6 20.5 % Magnesium Chloride and 5.6% Calcium Chloride
- 7 27.5% Calcium Chloride and 4.8% Magnesium Chloride
- 8 26.5% Calcium Chloride and 3.5% Magnesium Chloride
- 9 25.7% Calcium Chloride and 4.1% Magnesium Chloride
- 10 27.0% Calcium Chloride and 4.0% Magnesium Chloride

Those products marked with an asterisk (\*) indicates that the stratification can be seen and agitation is required.

Those products marked with a double asterisk (\*\*) indicates that friction testing was not available at the time the product was reviewed and is still required.

Those products marked with a triple asterisk (\*\*\*) indicates that friction tests results were not provided; lab not available.

Category 12 - Other Acetates [update specs document]

			Corrosion Rate %		
Product Name	Manufacturer	Active Ingredients	Effectiveness	Date Approved	Expiration
CF-7	Cryotech	50% Potassium acetate		6/20/2001	12/31/2029
		25% Potassium Acetate			
NC 3000	Glacial Technologies	concentration	-4	3/13/2002	12/31/2024
Alpine Ice-Melt	Nachurs Alpine Sol. Ind.	50% Potassium Acetate	-5	6/23/2008	12/31/2024
Isoway	Omex Environmental	25% Potassium Acetate	-5	4/15/2014	12/31/2024

## Category 13 - Liquid Products with Greater than 30% Organics

			Corrosion Rate %		
Product Name	Manufacturer	Sodium Chloride	Effectiveness	Date Approved	Expiration
Fusion 60/40	Eco Solutions	15%	22	11/23/2009	12/31/2024
Geomelt S7	SNI Solutions	18%	26	4/17/2014	12/31/2024
Biomelt AG7	SNI Solutions	18%	26	10/2/2015	12/31/2024
Husker Plus	Smith Fertilizer and Grain	-	10	7/7/2016	12/31/2024
Beet 55+	Smith Fertilizer and Grain	-	13	2/1/2019	12/31/2024
Blend Ratios					

Fusion 60/40: 60% Fusion / 40% Salt Brine Geomelt S7: 30% Geomelt 55 / 70% Salt Brine Biomelt AG7: 30% Biomelt AG / 70% Salt Brine

Husker Plus: 54% Mixed Matrix Organic / Inorganic Salt Compounds

Beet 55+: Ca 11.3%, Na 5.5%, K 3% and < than 2% Mg

## Category 14 - Liquid Salt Blends

		Chloride Concentration	Corrosion Rate %		
Product Name	Manufacturer	Total**	Effectiveness	Date Approved	Expiration
AquaSalina+	Nature's Own Source	22.0%	26.4	9/19/2013	12/31/2029
AQ+IceBite Liquid Brine Deicer*	Nature's Own Source	20.4%	11.4	8/28/2014	12/31/2029
Ecolution Liquid Deicer	State Industrial Products	24.6%	26.5	8/28/2014	12/31/2024
XO-Melt <sub>2</sub>	K-Tech Specialty Coatings	24.5%	22.9	11/3/2014	12/31/2029
BetterBrine Pro powered by AMP	Envirotech Services, LLC	21.6%	26.1	11/18/2016	12/31/2029
BetterBrine 2.0	Envirotech Services, LLC	26.0%	18.0	7/1/2023	12/31/2028
* Blended with 15% IceBite					

<sup>\*\*</sup> AquaSalina+: NaCl - 11.0%, MgCl<sub>2</sub> - 2.0%, CaCl<sub>2</sub> - 9.0%

<sup>\*\*</sup>AQ+IceBite Liquid Brine Deicer: NaCl - 13.0%, MgCl<sub>2</sub> - 0%, CaCl<sub>2</sub> - 7.4%

<sup>\*\*</sup>Ecolution Liquid Deicer: NaCl - 12.5%, MgCl<sub>2</sub> - 2.3%, CaCl<sub>2</sub> - 9.8%

<sup>\*\*</sup>XO-Melt<sub>2</sub>: NaCl - 10.1%, MgCl<sub>2</sub> - 2.1%, CaCl<sub>2</sub> - 12.3%

<sup>\*\*</sup>BetterBrine Pro powered by AMP: NaCl - 18.2%, MgCl<sub>2</sub> - 3.4%, CaCl<sub>2</sub> - 0%

<sup>\*\*</sup>BetterBrine 2.0: NaCl - 20%, MgCl<sub>2</sub> - 6%, CaCl<sub>2</sub> - 0%

## **Experimental Category for Liquid Products (Category L)**

Product Name	Manufacturer	Corrosion Rate % Effectiveness	% Concentration	Date Approved	Expiration
ProMelt Ultra 2000 Inh	Innovative Surface Solutions	29.6	24.0 <sup>(1)</sup>	5/12/2017	12/31/2029

## PLEASE REFER TO THE FOLLOWING FOOTNOTES REGARDING SPECIFIC EXPERIMENTAL PRODUCT INFORMATION

1 - 24% Magnesium Chloride

## **Experimental Category for Solid Products (Category S)**

Product Name	Manufacturer	Corrosion Rate % Effectiveness	% Concentration	Date Approved	Expiration

<sup>%</sup> Insolubles

<sup>%</sup> Moisture

# Clear Roads Qualified Product List - INHIBITORS Date of Listing: October 17, 2024

Category A1 - Corrosion Inhibitor for Sodium Chloride Brine (Minimum 21% NaCl)

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Product Name	Manufacturer	% NaCl	% Additive	Class	% Effectiveness	Date Approved	Expiration
ArctiClear CI Plus	Compass Minerals	21.2	5.0	1	21.3	12/3/2010	12/31/2029
Headwaters Corrosion Inhibitor	Pelican Chemicals	22.5	3.5	1	24.9	4/15/2014	12/31/2024
Shield GLT Plus	Paradigm Chemical	22.6	5.0	1	28.7	4/15/2014	12/31/2024
Headwaters 10F Corrosion Inhibitor	Pelican Chemicals	22.4	4.5	1	26.7	7/18/2014	12/31/2024
GLT-H	Paradigm Group	23.0	8.0	S	26.0	2/1/2019	12/31/2024
Ecoprotecht-NL	Eco-rrosion Technologies	21.7	7.0	1	21.6	1/1/2020	12/31/2024

## Category A2 - Corrosion Inhibitor for Sodium Chloride Plus Calcium Chloride Brine (Minimum 15% NaCl & 2% CaCl<sub>2</sub>)

Product Name	Manufacturer	% NaCl	% CaCl <sub>2</sub>	% Additive	Type/Class	% Effectiveness	Date Approved	Expiration
Boost SB	Enviortech Services, LLC	18.8	2.3	20	1/2	21.0	4/14/2014	12/31/2029

## Category A3 - Corrosion Inhibitor for Sodium Chloride Brine (Minimum 15% NaCl)

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Product Name	Manufacturer	% NaCl		% Additive	Class	% Effectiveness	Date Approved	Expiration
ArtiClear Gold	Compass Minerals	18.8		15	2	26.6	12/3/2010	12/31/2029
Beet 55 Concentrate	Smith Fertilizer & Grain	17.2		35	2	23.1	9/19/2013	12/31/2024
Geomelt 55	SNI Solutions	18.1		30	2	25.9	4/17/2014	12/31/2024
Biomelt AG	SNI Solutions	18.3		30	2	26.3	10/2/2015	12/31/2024
AMP	Envirotech Services, LLC	18.2		20	2	26.1	4/4/2016	12/31/2029
Headwaters HOT	Pelican Chemicals	19.1		19	2	29.5	7/28/2021	12/31/2026

## **Category A4 - Additive for Liquid Deicing Products and Pre-Wet Materials**

This specification is for a liquid additive to brine or for use as a pre-wetting material only. They are not qualified to be used in direct liquid application.

Product Name	Manufacturer	% Effectiveness	Class	Date Approved	Expiration	Footnote
BEET HEET Concentrate	K-Tech Specialty Coatings	14.8		9/26/2012	12/31/2029	(1)
SOS Inhibited	Envirotech Services, LLC	25.3		8/28/2014	12/31/2029	(3)
SOS-C Inhibited	Envirotech Services, LLC	24.7		3/11/1016	12/31/2029	(4)
Green Blast	Cargill	27.8		10/2/2015	12/31/2029	(5)
Magic Minus Zero (Concentrate)	Innovative Surface Solutions	11.8		10/25/2017	12/31/2029	(6)
Magic Minus Zero (Brine Enhancer)	Innovative Surface Solutions	23.1		10/25/2017	12/31/2029	(7)
Beet Heet Concentrate MN***	K-Tech Specialty Coatings	25.3		5/16/2018	12/31/2029	(8)
ProMelt Ultra 2000 Plus INH**	Innovative Surface Solutions	26		5/3/2023	12/31/2028	(9)

- 1 Total Chloride Salt Blend with CaCl<sub>2</sub>-11.9%, MgCL<sub>2</sub>- 3.4%, KCL-2.7%, NaCl-3.7%. Carbohydrate content-28.8%.
- 3 26.0% MgCl2 with a thickening additive.
- 4 Total Chloride Salt Blend with CaCl2- 26.9%, MgCL2- 2.2%
- 5 28.0% Magnesium Chloride with a thickening additive.
- 6 23% Magnesium Chloride. A 80/20 mixture of magnesium chloride with an organic agricultural product. Material resulted in a final pH of 4.1 as accepted by the PNS.
- 7 Total Chloride Salt Blend with NaCl 15.5% and MgCL<sub>2</sub>- 7.4%. This is a 70/30 blend of salt brine with the Magic Minus Zero Concentrate. Material resulted in a final pH of 4.5 as accepted by the PNS.
- 8 Total Chloride Salt Blend with CaCl<sub>2</sub>-15.2%, KCL-2.5%, NaCl-6.1%. Carbohydrate content-26.7%.
- 9 % Concentration: 23.4% (18.3 % Magnesium Chloride and 5.1% Calcium Chloride)

Those products marked with a double asterisk (\*\*) indicates that friction testing was not available at the time the product was reviewed and is still required.