



AGENDA ITEM EXECUTIVE SUMMARY

Agenda Item number: 5.c

Title:

Recommendation to Authorize a Purchase Order for Anti-Icing Chemicals for the 2017/2018 Winter Season

Presenter:

AJ Reineking

Meeting: Government Services Committee

Date: November 27, 2017

Proposed Cost: \$40,000

Budgeted Amount: \$40,000

Not Budgeted:

Executive Summary *(if not budgeted please explain):*

The anti-icing/de-icing industry has incrementally evolved over the last several years as municipal and contractual snow removal agencies embrace new products. This fall, Public Services Division staff met with manufacturers and suppliers of anti-icing and de-icing chemicals to review their products and to get an update on the materials available prior to the 2017/18 winter season.

The Public Works Department primarily uses two types of chemicals for anti-icing, an organic containing a chloride, such as calcium chloride, while the other is a chloride free variant. Typically, chloride is an active ingredient in roadway anti-icing liquids while chloride free materials are used on concrete infrastructure such as parking decks and sidewalks.

After reviewing product information from three different suppliers, staff determined that Industrial Systems, Ltd. of Lakemoor, IL provided the lowest pricing quote for a premium product in both the traditional and chloride-free anti-icing materials.

Industrial Systems has provided anti-icing materials to the City in the past and has met the expectations of staff.

Attachments *(please list):*

Quote Sheets * Quote Tabulation * Bid Waiver * Material Information Sheet

Recommendation/Suggested Action *(briefly explain):*

Recommendation to authorize a Purchase Order for anti-icing materials to Industrial Systems, Ltd. in the amount not to exceed \$40,000.

Industrial Systems, Ltd.
 112 West Route 120
 Lakemoor, IL 60051
 Tel: 815-344-5566 • Fax: 815-344-5588

ISL Quote

1/26

St. Charles Public Works
Attn: Tony Whittaker
 2 East Main Street
 St. Charles, IL 60174

October 31, 2017

Reference:
Liquid Ice Melters

Submitted By	FOB	Delivery	Terms
Greg Schams	St. Charles	Included	Net 30 days from delivery

Quantity	Product Description	Price
500 bags (10 skids)	50# bags Professional Ice Melter 50-50# bags/skid (- 16F)	\$8.10 bag delivered
250 bags (5 skids)	50# bags Professional Ice Melter 50-50# bags/skid (- 16F)	\$8.30 bag delivered
4,500 gal	InfernaMelt S/C A refined variant of your current ThermaPoint S for stockpile treating and blending with salt brine at an 80/20 ratio.	\$1.50/gal/ delivered
2200#	Clariant Safeway Sodium Formate prills 40-55# bags/skid - FAA 1433 Airport Approved & non corrosive (works down to 0°F)	\$2,300.00/ skid
275 gl tote	InfernaMelt NC Liquid non-chloride (-32°F freeze point) Includes used tote that you keep.	\$995.00 delivered
2200 gls.	InfernaMelt NC Liquid non-chloride (-32°F freeze point)	\$3.09/gl delivered
4,500 gls	ThermaPoint R (Road Ready) - Used for pre-wetting, de-icing & anti-icing. <i>It is ready to use.</i> It is based on a Proprietary Organic Polymer mixed with Calcium Chloride & brine. This rates an NACE PNS corrosion number of 9.2 which means it is 90.8% less corrosive than rock salt. It has a freezing point of -40°F .	\$1.05 gl Delivered

You can knock \$100 off the price on the sodium formate skid or the InfernaMelt NC tote if you have it delivered with the Professional Ice Melter skids you buy from us regularly.

Thank You for your Business !!

<u>Note</u>
<u>Important</u>
Prices in effect at time of delivery and subject to availability, unless such time is extended in writing. Quantities shown above are not guaranteed.

 Greg Schams

2017



205 N. STEWART ST
GENESE0, IL 61254
PH: 888-840-5564 FAX: 309-944-4620

www.snisolutions.com

QUOTATION

Mr. A.J. Reineking
Public Works Manager
City of St. Charles, IL

November 1, 2017

RE: 2017 Winter Liquid Deicer Quote

Dear Mr. Reineking;

Thank you and your staff for taking to speak with on Monday. I have determined pricing for Biomelt 4.5 and Biomelt AG64 for the upcoming winter operations season. The Biomelt 4.5 is 100% organic, blue-green in color and can be used straight on your parking decks. Biomelt 4.5 can also be used as a salt brine accelerator and should be added at a 30% inclusion rate. Biomelt AG64 is also 100% organic (combination of Geomelt and Biomelt Concentrate) and is brown in color. This fluid can be used in the same manner as Biomelt 4.5.

Biomelt AG64 (4,500 gallons) delivered to St. Charles, IL:	\$1.95/gallon.
Biomelt 4.5 (4,500 gallons) delivered to St. Charles, IL:	\$3.25/gallon.
Biomelt 4.5 (4,500 gallons) FOB Geneseo, IL:	\$1,200.00/tote.
Freight charge for tote delivery (Pricing good for only 1 week):	\$90.00/tote.

If you wish to use a granular deicer on your parking decks, Biomelt X22 granular could be an option to consider. This product is a medium pellet sodium chloride with X22 corrosion inhibitor added. This gives Biomelt X22 a 80% reduction in corrosion compared to untreated sodium chloride. The organic accelerator allows a 30% reduction in the amount of salt used.

Biomelt X22 granular deicer 50# (48 bags per pallet):	\$25.00/bag.
Freight charge for pallet delivery (Pricing good for only 1 week):	\$90.00/pallet.

NOTE: If 4 pallets are purchased, SNI Solutions will waive freight charge.

Harmony Deicing Products
 40w372 Edgar Lee Masters Lane
 St. Charles, IL 60175

Estimate

Date	Estimate #
11/6/2017	1956

City of St. Charles
 200 Devereaux Way
 St. Charles, IL 60174



P.O. No.	Terms
	Net 30

Item	Description	Qty	Rate	Total
Potassium Acetate	2,500 gallons of 50% potassium acetate delivered in totes	2,500	4.99	12,475.00
Potassium Acetate	4,000 gallon semi load of 50% potassium acetate delivered in tanker	4,000	4.74	18,960.00
Custom Blends	80/20 (32% calcium chloride/WinterSentry Inhibitor) delivered to St. Charles	4,300	0.99	4,257.00
Harmony Salt Bri...	23% Salt brine delivered to St. Charles	4,500	0.55	2,475.00
Harmony Salt Bri...	Natural Salt Brine: 15% Sodium, 6.4% Calcium, 1.8 % magnesium	4,500	0.61	2,745.00

Subtotal	\$40,912.00
Sales Tax (0.0%)	\$0.00
Total	\$40,912.00

Phone #

630-621-7473

chrism@harmonydeicing.com

Anti-Icing Product Quote Tabulation
 2017/18 Winter Season

	Traditional Anti-Icing	Chloride-free Anti Icing
Industrial Systems, Ltd.		
Lakemoor, IL	\$ 1.50	\$ 3.09
SNI Solutions		
Geneseo, IL	\$ 1.95	\$ 3.25
Harmoney Deicing Products		
St. Charles, IL	No Bid*	\$ 4.74

Price per gallon delivered to St. Charles Public Works Facility

*Pricing was offered for salt brines and calcium chloride, but not for a traditional anti-icing blend with organics, calcium, corrosion inhibitor mix.

REQUEST FOR WAIVING BID PROCEDURE

We request the City Council to waive the bid procedure and accept the quotation (requiring two-thirds City Council vote) submitted by:

Industrial Systems, Ltd.
112 West Route 120
Lakemoor, IL

For the purchase of: Liquid Anti-Icing/De-Icing Chemicals

At a cost not to exceed: 40,000.00.

Reason for the request to waive the bid procedure: Liquid anti-icing and de-icing materials, while many of the materials used are very similar, the blends and "organic" components vary from manufacturer to manufacturer. To bid a specific product would result in a sole source or to bid a specific outcome may result in a less than desirable product that has adverse affects on the City's storage and distribution equipment, the roadways, or the environment. Staff met with area manufacturers and material providers and collected quotes for acceptable products.

Other Quotations Received: SNI Solutions & Harmony Deicing Products (see attached quote sheets and tabulation)

Date: November 27, 2017

Requested by: _____

Department Director: _____

Purchasing Manager: _____

THIS REQUEST FORM MUST BE SIGNED BY ALL PARTIES PRIOR TO REQUESTING COMMITTEE APPROVAL FOR WAIVING OF THE BID PROCEDURE. REQUESTS FORWARDED DIRECTLY TO THE CITY COUNCIL (AND BYPASSING COMMITTEE) MUST BE SIGNED BY ALL PARTIES PRIOR TO REQUESTING CITY COUNCIL APPROVAL. SUCH REQUESTS ARE TO BE OF AN EMERGENCY NATURE WHERE TIME IS OF THE ESSENCE.

INFERNALMELT

InfernalMelt Municipal Stockpile/Concentrate

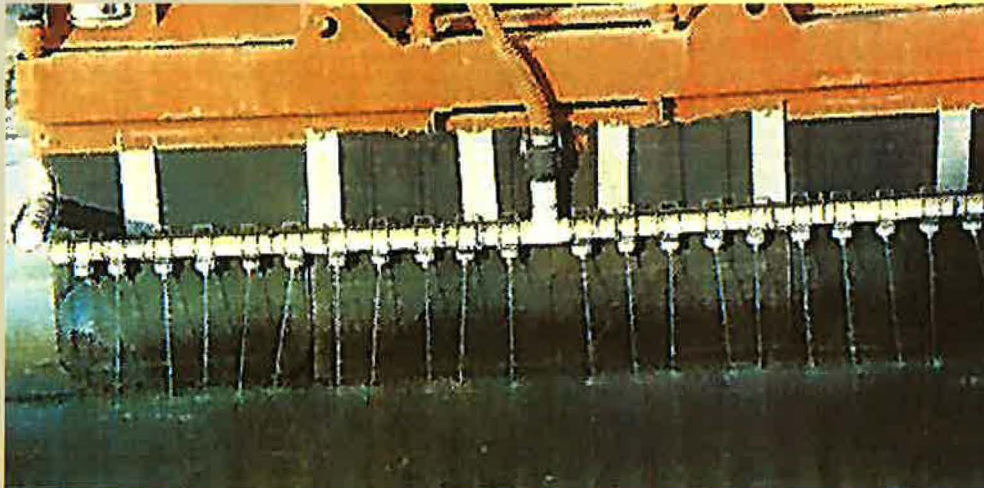
*Amp up your salt brine or rock salt stack with this powerful
Organic Biopolymer additive*

InfernalMelt Municipal Stockpile Concentrate liquid is a premium engineered Biopolymer Organic liquid formulated from renewable resources. It has a dual use of either treating salt stockpiles or as an additive to your salt brine blends such as sodium chloride, calcium chloride or others.

InfernalMelt MSC, with its powerful Organic Biopolymer provides significant corrosion inhibition due to the high concentration of sugars and carbs. In addition to corrosion inhibition the plethora of sugars ensures your end product sticks tenaciously to the pavement. As a result anti-icing operations can be performed farther in advance with less chance of being washed or blown away than standard sodium brines.

When 20% of **InfernalMelt MSC** is added to 80% of a sodium chloride brine the finished product will give you performance that exceeds a standard 80-10-10 "Supermix" blend. This is because we have pre-loaded the calcium chloride into the product for your convenience. Typical dosage range is between 10% – 30% added to sodium chloride brine.

The more InfernalMelt MSC you add to the sodium chloride brine the hotter and stickier the finished product is!
InfernalMelt MSC is unlike other InfernalMelt product in that it is formulated with **No Magnesium Chloride!**



InfernalMelt MSC in Salt Brines:

Anti-icing – Use solid stream nozzles for roads and fan spray nozzles for parking lots since there is less spreading action due to vehicle tires in parking lots. Apply as early as practicable before an event. Anti-icing liquids prevent bonding of snow & ice to pavement which speeds up removal operations saving \$.

De-icing – Application rate is 40-80 gallons per lane mile. Rate can be adjusted based on accumulation. Use solid stream nozzles set at higher pressure to help increase penetration down to the pavement to undermine s& ice.

Pre-Wetting – Application rate is 5 -25 gallons per ton of rock salt at the auger / spinner or onto loader bucket when loading truck. *(For more precise dosage rates call us at number below for recommendations)*. 50% plus reduction in salt use when used at 20-25 gallons per ton of salt.

InfernalMelt MSC is your best tool to meet the more stringent chloride reduction guidelines in many areas!

Stockpile Treating - Application rate on stockpiles is 3-7 gallons per ton. Melting begins immediately - no waiting for salt to make its own brine.



TYPICAL PROPERTIES

Appearance.....Brown liquid
Specific Gravity.....1.25 -1.27
Freezing Point.....-27°F (-32°C)

Weight/gallon.....10.3 -10.8
pH.....6.0 -8.0



Ice-Melt-Products.com

Industrial Systems Ltd. ○ 112 W. Rand Rd. ○ Lakemoor, IL. 60051
(815) 344-5566 Office ○ (815) 344-5588 Fax ○ E-mail: steve@isltd.us

INFERNALMELT

InfernaMelt NC

Give your customers "Zero Tolerance" pavements and reduce slip & fall lawsuits with our line of HOT LIQUIDS!

DESCRIPTION & USES

InfernaMelt NC is a non chloride ice melting liquid. It is 100% bio-degradable and earth friendly. It has an extra low freeze point of **-32°F** and can be used for de-icing, anti-icing and pre-wetting rock salt. It melts more snow and ice than conventional chloride based liquids and brines at temperatures below 15°F. It is a perfect choice for environmentally sensitive areas or areas where corrosion may be a concern.

InfernaMelt NC is composed primarily of a proprietary liquid with no suspended solids that might clog sprayer heads. It is artfully blended for maximum melting performance. Because it is a non chloride product it is non corrosive being slightly less corrosive than tap water. It also is biologically stable unlike some organics on the market. It has a low BOD and toxicity to fish, mammals and vegetation. What this equates to is less incidental damage to landscaping and the environment.

APPLICATION GUIDELINES

Liquids are your most valuable tool to get a "running water" parking lot. However, liquids are not meant to totally replace dry products. Liquids are most effective when applied to the pavement before an event (anti-icing) or applied to rock salt (pre-wetting). They can be applied to existing snow & ice (de-icing) but there are practical limits as to how much snow & ice liquids can melt after an event. (See section on de-icing). Because the product has a residual effect it can be applied further in advance of a storm than straight chlorides or salt brines since it lasts longer.

Pre-wetting – Application rate is 6 -12 gallons per ton of rock salt or other material at the auger / spinner or onto loader bucket when loading truck.

- ▶ 15% - 35% reduction in salt use due to reduced "bounce & scatter" and residual effect of the organic.
- ▶ Melting begins immediately - no waiting for salt to make its own brine.
- ▶ Lower salt consumption from pre-wetting is better for plantings & the environment in general.

Anti-icing – Application rate for anti-icing is $\frac{3}{4}$ - 1 gallon per 1000 square feet (30-40 gallons per lane mile). For frost prevention use half that. Use solid stream nozzles for roads and fan spray nozzles for parking lots due to less spreading action due to vehicle tires in lots. Apply as soon as practicable before an event or once the event begins.

- ▶ Prevents bonding of snow and ice to pavement which speeds up removal operations which saves \$.
- ▶ Can be applied up to 2 days before an event due to the residual effect.
- ▶ Superior to dry salt for premium service to customers to reduce slip-and-fall accidents & liability.
- ▶ Prevents “black ice”.
- ▶ Starts working earlier & lasts longer than dry products.

De-icing – Application rate starts at 1 gallon per 1000 square feet (40 gallons per lane mile). Rate can be adjusted based on accumulation. Use solid stream nozzles set at higher pressure to help increase penetration down to the pavement to undermine snow & ice.

- ▶ Clear product won't track in stores and offices.
- ▶ Melting begins immediately upon application.
- ▶ **InfernalMelt NC** melts through up to 1/4” of dry packed snow down to the pavement, when using straight stream nozzles, where it will spread and break the bond between the ice & snow and the road allowing plows to remove it easily saving time and money.

TYPICAL PROPERTIES

Freezing Point.....-32°F (-30°C)

Appearance.....Clear light violet liquid with mild odor

Specific Gravity.....1.18 – 1.19

Weight/gl.....9.7 – 10.03

pH.....9.5 – 11.05

BOD: 0.27 kg Oxygen/ kg fluid

COD: 0.38 kg Oxygen/kg fluid

Industrial Systems Ltd.

112 W. Rand Rd. (Route 120), Lakemoor, IL 60051

P: 815.344.5566 F: 815.344.5588 • E-mail: steve@isltd.us

Ice-Melt-Products.com

INFERNALMELT

InfernalMelt NC with Residucron

Give your customers “Zero Tolerance” pavements and reduce slip & fall lawsuits with our line of HOT LIQUIDS!

DESCRIPTION & USES

InfernalMelt NC with Residucron is a non-chloride ice melting liquid with an added Clear Organic to help “glue the product to the pavement”. It is 100% bio-degradable and earth friendly. It has an extra low freeze point of **-28°F** and can be used for de-icing, anti-icing and pre-wetting rock salt. It melts more snow and ice than conventional chloride based liquids and brines at temperatures below 15°F. It is a perfect choice for environmentally sensitive areas or areas where corrosion may be a concern.

InfernalMelt NC with Residucron is composed primarily of a proprietary liquid with no suspended solids that might clog sprayer heads or settle out in you tank. It is artfully blended for maximum melting performance. Because it is a non chloride product it is non corrosive, being slightly less corrosive than tap water. It also is biologically stable unlike some organics on the market. It has a low BOD and toxicity to fish, mammals and vegetation. What this equates to is less incidental damage to landscaping and the environment.

APPLICATION GUIDELINES

Liquids are your most valuable tool to get a “running water” parking lot. However, liquids are not meant to totally replace dry products. Liquids are most effective when applied to the pavement before an event (anti-icing) or applied to rock salt (pre-wetting). They can be applied to existing snow & ice (de-icing) but there are practical limits as to how much snow & ice liquids can melt after an event. (See section on de-icing). Because the product has a residual effect it can be applied further in advance of a storm than straight chlorides or salt brines since it lasts longer.

Pre-wetting – Application rate is 6 -12 gallons per ton of rock salt at the auger / spinner or onto loader bucket when loading truck.

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TYPICAL PROPERTIES

Appearance.....Clear light violet liquid with mild odor
Specific Gravity.....1.15 – 1.18
Weight/gl.....9.7 – 9.95
pH.....6.5 – 9.5
Freezing Point.....-28°F (-30°C)

Industrial Systems Ltd.

112 W. Rand Rd. (Route 120), Lakemoor, IL. 60051

(815)344-5566 Office (815)344-5588 Fax • E-mail: steve@isltd.us

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