

Material Safety Data Sheet

Material Name: MAGNESIUM CHLORIDE HEXAHYDRATE, 64%

MSDS ID: MRD-108

*** Section 1 - Chemical Product and Company Identification ***

Chemical Name: Inorganic Chloride Solution

Product Use: Various Industrial Applications

Manufacturer Information

Mineral Research and Development
5910 Pharr Mill Road
Harrisburg, NC 28075

Phone: 704-454-4811
Fax: 704-454-7390
Emergency # 1-800-424-9300

General Comments

NOTE: Emergency telephone numbers are to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure, or accident involving chemicals. All non-emergency questions should be directed to customer service.

*** Section 2 - Hazards Identification ***

Emergency Overview

This product is a clear, colorless liquid. This product is slightly irritating to the eyes, skin and other contaminated tissue.

Potential Health Effects: Eyes

Contact with the eyes can cause slight irritation. Symptoms may include discomfort or pain and redness.

Potential Health Effects: Skin

This product is slightly irritating to the skin and other contaminated tissue. Depending on the duration of contact, symptoms will include reddening, discomfort, irritation, and possible tissue damage. Prolonged and/or repeated skin contact with this product may cause irritation/dermatitis. No components in this product are known to be absorbed through the skin.

Potential Health Effects: Ingestion

If swallowed, this product can immediately cause slight irritation of the mouth, throat and digestive system. Symptoms of overexposure may include nausea, abdominal pain, vomiting, and diarrhea. Ingestion of high levels may produce kidney damage.

Potential Health Effects: Inhalation

Inhalation of vapors, mists, or sprays of this product may slightly irritate the nose, throat, and lungs. Symptoms may include: sneezing, coughing and difficulty breathing. Most symptoms are alleviated, when the overexposure ends.

HMIS Ratings: Health: 1 Fire: 0 Physical Hazard: 0 Pers. Prot.: Safety glasses, impervious gloves, and protective clothing

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard

*** Section 3 - Composition / Information on Ingredients ***

CAS #	Component	Percent
7732-18-5	Water	36
7791-18-6	Magnesium chloride, hexahydrate	64

Component Information/Information on Non-Hazardous Components

This product is not considered hazardous under 29 CFR 1910.1200 (Hazard Communication). This product is not considered a controlled product under the criteria specified in the Canadian Workplace Hazardous Materials Information System (WHMIS).

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*** Section 4 - First Aid Measures ***

First Aid: Eyes

In case of contact, immediately flush eyes with large amounts of water, continuing to flush for 15 minutes. Have contaminated individual "roll" their eyes. If irritation persists get medical attention.

First Aid: Skin

Immediately take off all contaminated clothing. For skin contact, flush with large amounts of water for 15 minutes. If irritation persists, get medical attention.

First Aid: Ingestion

Do not induce vomiting. Call a physician immediately.

First Aid: Inhalation

Move person to non-contaminated air. Call a physician if symptoms develop or persist.

First Aid: Notes to Physician

Provide general supportive measures and treat symptomatically.

*** Section 5 - Fire Fighting Measures ***

General Fire Hazards

See Section 9 for Flammability Properties.

This product is an aqueous mixture, which will not burn.

Hazardous Combustion Products

Decomposition of this product may produce acrid vapors, magnesium compounds, and chloride compounds.

Extinguishing Media

Dry chemical, foam, carbon dioxide, water fog.

Fire Fighting Equipment/Instructions

Fire fighters should wear full-face, self contained breathing apparatus and impervious protective clothing. Fire fighters should avoid inhaling any combustion products.

NFPA Ratings: Health: 1 Fire: 0 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

*** Section 6 - Accidental Release Measures ***

Containment Procedures

Stop the flow of material, if this is without risk. Wear appropriate protective equipment and clothing during clean-up. Contain the discharged material and dike the spilled material where possible. Prevent entry into sewers, drains, underground or confined spaces, water intakes and waterways.

Clean-Up Procedures

Absorb spill with inert material. Shovel material into appropriate container for disposal.

Evacuation Procedures

Isolate area. Keep unnecessary personnel away.

Special Procedures

Follow all Local, State, Federal and Provincial regulations for disposal.

*** Section 7 - Handling and Storage ***

Handling Procedures

Do not get this material in your eyes, on your skin, or on your clothing. Avoid breathing vapors or mists of this product. Wash thoroughly after handling. Do not eat, drink or use tobacco products when handling this material. Use this product with adequate ventilation. Launder work clothes frequently. See Section 8 for appropriate protective clothing, equipment and air monitoring procedures.

Open containers slowly, on a stable surface. Containers of this product must be properly labeled. Empty containers may contain residual liquid or vapors. Empty containers should be handled with care.

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Storage Procedures

Store containers in a cool, dry location, away from direct sunlight, sources of intense heat, or where freezing is possible. Store away from incompatible materials (see SECTION 10: Stability and Reactivity). Material should be stored in secondary containers, or in a diked area, as appropriate. Keep container tightly closed when not in use. Inspect all incoming containers before storage, to ensure containers are properly labeled and not damaged.

*** Section 8 - Exposure Controls / Personal Protection ***

A: Component Exposure Limits

ACGIH, OSHA, NIOSH or the provinces of Canada have not developed exposure limits for any of this product's components.

Engineering Controls

Provide adequate local exhaust ventilation to maintain worker exposure below exposure limits.

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment: Eyes/Face

Wear safety glasses; chemical goggles (if splashing is possible).

Personal Protective Equipment: Skin

Use impervious gloves. Use of an impervious apron is recommended.

Personal Protective Equipment: Respiratory

Respiratory protection; not normally required for ambient air concentrations not exceeding the Occupational Exposure Limit. When respiratory protection is required, wear a NIOSH/MSHA approved self-contained breathing apparatus with full facepiece operated in a positive-pressure mode.

Personal Protective Equipment: General

Eyewash fountains and emergency showers are required.

*** Section 9 - Physical & Chemical Properties ***

Appearance:	Clear, colorless	Odor:	Odorless
Physical State:	Liquid	pH:	~5.4
Vapor Pressure:	Not applicable	Vapor Density:	Not applicable
Boiling Point:	~100°C (212°F)	Melting Point:	Not applicable
Solubility (H2O):	Soluble	Specific Gravity:	1.29 @ 15°C (59°F), water=1
Flash Point:	Not Flammable	Flash Point Method:	Not Applicable
Auto Ignition:	Not Available	LFL:	Not Applicable
UFL:	Not Applicable	Freezing Point:	-20°C (-4°F)

*** Section 10 - Chemical Stability & Reactivity Information ***

Chemical Stability

Stable under normal conditions.

Chemical Stability: Conditions to Avoid

Avoid exposure to extreme temperatures and contact with incompatible chemicals.

Incompatibility

This product may react with strong acids or oxidizing agents.

Hazardous Decomposition

Acrid vapors, magnesium compounds, chloride compounds

Possibility of Hazardous Reactions

Will not occur.

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*** Section 11 - Toxicological Information ***

Acute Dose Effects

A: General Product Information

This product is slightly irritating to contaminated tissue.

B: Component Analysis - LD50/LC50

Water (7732-18-5)

Oral LD50 Rat: >90 mL/kg

Magnesium chloride, hexahydrate (7791-18-6)

Oral LD50 Rat: 8100 mg/kg

Carcinogenicity

A: General Product Information

No carcinogenicity data available for this product.

B: Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, OSHA, NIOSH, or NTP.

Mutagenicity

This product is not reported to produce mutagenic effects in humans.

Teratogenicity

This product is not reported to cause teratogenic effects in humans.

*** Section 12 - Ecological Information ***

Ecotoxicity

A: General Product Information

This product may be harmful to terrestrial and aquatic plant or animal life, especially if released in large amounts.

B: Component Analysis - Ecotoxicity - Aquatic Toxicity

No ecotoxicity data are available for this product's components.

Environmental Fate

No data available for this product.

*** Section 13 - Disposal Considerations ***

US EPA Waste Number & Descriptions

A: General Product Information

Wastes must be tested using methods described in 40 CFR Part 261 to determine if it meets applicable definitions of hazardous wastes.

B: Component Waste Numbers

No EPA Waste Numbers are applicable for this product's components.

Disposal Instructions

Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations.

See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations.

*** Section 14 - Transportation Information ***

US DOT Information

Shipping Name: This product is not regulated as a hazardous material for transportation.

Canada Transportation of Dangerous Goods Information

Shipping Name: This product is not regulated as a hazardous material for transportation.

*** Section 15 - Regulatory Information ***

US Federal Regulations

A: General Product Information

All components are on the U.S. EPA TSCA Inventory List.

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B: Component Analysis

None of this product's components are listed under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), or CERCLA (40 CFR 302.4).

SARA 311/312: Acute Health Yes Chronic Health No Fire No Pressure No Reactive No

State Regulations

A: General Product Information

Other state regulations may apply. Check individual state requirements.

B: Component Analysis - State

None of this product's components are listed on the state lists from CA, MA, MN, NJ, PA, or RI.

Canadian WHMIS Information

A: General Product Information

None identified.

B: Component Analysis - WHMIS IDL

No components are listed in the WHMIS IDL.

Additional Regulatory Information

A: General Product Information

Magnesium Chloride Hexahydrate is a hydrate of an anhydrous form which is on the TSCA Inventory and the DSL/NDSL Inventory.

B: Component Analysis - Inventory

Component	CAS #	TSCA	DSL	NDSL	EINECS	AUST	MITI	PHIL	KOREA	ELINCS	CHINA
Water	7732-18-5	Yes	Yes	No	Yes	Yes	Yes	No	Yes	No	Yes
Magnesium chloride, hexahydrate	7791-18-6	No	No	No	No	Yes	Yes	Yes	No	No	Yes

*** Section 16 - Other Information ***

Other Information

Disclaimer: Supplier gives no warranty of merchantability or of fitness for a particular purpose. Any product purchased is sold on the assumption the purchaser will make his own tests to determine the quality and suitability of the product. Supplier expressly disclaims any and all liability for incidental and/or consequential property damage arising out of the use of this product. No information provided shall be deemed to be a recommendation to use any product in conflict with any existing patent rights. Read the Material Safety Data Sheet before handling product.

Key/Legend

ACGIH = American Conference of Governmental Industrial Hygienists. AICS = Australian Inventory of Chemical Substances. CAS = Chemical Abstract Service. CERCLA = Comprehensive Environmental Response, Compensation and Liability Act. CFR = Code of Federal Regulations. CHEMTREC = Chemical Transportation Emergency Center. DSL = Canadian Domestic Substance List. EINECS = European Inventory of New and Existing Chemical Substances. ELINCS = European List of Notified Chemical Substances. EPA = Environmental Protection Agency. FIFRA = Federal Insecticide, Fungicide, and Rodenticide Act; HEPA = High Efficiency Particulate Air. HMIS = Hazardous Material Information System. IARC = International Agency for Research on Cancer. IDLH = Immediately Dangerous to Life and Health. MITI = Japanese Ministry of International Trade and Industry. NDSL = Canadian Non-Domestic Substance List. NFPA = National Fire Protection Association. NIOSH = National Institute of Occupational Safety and Health. NJTSR = New Jersey Trade Secret Registry. NTP = National Toxicology Program. OSHA = Occupational Safety and Health Administration. NA = Not available or Not Applicable. SARA = Superfund Amendments and Reauthorization Act. TDG = Transportation of Dangerous Goods. TLV = Threshold Limit Value. TSCA = Toxic Substances Control Act. WHMIS = Workplace Hazardous Materials Information System.

End of Sheet MRD-108