ESSENTIAL CHEMISTRY. INNOVATIVE SOLUTIONS.

SAFETY DATA SHEET

Print Date: September 16, 2019

Section 1: Product & Company Information

Product Identifier: **Magnesium Chloride Hexahydrate**

Other Means of Identification
Product Number: 164000

Recommended Use and Restrictions on Use
Recommended Use: For commercial Use.
Restrictions on Use: Not to be used as a pesticide.

Manufacturer / Importer / Supplier / Distributor Information

Company Name: CORECHEM Inc.
Address: 4320 Greenway Drive
Knoxville, TN 37918
USA

Information Telephone Number: 1-865-524-4239
Fax Number: 1-865-524-3375
Website: www.corecheminc.com
Contact Person: Regulatory Manager
E-mail: regulatory@corecheminc.com

Emergency Phone Number: Chemtrec® 1-800-424-9300 / Outside USA 1-703-527-3887 *(monitored 24 hours/day)*

Section 2: Hazards Identification

GHS Hazard Classification(s)
Not classified as hazardous according to OSHA Hazard Communication Standard 29 CFR 1910.1200 (HazCom 2012).

Physical Hazard(s)
Not classified.

Health Hazard(s)
Not classified.

Environmental Hazard(s)
Not classified.

Label Elements

Signal Word
No signal word

Hazard Symbol(s)
No symbol

Hazard Statement(s)
Not applicable.

Precautionary Statements

General
Not applicable.

Prevention
Not applicable.

Response
Not applicable.

Storage
Not applicable.

Disposal
Not applicable.

Hazard(s) not otherwise classified (HNOC)
None known.

Section 3: Composition/Information on Ingredients

Substance

Chemical Identity [2]	Common Name/Synonym(s)	CAS # [3]	Weight %	Impurity or Stabilizing Additive
Magnesium Chloride hexahydrate	Magnesium dichloride Hexahydrate	7791-18-6	>98-100	None

1. Information regarding the composition and the percent ranges of the mixtures ingredients are not presented as it Confidential Business Information (CBI). Where a medical emergency exists (as determined by medical professional), timely disclosure of CBI is assured. The information omitted pertains to only the names of the substances and the concentration in the mixture (product) and can only be requested by a doctor/physician or Local/State/Provincial or Federal Authority.
2. Non-hazardous ingredients are not presented as to protect the proprietary formula of the product.
3. "—"Indicates ingredient is a mixture and contains multiple ingredients or may have no identifying CAS number.

Section 4: First-Aid Measures

General Information

Magnesium Chloride, hexahydrate is a deliquescent, white solid in prilled form. Dusts of this product may cause irritation to the eyes, skin, throat, and nose. Magnesium Chloride hexahydrate is not combustible. Use extinguishing media appropriate for the surrounding fire. Thermal decomposition of this product produces irritating vapors and toxic gasses (e.g. hydrogen chloride, chlorine) Emergency responders should wear proper personal protective equipment for the releases to which they are responding.

Inhalation

Remove source of contamination or move victim to fresh air. Apply artificial Respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper Respiratory medical device. Administer oxygen if breathing is difficult. Get immediate medical attention.

Skin Contact

Remove all contaminated clothing. For skin contact, wash thoroughly with soap and water for at least 20 minutes. Seek immediate medical attention if irritation develops or persists.

Eye Contact

In case of contact with eyes, rinse immediately with plenty of water for at least 20 minutes. Seek immediate medical attention if any adverse effects occur.

Ingestion

DO NOT INDUCE VOMITING, unless Directed by a medical personnel. Have a victim rinse mouth thoroughly with water, if conscious. Never give anything by mouth to a victim that is unconscious or having convulsions. Contact a physician or poison control center immediately.

Most important symptoms/effects, acute and delayed

Symptoms

Caution! May cause respiratory tract irritation. May cause eye and skin irritation. Avoid contact with eyes and skin. Avoid breathing dusts. Wash thoroughly after handling. Keep container tightly closed. Use with adequate ventilation. Exposure to particulates or solution of this product may cause irritation of the eyes with symptoms such as stinging, earing, redness and pain.

Indication of immediate medical attention and special treatment needed

Hazards

No data available.

Treatment

No data available.

Section 5: Fire-Fighting Measures

General Fire Hazards

Magnesium chloride hexahydrate is not combustible and does not contribute to the intensity of a fire; however, water should be used to fight fire involving this material in flooding quantities as reaction with water can produce enough heat to ignite other combustible materials. Closed containers exposed to heat may explode. When involved in a fire, this material may decompose and produce irritating vapors, acrid smoke and toxic gasses.

Suitable (and Unsuitable) Extinguishing Media

Suitable Extinguishing Media

Use methods for Surrounding fire. Water should be used in flooding Quantities.

Unsuitable Extinguishing Media

No data available.

Hazardous combustion Products

Chlorine and hydrogen chlorine

Special Protective Equipment and Precautions for Firefighters

Special Fire-Fighting Equipment Procedures

Firefighters should wear full protective clothing, including self-contained breathing apparatus. If possible control runoff from fire control or dilution water to prevent environmental contamination.

Special Protective Equipment for Fire-Fighters

As in any fire, wear self-contained breathing apparatus pressure-demand (OSHA/NIOSH approved or equivalent) and full protective gear.

Section 6: Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures

Use personal protective equipment. See Section 8 of the SDS for Personal Protective Equipment. Keep unauthorized personnel away. Ventilate closed spaces before entering them. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Evacuate area. Remove soiled clothing and launder before reuse. Avoid all skin contact with the spilled material. Have emergency equipment readily available.

Methods and Materials for Containment and Clean-Up

Stop the flow of the material, if this can be done without risk. Contain the discharged material. If sweeping of a contaminated area is necessary use a dust suppressant agent, which does not react with the product. Keep spilled material dry and away from moisture. Small releases can be cleaned-up in gloves, goggles and suitable body protection. In case of a large spill (in which excessive dusts can be generated) clear the effected area, protect people, and respond with trained personnel. Do not allow the spilled product to enter public drainage system or open water courses. Place all spill rinsate from contamination of storm drains, sewers, soil or groundwater.

Evacuation Procedures: Evacuate the area promptly and keep upwind of the spilled material. Isolate the spill area to prevent people from entering. In case of large spills follow all facility emergency response procedures.

Notification Procedures

Notify authorities if any exposure to the public or environment occurs or is likely to occur. Local authorities should be advised if significant spillages cannot be contained.

Environmental Precautions

Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

Section 7: Handling and Storage

Precautions for Safe Handling

All employees who handle this material should be trained to handle it safely. Do not breath dust. Avoid all contact with skin and eyes. Use this product only with adequate ventilation. Wash thoroughly after handling. Avoid contact with water or moisture.

Conditions for Safe Storage, including any Incompatibilities

Keep container tightly closed when not in use. Store containers in a cool, dry location away from water, direct sunlight, sources of intense heat, or where freezing is possible. Material should be stored in secondary containers or in a diked area, as appropriate. Store containers away from incompatible chemicals. Storage areas should be made of corrosion- and fire-resistant materials. Post warning and "NO SMOKING" signs in storage and use areas as appropriate. Use corrosion resistant structural materials, lighting, and ventilation systems I the storage area. Floors should be sealed to prevent absorption of this material. Inspect all incoming containers before storage, to ensure containers are properly labeled and not damaged. Have appropriate extinguishing equipment in the storage area, i.e. sprinkler system, portable fire extinguishers. Empty containers may contain residual particulates. Therefore, empty containers should be labeled with care. Do not cut, grind, weld, or drill near this container. Do not store this material in open or unlabeled containers. Limit quantity of material stored.

Section 8: Exposure Controls/Personal Protection

Control Parameters

Occupational Exposure Limits

The product does not contain any relevant quantities of hazardous materials with critical values that have to be monitored in the workplace.

Biological Limit Values

Chemical Identity	CAS #	Parameter	Value	Biological Specimen	Source
Magnesium Chloride Hexahydrate	7791-18-6	Inhalable fraction	10 mg/m^3		ACGIH – Biological Exposure Indices (BEI)
Magnesium Chloride Hexahydrate	7791-18-6	Respirable Fraction	3 mg/ m^3		ACGIH – Biological Exposure Indices (BEI)
Magnesium Chloride Hexahydrate	7791-18-6	Total Dust	15 mg/m^3		OSHA
Magnesium Chloride Hexahydrate	7791-18-6	Respirable Fraction	5 mg/m3		OSHA
Magnesium Chloride Hexahydrate	7791-18-6	Inhalable fraction	4 mg/m3		DFG MAKs
Magnesium Chloride Hexahydrate	7791-18-6	Respirable fraction	1.5 mg/m3		DFG MAKs

Appropriate Engineering Controls

Use mechanical ventilation such as dilution and local exhaust. Use a corrosion-resistant ventilation system and exhaust directly to the outside. Supply ample air replacement.

Individual protection measures, such as personal protective equipment (PPE)

General Information

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. Eye wash facilities and emergency shower must be available when handling this product. Have an eyewash fountain and safety shower available in the work area. Use good hygiene when handling this material, including changing and laundering work clothing after use.

Eye/Face Protection

Wear safety glasses with side shields (or goggles) and a face shield. Wear a full-face respirator, if needed.

Skin Protection

Hand Protection

Wear appropriate chemical resistant gloves.

Other

Wear appropriate chemical resistant clothing.

Respiratory Protection

No Specific Guidelines are available. If airborne concentrations are above the applicable exposure limits, use NIOSH-approved respiratory protection. An approved dust, and air-purifying respirator may be adequate. If respiratory protection is needed, use only protection authorized in the U.S. Federal OSHA Standard (29 CFR 1910.134), applicable U.S. State regulations Oxygen levels below 19.5% are considered IDLH by OSHA. In such atmospheres, use a full-facepiece pressure/demand SCBA or a full facepiece, supplied air respirator with auxiliary self-contained air supply is required under OSHA'S Respiratory Protection Standard (1910.134-1998)

Hygiene Measures

When using, do not eat, drink or smoke. 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. Discard contaminated footwear that cannot be cleaned. Wash hands before breaks and immediately after handling the product. Wash contaminated clothing before reuse. Avoid contact with eyes, skin, and clothing.

Section 9: Physical and Chemical Properties

Appearance:	
Physical State:	Solid, prilled
Color:	White
Odor:	Odorless
Odor Threshold:	No data available.
pH:	7.0 (Aqueous Solution)
Melting Point/Freezing Point:	118 deg C (244.4 deg. F)
Initial Boiling Point and Boiling Range:	160 deg C (320 Deg F)
Flash Point:	No data available.
Evaporation Rate (butyl acetate=1)**:**	No data available.
Flammability (solid, gas):	No data available.
Upper/Lower Limit on Flammability or Explosive Limits	
Flammability Limit – Upper:	No data available.
Flammability Limit – Lower:	No data available.
Explosive Limit – Upper:	No data available.
Explosive Limit – Lower:	No data available.
Vapor Pressure:	No data available.
Vapor Density (air =1)**:**	No data available.
Relative Density (water=1)**:**	1.570 g/cm3
Solubility(ies):	
Solubility in water:	No data available.
Solubility (other):	No data available.
Specific Gravity	1.56 (H20 = 1)
Partition coefficient (n-octanol/water):	No data available.
Auto-Ignition Temperature:	No data available.
Decomposition Temperature:	No data available.
Viscosity:	No data available.

Other Information:

Molecular Weight:	203.30
Formula:	$MgCl_2 \bullet 6H_2O$

Section 10: Stability and Reactivity

Reactivity

No dangerous reaction known under conditions of normal use.

Chemical Stability
Avoid high temperatures, exposure to moisture and incompatible materials.

Possibility of Hazardous Reactions
Hazardous polymerization does not occur.

Conditions to Avoid
Avoid high temperatures, Exposure to moisture and incompatible materials.

Incompatible Materials
This material is incompatible with strong oxidizers. Magnesium Chloride hexahydrate can react explosively when combined with 2-furan percarboxylic acid. When dissolved in water, magnesium chloride hexahydrate gives off considerable heat.

Hazardous Decomposition Products
Hydrogen chloride, Chlorine

Section 11: Toxicological Information

Information on routes of exposure
Ingestion: No information available.
Inhalation: May cause respiratory tract irritation.
Skin Contact: May cause skin irritation.
Eye Contact: May cause eye irritation.

Information on Toxicological Effects
Acute Toxicity (List all possible routes of exposure)
Oral
Magnesium Chloride Hexahydrate: LD50 (Rat) 8100 mg/kg
Magnesium Chloride Hexahydrate: LD50 (Mouse) 7600 mg/kg

Dermal
No Data Available

Inhalation
No Data Available

Intraperitoneal
Magnesium Chloride Hexahydrate: LD50 (Mouse) 775 mg/kg

Intravenous
Magnesium Chloride Hexahydrate: LDLo (Guinea Pig): 250 mg/Kg
Magnesium Chloride Hexahydrate: LDLo (Intraarterial-Guinea Pig): 250mg/Kg

Repeated Dose Toxicity
No data Available

Skin Corrosion/Irritation
May cause skin irritation

Serious Eye Damage/Eye Irritation
May cause eye irritation

Respiratory/Skin Sensitization
May cause respiratory tract irritation.

Carcinogenicity
IARC Monographs on the Evaluation of Carcinogenic Risks to Humans
No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
US. National Toxicology Program (NTP) Report on Carcinogens
No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)
No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Germ Cell Mutagenicity
In Vitro
No mutagenic components identified.
In Vivo
No mutagenic components identified.

Reproductive Toxicity
None known.

Specific Target Organ Toxicity – Single Exposure
None known.

Specific Target Organ Toxicity – Repeated Exposure
None known.

Aspiration Hazard
Not classified.

Other Effects
None known.

Section 12: Ecological Information

Ecotoxicity
This compound may be harmful to aquatic life in high concentrations, as it will generate excessive heat upon contact with water.

Acute Hazards to the Aquatic Environment

Fish
No data available.

Aquatic Invertebrates
No data available.

Toxicity to Aquatic Plants
No data available.

Chronic Hazards to the Aquatic Environment

Fish
No data available.

Aquatic Invertebrates
No data available.

Toxicity to Aquatic Plants
No data available.

Persistence and Degradability

Biodegradation
There are no data on the degradability of this product.

BOD/COD Ratio
No data available.

Bioaccumulative Potential

Bioconcentration Factor (BCF)
No data available on bioaccumulation.

Partition Coefficient n-octanol / water (log Kow)
No data available.

Mobility in Soil
The product is water soluble and may spread in water systems.

Other Adverse Effects
No data available.

Section 13: Disposal Considerations

Disposal Instructions
Offer surplus and non-recyclable solutions to a licensed disposal company. Dispose of unused material.

Contaminated Packaging
Handle contaminated packages in the same way as the substance itself. Emptied containers may retain hazardous residue and explosive vapors. Keep away from heat, sparks, and flames. Do not cut, puncture, or weld on or near this container. Follow label warnings until container is thoroughly cleaned or destroyed.

Section 14: Transportation Information

US Department of Transportation (DOT)

This material is not regulated as a hazardous material for transport by the U.S. Department of Transportation in accordance with 49 CFR 172.101.

Important Note: Shipping descriptions may vary based on mode of transport, quantities, package size, and/or origin and destination. Consult your company's Hazardous Materials/Dangerous Goods expert for information specific to your situation.

Section 15: Regulatory Information

US Federal Regulations

Toxic Substance Control Act (TSCA), Chemical Substance Inventory, Section 8(b)

This product or ingredient(s) are listed on the TSCA inventory. Any impurities present in this product are exempt from listing.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Hazardous Substance List (40 CFR 302.4)

No chemical(s) in this material are subject to the reporting requirements of CERCLA.

Clean Air Act (CAA), Section 112(r)

No chemical(s) in this material are subject to the reporting requirements of CAA.

Emergency Planning and Community Right-To-Know Act (EPCRA)

EPCRA 302 Extremely Hazardous Substance

No chemical(s) in this material are subject to the reporting requirements of SARA Title III, Section 302.

EPCRA 304 Emergency Response Notification

No chemical(s) in this material are subject to the reporting requirements of SARA Title III, Section 304.

EPCRA 311/312 Emergency and Hazardous Materials Reporting

Fire Hazard:	No
Sudden Release of Pressure:	No
Reactive:	No
Acute (Immediate) Health Hazard:	Yes
Chronic (Delayed) Health Hazard:	No

EPCRA 313 Toxic Chemical Release Inventory (TRI) Reporting

This material does not contain any chemical(s) with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

US State Regulations

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65)

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

Important Note: Due to the changing nature of regulatory requirements, the information in this document should NOT be considered all-inclusive or authoritative. Users should make their own investigations to determine the suitability of the information for their particular purposes. International, Federal, State and Local regulations should be consulted to determine compliance with all required reporting requirements.

Section 16: Other Information

Hazardous Materials Identification System (HMIS®) Classification

Health Hazard: 1
Chronic Health Hazard: / *
Flammability: 0
Physical Hazard: 0
(Hazard Rating: 0 – Minimal / 1 – Slight / 2 – Moderate / 3 – Serious / 4 – Severe)

National Fire Protection Association (NFPA 704) Rating

Health Hazard: 1
Fire Hazard: 0
Reactivity Hazard: 0
Special: N/A ~~W~~ OX COR POI
(Hazard Rating: 0 – Minimal / 1 – Slight / 2 – Moderate / 3 – Serious / 4 – Severe)

Prepared By:	Regulatory Manager
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Key to Abbreviations and Acronyms

ATE - Acute Toxicity Estimate
BCF - Bioconcentration Factor
EC50 - Effective concentration, 50%
IDHL – Immediately Dangerous to Life and Health
ACGIH - American Conference of Industrial Hygienists
AIHA – American Industrial Hygiene Association
BEI - Biological Exposure Indices
CAS – Chemical Abstracts Service

Kg – Kilogram
l – Liter
lb – Pound
LC50 - Lethal Concentration, 50%
LD50 - Lethal Dose, 50%
mg - milligram
ml – milliliter
N/A – Not Applicable
N/D – Not Determined
PEL – Permissible Exposure Limit
REL – Recommended Exposure Limit
STEL – Short-term Exposure Limit
TWA - Time weighted average
DOT – US Department of Transportation
EPA – US Environmental Protection Agency
GHS - Globally Harmonized System of Classification and Labelling of Chemicals
IARC - International Agency for Research on Cancer
IATA - International Air Transport Association
IBC - Intermediate Bulk Container
IMDG - International Maritime Dangerous Goods
NIOSH – National Institute for Occupational Safety and Health
NTP – National Toxicology Program
OSHA – US Occupational Health and Safety Administration
SARA – US EPA Superfund Amendments and Reauthorization Act
TSCA – US EPA Toxic Substances Control Act
UN - United Nations

References

HSDB® - Hazardous Substances Data Bank

Disclaimer

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