



MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

| | |
|---------------------|--|
| Product Name | Magnesium Chloride Hexahydrate |
| CAS # | 7791-18-6 |
| Product use | Dust suppression, deicing, aqua-culture, general industrial and specialty uses. |
| Manufacturer | Great Salt Lake Minerals Corporation A Compass Minerals Company 9900 West 109th Street, Suite 100 Overland Park, KS 66210 US Phone: 913-344-9200 |
| CHEMTREC | 1-800-424-9300 |
| CANUTEC | 1-613-996-6666 |

2. Hazards Identification

| | |
|--|---|
| Emergency overview | CAUTION May cause eye and skin irritation. |
| Potential short term health effects | |
| Routes of exposure | Eye, Skin contact, Inhalation, Ingestion. |
| Eyes | 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. |
| 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

| Ingredient(s) | CAS # | Percent |
|---------------------------------|--------------|----------------|
| Magnesium chloride, hexahydrate | 7791-18-6 | 60 - 100 |

4. First Aid Measures

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| 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

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| Flammable properties | Not flammable by WHMIS/OSHA criteria. |
| 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

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| 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

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|---------------------------------|--|
| Exposure limits | |
| Ingredient(s) | Exposure Limits |
| Magnesium chloride, hexahydrate | ACGIH-TLV Not established OSHA-PEL Not established |
| Engineering controls | <p>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.</p> <p>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.</p> <p>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.</p> |

Personal protective equipment

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|---------------------------------------|---|
| 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. |

9. Physical and Chemical Properties

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|---|--------------------------------------|
| Appearance | Crystalline. |
| Color | White |
| Form | Crystalline. |
| Odor | Odorless |
| Odor threshold | Not available |
| Physical state | Solid |
| pH | 9 - 10 Basic |
| Melting point | Not available |
| Freezing point | Not available |
| Boiling point | Not applicable |
| Pour point | Not available |
| Evaporation rate | Not available |
| Flash point | Not available |
| Auto-ignition temperature | Not available |
| Flammability limits in air, lower, % by volume | Not applicable |
| Flammability limits in air, upper, % by volume | Not applicable |
| Vapor pressure | 0.09 KPa (0.7 MmHg) @ 68°C |
| Vapor density | Not available |
| Specific gravity | 1.57 (H ₂ O = 1) |
| Octanol/water coefficient | Not available |
| Solubility (H₂O) | Soluble |
| Percent volatile | Not available |
| Molecular weight | 203.3000 g/mole |
| Molecular formula | MgCl ₂ ·6H ₂ O |

10. Stability and Reactivity

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| 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. |

11. Toxicological Information**Component analysis - LC50**

| Ingredient(s) | LC50 |
|---------------------------------|---------------|
| Magnesium chloride, hexahydrate | Not available |

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

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 |
| 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

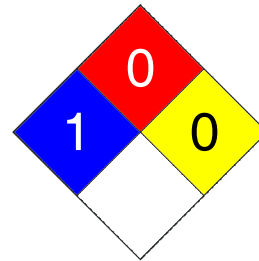
| Country(s) or region | Inventory name | On inventory (yes/no)* |
|-----------------------------|---|------------------------|
| Canada | Domestic Substances List (DSL) | Yes |
| Canada | Non-Domestic Substances List (NDSL) | No |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | Yes |

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

16. Other Information

| LEGEND HMIS/NFPA | |
|---------------------|---|
| Severe | 4 |
| Serious | 3 |
| Moderate | 2 |
| Slight | 1 |
| Minimal | 0 |

| | |
|---------------------|-----|
| Health | / 1 |
| Flammability | 0 |
| Physical Hazard | 0 |
| Personal Protection | E |



Disclaimer

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.

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Expiry date

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Prepared by

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Other information

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