MATERIAL SAFETY DATA SHEET  
Magna Melt Magnesium Chloride

1. Product and Company Identification

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Magna Melt</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS #</td>
<td>7791-18-6</td>
</tr>
<tr>
<td>Product use</td>
<td>Dust suppression, deicing, industrial and specialty uses.</td>
</tr>
<tr>
<td>Manufacturer</td>
<td>U.S. Salt</td>
</tr>
<tr>
<td></td>
<td>9661 Newton Ave. S.</td>
</tr>
<tr>
<td></td>
<td>Bloomington, MN 55431</td>
</tr>
<tr>
<td></td>
<td>952-516-7465</td>
</tr>
</tbody>
</table>

2. Hazards Identification

Emergency overview

CAUTION  
May cause eye and skin irritation.

Potential short term health effects

<table>
<thead>
<tr>
<th>Routes of exposure</th>
<th>Eye, Skin contact, Inhalation, Ingestion.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eyes</td>
<td>May cause irritation.</td>
</tr>
<tr>
<td>Skin</td>
<td>May cause irritation.</td>
</tr>
<tr>
<td>Inhalation</td>
<td>Dusts of this product may cause irritation of the nose, throat, and respiratory tract.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>May cause stomach distress, nausea or vomiting.</td>
</tr>
</tbody>
</table>

Target organs

Eyes. Skin. Respiratory system.

Chronic effects

Prolonged or repeated exposure can cause drying, defatting and dermatitis.

Signs and symptoms

Symptoms may include redness, edema, drying, defatting and cracking of the skin.  
Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

OSHA Regulatory Status

This product is NOT known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Potential environmental effects

See section 12.

3. Composition / Information on Ingredients

<table>
<thead>
<tr>
<th>Ingredient(s)</th>
<th>CAS #</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnesium chloride, hexahydrate</td>
<td>7791-18-6</td>
<td>60 - 100</td>
</tr>
</tbody>
</table>

4. First Aid Measures

First aid procedures

Eye contact

Flush with cool water. Remove contact lenses, if applicable, and continue flushing. Obtain medical attention if irritation persists.

Skin contact

Brush away excess of dry material. Flush with cool water. Wash with soap and water. Obtain medical attention if irritation persists.

Inhalation

If symptoms develop move victim to fresh air. If symptoms persist, obtain medical attention.

Ingestion

Do not induce vomiting. Never give anything by mouth if victim is unconscious, or is convulsing. Obtain medical attention.

Notes to physician

Symptoms may be delayed.

General advice

If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Avoid contact with eyes and skin. Keep out of reach of children.
5. Fire Fighting Measures

Flammable properties

Extinguishing media

Suitable extinguishing media

Treat for surrounding material.

Unsuitable extinguishing media

Not available

Protection of firefighters

Specific hazards arising from the chemical

Not available

Protective equipment for firefighters

Firefighters should wear full protective clothing including self contained breathing apparatus.

Hazardous combustion products

May include and are not limited to: Hydrogen chloride. Chlorine gas. Oxides of magnesium.

Explosion data

Sensitivity to mechanical impact

Not available

Sensitivity to static discharge

Not available

6. Accidental Release Measures

Personal precautions

Keep unnecessary personnel away. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak.

Environmental precautions

Prevent entry into waterways, sewers, basements or confined areas.

Methods for containment

Stop the flow of material, if this is without risk.

Methods for cleaning up

Before attempting clean up, refer to hazard data given above. Use broom or dry vacuum to collect material for proper disposal without raising dust. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

7. Handling and Storage

Handling

Use good industrial hygiene practices in handling this material. Avoid breathing dusts from this material.

Storage

Keep out of reach of children. Keep containers tightly closed in a cool, well-ventilated place.

8. Exposure Controls / Personal Protection

Exposure limits

<table>
<thead>
<tr>
<th>Ingredient(s)</th>
<th>Exposure Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnesium chloride, hexahydrate</td>
<td>ACGIH-TLV Not established OSHA-PEL Not established</td>
</tr>
</tbody>
</table>

Engineering controls

TWA PEL: No specific limits have been established for magnesium chloride (a soluble substance). As a guideline, OSHA (United States) has established the following limits which are generally recognized for inert or nuisance dust. Particulates Not Otherwise Regulated (PNOR): 5mg/cu.m. Respirable Dust 8-Hour TWA PEL, 15mg/cu.m. Total Dust 8-Hour TWA PEL.

TWA TLV: No specific limits have been established for magnesium chloride (a soluble substance). As a guideline, ACGIH (United States) has established the following limits which are generally recognized for inert or nuisance dust. Particulates (insolubles) Not Otherwise Classified (PNOC): 10mg/cu.m. Inhalable Particulate 8-Hours TWA TLV, 3mg/cu.m. Respirable Particulate TWA TLV.

Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. If user operations generate dust, fumes, or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
Personal protective equipment

**Eye / face protection**
Safety glasses

**Hand protection**
Rubber gloves. Confirm with a reputable supplier first.

**Skin and body protection**
As required by employer code.

**Respiratory protection**
Where exposure guideline levels may be exceeded, use an approved NIOSH respirator or NIOSH-approved filtering facepiece.

**General hygiene considerations**
Handle in accordance with good industrial hygiene and safety practice. When using do not eat or drink. Wash hands before breaks and immediately after handling the product.

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### 9. Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Crystalline</td>
</tr>
<tr>
<td>Color</td>
<td>White</td>
</tr>
<tr>
<td>Form</td>
<td>Crystalline</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>Not available</td>
</tr>
<tr>
<td>Physical state</td>
<td>Solid</td>
</tr>
<tr>
<td>pH</td>
<td>9 - 10 Basic</td>
</tr>
<tr>
<td>Melting point</td>
<td>Not available</td>
</tr>
<tr>
<td>Freezing point</td>
<td>Not available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Pour point</td>
<td>Not available</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not available</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>Flammability limits in air, lower, % by volume</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flammability limits in air, upper, % by volume</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>0.09 KPa (0.7 MmHg) @ 68°C</td>
</tr>
<tr>
<td>Vapor density</td>
<td>Not available</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>1.57 (H2O = 1)</td>
</tr>
<tr>
<td>Octanol/water coefficient</td>
<td>Not available</td>
</tr>
<tr>
<td>Solubility (H2O)</td>
<td>Soluble</td>
</tr>
<tr>
<td>Percent volatile</td>
<td>Not available</td>
</tr>
<tr>
<td>Molecular weight</td>
<td>203.3000 g/mole</td>
</tr>
<tr>
<td>Molecular formula</td>
<td>MgCl2.6H2O</td>
</tr>
</tbody>
</table>

### 10. Stability and Reactivity

**Reactivity**
Reactive with oxidizing agents, acids, metals in presence of moisture.

**Possibility of hazardous reactions**
Hazardous polymerization does not occur.

**Chemical stability**
Stable under recommended storage conditions.

**Conditions to avoid**
Do not mix with incompatible materials.

**Incompatible materials**
Acids. Oxidizers.

**Hazardous decomposition products**
May include and are not limited to: Hydrogen chloride. Chlorine gas. Oxides of magnesium.

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### 11. Toxicological Information

**Component analysis - LC50**

<table>
<thead>
<tr>
<th>Ingredient(s)</th>
<th>LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnesium chloride, hexahydrate</td>
<td>Not available</td>
</tr>
</tbody>
</table>
Component analysis - Oral LD50

Ingredient(s)                         LD50
Magnesium chloride, hexahydrate     8100 mg/kg rat

Effects of acute exposure

Eye                                   May cause irritation.
Skin                                  May cause irritation.
Inhalation                            Dusts of this product may cause irritation of the nose, throat, and respiratory tract.
Ingestion                             May cause stomach distress, nausea or vomiting.
Sensitization                        Not classified or listed by IARC, NTP, OSHA and ACGIH.
Chronic effects                      Not classified or listed by IARC, NTP, OSHA and ACGIH.
Carcinogenicity                      Not classified or listed by IARC, NTP, OSHA and ACGIH.
Mutagenicity                         Not classified or listed by IARC, NTP, OSHA and ACGIH.
Reproductive effects                 Not classified or listed by IARC, NTP, OSHA and ACGIH.
Teratogenicity                       Not classified or listed by IARC, NTP, OSHA and ACGIH.
Name of Toxicologically Synergistic Products Not available

12. Ecological Information

Ecotoxicity                            May be harmful to freshwater aquatic species and to plants that are not saline tolerant.
Persistence / degradability            Not available
Bioaccumulation / accumulation         Not available
Mobility in environmental media        Not available
Environmental effects                  Not available
Aquatic toxicity                       Not available
Partition coefficient                  Not available
Chemical fate information              Not available
Other adverse effects                  Not available

13. Disposal Considerations

Disposal instructions                   Waste must be disposed of in accordance with federal, state/provincial and local environmental control regulations.
Waste from residues / unused products  Not available
Contaminated packaging                  Not available

14. Transport Information

U.S. Department of Transportation (DOT) Not regulated as dangerous goods.
Transportation of Dangerous Goods (TDG - Canada) Not regulated as dangerous goods.

15. Regulatory Information

Canadian federal regulations           This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.
WHMIS status                           Not Controlled
Occupational Safety and Health Administration (OSHA)
29 CFR 1910.1200 hazardous chemical     No
US Federal regulations                 This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
CERCLA (Superfund) reportable quantity None
### Hazard categories

<table>
<thead>
<tr>
<th>Category</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immediate Hazard</td>
<td>No</td>
</tr>
<tr>
<td>Delayed Hazard</td>
<td>No</td>
</tr>
<tr>
<td>Fire Hazard</td>
<td>No</td>
</tr>
<tr>
<td>Pressure Hazard</td>
<td>No</td>
</tr>
<tr>
<td>Reactivity Hazard</td>
<td>No</td>
</tr>
</tbody>
</table>

### Section 302 extremely hazardous substance
No

### Section 311 hazardous chemical
No

### Clean Air Act (CAA)
Not available

### Clean Water Act (CWA)
Not available

### State regulations
This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

### Inventory name

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>Domestic Substances List (DSL)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Non-Domestic Substances List (NDSL)</td>
<td>No</td>
</tr>
<tr>
<td>United States &amp; Puerto Rico</td>
<td>Toxic Substances Control Act (TSCA) Inventory</td>
<td>Yes</td>
</tr>
</tbody>
</table>

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

### 16. Other Information

**Legend**

<table>
<thead>
<tr>
<th>HMIS/NFPA</th>
<th>Health</th>
<th>Flammability</th>
<th>Physical Hazard</th>
<th>Personal Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severe</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Serious</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moderate</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Slight</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimal</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Information contained herein was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of the supplier, it is assumed that users of this material have been fully trained according to the requirements of all applicable legislation and regulatory instruments. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries or consequential damages which may result from the use of or reliance on any information contained in this document.

**Prepared by**
U.S. Salt

**Other information**
This MSDS conforms to the ANSI Z400.1/Z129.1-2010 Standard.