



Analytical Laboratories, Inc.

1804 N. 33rd Street
Boise, Idaho 83703
Phone (208) 342-5515

<http://www.analyticallaboratories.com>

Date Report Printed: 5/3/2021

Attn: LYND SAY ALBARADO
CARGILL
1224 SALTMINE HWY
BEAUX BRIDGE, LA 70517

Collected By:

Submitted By: FEDEX

Source of Sample:

CLEARLANE ENHANCED DEICER LIQUID

Time of Collection:

Date of Collection:

Date Received: 4/8/2021

Report Date: 5/3/2021

Field pH: Lab pH:

PWS:

Field Temp: Temp Rcvd in Lab:

Laboratory Analysis Report

Sample Number: 2115988

Test Requested	MCL	Analysis Result	Units	MDL	Method	Date Completed	Analyst
% Total Solid		43.7	%		ASTM	4/16/2021	JR
Percent Ash		46.1	%		ASTM-MOD	4/16/2021	JR
Arsenic, As	< 1.0		mg/L	1.0	EPA 200.7	4/13/2021	JMS
Barium, Ba	< 0.5		mg/L	0.5	EPA 200.7	4/13/2021	JMS
Cadmium, Cd	< 0.05		mg/L	0.05	EPA 200.7	4/13/2021	JMS
Chromium, Cr	< 0.5		mg/L	0.5	EPA 200.7	4/13/2021	JMS
Copper, Cu	< 0.1		mg/L	0.1	EPA 200.7	4/13/2021	JMS
Corrosion Rate, 3 Day, TSI Coupons	22.7		%		NACE PNS	4/16/2021	JH
Corrosion Rate Duplicate = 23.2 %							
Freezer Settleable Solids	< 1.0		%	1.0	PNS	4/29/2021	JH
There was no visible settleable material in a one liter sample. The sample was viscous but would not support the glass rod at any level. Sample drained slowly out of the imhoff cone.							
Freezing Point Specific Gravity Chart	*				ASTM	4/30/2021	JR
Lead, Pb	< 0.5		mg/L	0.5	EPA 200.7	4/13/2021	JMS
Magnesium Chloride	29.9		% wt		PNS	4/12/2021	JMS
Mercury, Hg	< 0.02		mg/L	0.02	EPA 245.1	4/12/2021	JD
Metals Digestion	*				EPA 3050	4/9/2021	JR
Molybdenum, Mo	< 1.0		mg/L	1.0	EPA 200.7	4/13/2021	JMS
Selenium, Se	< 1.0		mg/L	1.0	EPA 200.7	4/13/2021	JMS

MCL = Maximum Contamination Level
MDL = Method/Minimum Detection Limit
UR = Unregulated

Email: lyndsay_albarado@cargill.com

Laboratory Analysis Report

Sample Number: 2115988

Test Requested	MCL	Analysis Result	Units	MDL	Method	Date Completed	Analyst
Zinc, Zn	<	0.1	mg/L	0.1	EPA 200.7	4/13/2021	JMS
Ammonia Direct (as N)	<	8.00	mg/L	8.00	EPA 350.1	4/14/2021	JPH
Nitrate (as N)		5.1	mg/L	0.2	EPA 353.2	4/15/2021	JPH
Nitrite (as N)	<	1	mg/L	1	EPA 353.2	4/9/2021	LW
Nitrogen, Total Kjeldahl (TKN)		282	mg/L	10	EPA 351.2	4/12/2021	DS
Total Phosphate (as P)		23	mg/L	5	EPA 365.4	4/12/2021	DS
Chemical Oxygen Demand		19,900	mg/L	20.0	EPA 410.4	4/14/2021	JPH
Cyanide, Total		0.09	mg/L	0.05	EPA 335.4	4/13/2021	DS
pH, Deicer 1 + 4		8.0	S.U.		ASTM D1293	4/9/2021	LW
Biochemical Oxygen		3,830	mg/L	3	SM 5210 B	4/29/2021	EH

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James Hibbs

Thank you for choosing Analytical Laboratories for your testing needs.
If you have any questions concerning this report,
please contact your client manager.



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Date Report Printed: 4/29/2021 10:27:54 AM
<http://www.analyticallaboratories.com>
These test results relate only to the items tested.

Laboratory Analysis Report

Sample Number: 2115989

Attn: LYNDsay ALBARADO
CARGILL
1224 SALTMINE HWY
BEAUX BRIDGE, LA 70517

Collected By:
Submitted By: FEDEX

Source of Sample:
CLEARLANE ENHANCED DEICER LIQUID

Time of Collection:

Date of Collection:

Date Received: 4/8/2021

Report Date: 4/29/2021

Field pH: Lab pH:
Field Temp: Temp Recd in Lab:

PWS#:


PWS Name:

Test Requested	MCL	Analysis Result	Units	MDL	Method	Date Completed	Analyst
% Solid Passing #10 Sieve		5	%		PNS	4/29/2021	JH

There was no precipitation or crystallization observed in the #10 sieve, however the sample was too viscous to pass. After stirring and waiting five minutes only 50 mL would pass the #10 sieve.

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Cargill

Source: CLEARLANE ENHANCED DEICER LIQUID

Analytical Lab Sample Number: 2115988

Percentages of MgCl ₂	Specific Gravity (g/mL)	Freezing Point (°C)	Freezing Point (°F)
5%	1.0585	-3	26.6
6%	1.0702	-4.5	23.9
7%	1.0825	-5.5	22.1
8%	1.0932	-7	19.4
9%	1.1080	-8.5	16.7
10%	1.1152	-10.5	13.1
11%	1.1268	-11.5	11.3
12%	1.1356	-12	10.4
13%	1.1483	-15	5
14%	1.1602	-16	3.2
15%	1.1710	-19	-2.2
16%	1.1785	-22	-7.6
17%	1.1907	-23.5	-10.3
18%	1.2003	-27	-16.6
19%	1.2150	-30.5	-22.9
20%	1.2224	-34.5	-30.1
21%	1.2311	-34	-29.2
22%	1.2413	-30.5	-22.9
23%	1.2479	-30	-22
24%	1.2553	-28	-18.4
25%	1.2669	-27	-16.6
26%	1.2751	-25	-13
27%	1.2792	-24.5	-12.1
28%	1.2934	-21.5	-6.7
29%	1.2994	-19.5	-3.1
29.9%	1.3099	-18.5	-1.3

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Cargill 2115988

Source: CLEARLANE ENHANCED DEICER LIQUID

