

SECTION 1: Product and Company Identification**1.1. Product Identifier**

Product name: De-Ice Master +

1.2. Intended Use of the Product

Use of the substance/mixture: Dust control and ice control on roadways

1.3. Name, Address, and Telephone of the Responsible PartyMichigan Chloride Sales LLC
402 W. Jackson Road
St Louis, MI 48880
www.michiganchloride.com**1.4. Emergency telephone number**

1-800-286-7312

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture**

Classification (GHS-US) Eye Irritant 2A H319

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US):



GHS07

Signal word (GHS-US):

Warning

Hazard statements (GHS-US):

H319 - Causes serious eye irritation.

Precautionary statements (GHS-US):

P264 - Wash hands, forearms, and exposed areas thoroughly after handling.

P280 - Wear eye protection.

P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

P337+P313 - If eye irritation persists: Get medical advice/attention.

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

No data available

SECTION 3: Composition/information on ingredients**3.1. Substances**

Not applicable

3.2. Mixtures

Name	Product identifier	% by Weight	Classification (GHS-US)
Water	(CAS No) 7732-18-5	66-74	Not classified
Calcium Chloride	(CAS No) 10043-52-4	18-22	Acute Tox. 4 (Oral), H302 Eye Irrit. 2A, H319
Potassium Chloride	(CAS No) 7447-40-7		Not classified
Sodium chloride	(CAS No) 7647-14-5	4-6	Not classified
Magnesium Chloride	(CAS No) 7786-30-3	3-5	Not classified

Full text of H-phrases: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation: When symptoms occur: go into open air and ventilate suspected area.

First-aid measures after skin contact: Remove contaminated clothing. Drench affected area with water for at least 15 minutes.

First-aid measures after eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical advice if necessary.

First-aid measures after ingestion: Rinse mouth. Do NOT induce vomiting. Obtain medical advice if necessary.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries: Eye irritation.

Symptoms/injuries after inhalation: None expected under normal conditions of use.

Symptoms/injuries after skin contact: May cause skin irritation after long exposures, especially on wet skin.

Symptoms/injuries after eye contact: Causes serious eye irritation.

Symptoms/injuries after ingestion: Ingestion may cause nausea, vomiting and diarrhea.

4.3. Indication of any immediate medical attention and special treatment needed

If medical advice is needed, have product container or label at hand.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media: Does not burn. Use extinguishing media appropriate for surrounding fire.

Unsuitable extinguishing media: None known.

5.2. Special hazards arising from the substance or mixture

Fire hazard: Not flammable.

Explosion hazard: Product is not explosive.

Reactivity: Hazardous reactions will not occur under normal conditions.

5.3. Advice for firefighters

Firefighting instructions: Exercise caution when fighting any chemical fire.

Protection during firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures: Handle in accordance with good industrial hygiene and safety practice.

6.1.1. For non-emergency personnel

Protective equipment: Use appropriate personal protection equipment (PPE).

Emergency procedures: Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment: Equip cleanup crew with proper protection. Use appropriate personal protection equipment (PPE).

Emergency procedures: Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters.

6.3. Methods and material for containment and cleaning up

For containment: Absorb and/or contain spill with inert material, then place in suitable container.

Methods for cleaning up: Clear up spills immediately and dispose of waste safely.

6.4. Reference to other sections

See heading 8, Exposure Controls and Personal Protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Hygiene measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Store in a dry, cool and well-ventilated place. Keep container closed when not in use.

Incompatible products: Strong acids. Strong bases. Strong oxidizers.

7.3. Specific end use(s)

Dust control and ice control on roadways, road stabilization.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No Occupational Exposure Limits (OELs) have been established for this product or its chemical components.

8.2. Exposure controls

Appropriate engineering controls: Ensure exposure is below occupational exposure limits (where available). Ensure all national/local regulations are observed.

Personal protective equipment: Protective goggles. Gloves.



Hand protection:

Wear chemically resistant protective gloves.

Eye protection:

Chemical goggles or safety glasses.

Respiratory protection:

If exposure limits are exceeded or irritation is experienced, NIOSH approved respiratory protection should be worn.

Other information:

When using, do not eat, drink or smoke.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: Liquid

Odor: No data available

Color: Clear to straw yellow

pH: 5

Relative evaporation rate (butyl acetate=1): No data available

Melting point: No data available

Freezing point: -20°F

Boiling point: 107 °C (224.6°F)

Flash Point: No data available

Auto-ignition temperature: No data available

Decomposition Temperature: No data available

Flammability (solid, gas): No data available

Vapor pressure: 17mmHg@25°C

Relative vapor density at 20 °C: No data available

Relative density: 1.215 - 1.25 (@25°C)

Solubility: Fully miscible.

Log Pow: No data available

Log Kow: No data available

Viscosity, kinematic: No data available

Viscosity, dynamic: No data available

Explosive properties: No data available

Oxidizing properties: No data available

Explosive limits: Not applicable

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

Reactivity Hazardous reactions will not occur under normal conditions. Hygroscopic substance.

Chemical Stability Product is stable under recommended storage and handling conditions.

Possibility Of Hazardous Reactions None at normal use.

Conditions To Avoid Direct sunlight. Extremely high or low temperatures.

Incompatible Materials Strong acids. Strong bases. Strong oxidizers. Calcium Chloride will corrode most metals exposed to air: attack aluminum (and its alloys) and yellow brass: react with sulfuric acid to form hydrogen chloride which is corrosive, irritating, and reactive: give an exothermic reaction with water-reactive materials such as sodium: result in a runaway polymerization reaction with methyl vinyl ether: and, in solution form, react with zinc (galvanizing) to yield hydrogen gas which is explosive. Hazardous Decomposition Products Carbon oxides (CO, CO₂). Upon heating, toxic fumes are formed. (chlorine)

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity: Not classified

Calcium chloride (10043-52-4)	
LD50 oral rat	1000 mg/kg
LD50 dermal rat	2630 mg/kg
Magnesium chloride (7786-30-3)	
LD50 oral rat	2800 mg/kg
Sodium chloride (7647-14-5)	
LD50 oral rat	3 g/kg
LD50 dermal rabbit	> 10 g/kg
LC50 inhalation rat (mg/l)	> 42 g/m ³ (Exposure time: 1 h)
Potassium chloride (7447-40-7)	
LD50 oral rat	2600 mg/kg

Skin corrosion/irritation: Not classified

Serious eye damage/irritation: Causes serious eye irritation.

Respiratory or skin sensitization: Not classified

Germ cell mutagenicity: Not classified

Carcinogenicity: Not classified

Reproductive toxicity: Not classified

Specific target organ toxicity (single exposure): Not classified

Specific target organ toxicity (repeated exposure): Not classified

Aspiration hazard: Not classified

Symptoms/injuries after inhalation: None expected under normal conditions of use.

Symptoms/injuries after skin contact: May cause skin irritation after long exposures, especially on wet skin.

Symptoms/injuries after eye contact: Causes serious eye irritation.

Symptoms/injuries after ingestion: Ingestion may cause nausea, vomiting and diarrhea.

SECTION 12: Ecological information

12.1. Toxicity

Calcium chloride (10043-52-4)	
LC50 fish 1	10650 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus)
EC50 Daphnia 1	52 mg/l (Exposure time: 48 h - Species: Daphnia magna)
Magnesium chloride (7786-30-3)	
LC50 fish 1	4210 mg/l (Exposure time: 96 h - Species: Gambusia affinis [static])
EC50 Daphnia 1	1400 mg/l (Exposure time: 24 h - Species: Daphnia magna)
EC50 other aquatic organisms 1	2200 mg/l (Exposure time: 72 h - Species: Desmodesmus subspicatus)
LC50 fish 2	1970 - 3880 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 Daphnia 2	140 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
Sodium chloride (7647-14-5)	
LC50 fish 1	5560 (5560 - 6080) mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [flow-through])
EC50 Daphnia 1	1000 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 fish 2	12946 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])
EC50 Daphnia 2	340.7 (340.7 - 469.2) mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])

12.2. Persistence and degradability

Mineral Well Brine	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

Mineral Well Brine	
Bioaccumulative potential	Not established.
Calcium chloride (10043-52-4)	
BCF fish 1	(no bioaccumulation)
Sodium chloride (7647-14-5)	
BCF fish 1	(no bioaccumulation)

12.4. Mobility in soil: No additional information available

12.5. Other adverse effects

Other information: Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations: Dispose of waste material in accordance with all local, regional, national, and international regulations.

SECTION 14: Transport information

In accordance with ICAO/IATA/DOT/TDG

14.1. UN number Not regulated for transport.

14.2. UN proper shipping name No data available

14.3. Additional information

Other information: No supplementary information available.

Overland transport Not regulated for transport.

Transport by sea Not regulated for transport.

Air transport Not regulated for transport.

SECTION 15: Regulatory information

15.1. US Federal regulations

Calcium chloride (10043-52-4)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Magnesium chloride (7786-30-3)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Sodium chloride (7647-14-5)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Water (7732-18-5)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

15.3. US State regulations

Calcium chloride (10043-52-4)	
U.S. - Texas - Effects Screening Levels - Long Term	
U.S. - Texas - Effects Screening Levels - Short Term	
Magnesium chloride (7786-30-3)	
U.S. - Texas - Effects Screening Levels - Long Term	
U.S. - Texas - Effects Screening Levels - Short Term	
Sodium chloride (7647-14-5)	
U.S. - Texas - Effects Screening Levels - Long Term	
U.S. - Texas - Effects Screening Levels - Short Term	

SECTION 16: Other information

Other information: This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:

Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
H302	Harmful if swallowed
H319	Causes serious eye irritation

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product. SDS US (GHS HazCom) - US



SAFETY DATA SHEET

1. Identification

Product identifier	12B103 Corn Condensed Distillers Solubles		
Other means of identification	Not available.		
Recommended use	Not available.		
Recommended restrictions	None known.		
Manufacturer/Importer/Supplier/Distributor information			
Manufacturer			
Company name	Grain Processing Corporation		
Address	P.O. Box 349 1600 Oregon Street Muscatine, Iowa 52761 USA		
Telephone	For Other Information, call: (563) 264-4265 (M-F 8am-5pm) 24-hour Assistance: (563) 264-4304		
Website	www.grainprocessing.com		
E-mail	Not available.		
Emergency phone number	24-hour CHEMTREC US	1-800-424-9300	
	24-hour CHEMTREC International	1-703-527-3887	

2. Hazard(s) identification

Physical hazards	Not classified.
Health hazards	Not classified.
Environmental hazards	Not classified.
OSHA defined hazards	Not classified.
Label elements	
Hazard symbol	None.
Signal word	None.
Hazard statement	The substance does not meet the criteria for classification.
Prevention	Observe good industrial hygiene practices.
Response	Wash hands after handling.
Storage	Store away from incompatible materials.
Disposal	Dispose of waste and residues in accordance with local authority requirements.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	Not applicable.

3. Composition/information on ingredients

Substances

Chemical name	Common name and synonyms	CAS number	%
Corn Condensed Distillers Solubles		1004791-87-0	~42%
Water		7732-18-5	~58%

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.
Skin contact	Rinse skin with water/shower. Get medical attention if irritation develops and persists.
Eye contact	Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. If ingestion of a large amount does occur, call a poison control center immediately.
Most important symptoms/effects, acute and delayed	Direct contact with eyes may cause temporary irritation.

Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	If you feel unwell, seek medical advice (show the label where possible).

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire-fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Move containers from fire area if you can do so without risk.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	<p>Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. For waste disposal, see section 13 of the SDS. Following product recovery, flush area with water.</p> <p>Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.</p> <p>Never return spills to original containers for re-use.</p>
Environmental precautions	Prevent further leakage or spillage if safe to do so.

7. Handling and storage

Precautions for safe handling	Use care in handling/storage.
Conditions for safe storage, including any incompatibilities	Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits	No exposure limits noted for ingredient(s).
Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Not normally needed.
Hand protection	Not normally needed.
Other	Wear suitable protective clothing.
Respiratory protection	No personal respiratory protective equipment normally required.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	Syrup
Physical state	Liquid.
Form	Liquid. Syrup
Color	Brown, hazy syrup
Odor	Slight Cereal Note
Odor threshold	Not available.

pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	< 248 °F (< 120 °C)
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Very Soluble
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Specific gravity	> 1

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents. and Alkalies.
Hazardous decomposition products	Carbon oxides.

11. Toxicological information

Information on likely routes of exposure

Ingestion	Expected to be a low ingestion hazard.
Inhalation	No adverse effects due to inhalation are expected. Skin
contact	No adverse effects due to skin contact are expected.
Eye contact	Direct contact with eyes may cause temporary irritation.

Symptoms related to the physical, chemical and toxicological characteristics Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity	Not available.
Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

Respiratory sensitization	Not available.
Skin sensitization	This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not available.

12. Ecological information

Ecotoxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
Persistence and degradability	No data is available on the degradability of this product.
Bioaccumulative potential	No data available.
Mobility in soil	No data available.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT	Not regulated as dangerous goods.
IATA	Not regulated as dangerous goods.
IMDG	Not regulated as dangerous goods.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not available.

15. Regulatory information

US federal regulations

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories	Immediate Hazard - No Delayed Hazard - No Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No
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SARA 302 Extremely hazardous substance No

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)
Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.**US state regulations****US. Massachusetts RTK - Substance List**

Not regulated.

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision**Issue date** 04-28-2015**Version #** 01**Further information** HMIS® is a registered trade and service mark of the American Coatings Association**HMIS® ratings**
Health: 0
Flammability: 0
Physical hazard: 0**NFPA ratings**
Health: 0
Flammability: 0
Instability: 0**References**
ACGIH
EPA: AQUIRE database
NLM: Hazardous Substances Data Base
US. IARC Monographs on Occupational Exposures to Chemical Agents**Disclaimer**
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