1. Identification

Product Name: Magnesium chloride hexahydrate

Cat No.: M35-12; M35-212; M35-500; M35SAM-1; M35SAM-2; M35SAM-3; XXM3550LB; NC1767692

CAS No: 7791-18-6

Synonyms: Magnesium dichloride hexahydrate

Recommended Use: Laboratory chemicals.

Uses advised against: Food, drug, pesticide or biocidal product use.

Details of the supplier of the safety data sheet

Company: Fisher Scientific Company
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Emergency Telephone Number
CHEMTREC®, Inside the USA: 800-424-9300
CHEMTREC®, Outside the USA: 001-703-527-3887

2. Hazard(s) identification

Classification
This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Label Elements
None required

Hazards not otherwise classified (HNOC)
None identified

3. Composition/Information on Ingredients
### Component Information

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnesium chloride, hexahydrate</td>
<td>7791-18-6</td>
<td>&gt;95</td>
</tr>
<tr>
<td>Magnesium chloride</td>
<td>7786-30-3</td>
<td>-</td>
</tr>
</tbody>
</table>

### 4. First-aid measures

**Eye Contact**
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

**Skin Contact**
Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur.

**Inhalation**
Remove to fresh air. Get medical attention immediately if symptoms occur.

**Ingestion**
Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.

**Most important symptoms and effects**
None reasonably foreseeable.

**Notes to Physician**
Treat symptomatically

### 5. Fire-fighting measures

**Suitable Extinguishing Media**
Water spray, carbon dioxide (CO2), dry chemical, alcohol-resistant foam.

**Unsuitable Extinguishing Media**
No information available

**Flash Point**
No information available

**Autoignition Temperature**
Not applicable

**Explosion Limits**

- Upper: No data available
- Lower: No data available

**Sensitivity to Mechanical Impact**
No information available

**Sensitivity to Static Discharge**
No information available

**Specific Hazards Arising from the Chemical**
Thermal decomposition can lead to release of irritating gases and vapors.

**Hazardous Combustion Products**

**Protective Equipment and Precautions for Firefighters**
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

### NFPA

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
<td>1</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### 6. Accidental release measures

**Personal Precautions**
Use personal protective equipment as required. Ensure adequate ventilation. Avoid dust formation.

**Environmental Precautions**
Should not be released into the environment.

**Methods for Containment and Clean Up**
Sweep up and shovel into suitable containers for disposal. Avoid dust formation.
7. Handling and storage

Handling
Ensure adequate ventilation. Wear personal protective equipment/face protection. Avoid contact with skin, eyes or clothing. Avoid ingestion and inhalation. Avoid dust formation.

Storage.

8. Exposure controls / personal protection

Exposure Guidelines
This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Engineering Measures
None under normal use conditions.

Personal Protective Equipment

Eye/face Protection
Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA’s eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection
Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection
No protective equipment is needed under normal use conditions.

Recommended Filter type:
Particle filter.

Hygiene Measures
Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Physical State
Powder Solid

Appearance
White

Odor
Odorless

Odor Threshold
No information available

pH
5-6.5 5% aq. solution

Melting Point/Range
117 °C / 242.6 °F

Boiling Point/Range
No information available

Flash Point
No information available

Evaporation Rate
No information available

Flammability (solid, gas)
No information available

Flammability or explosive limits

Upper
No data available

Lower
No data available

Vapor Pressure
No information available

Vapor Density
Not applicable

Specific Gravity
No information available

Solubility
Soluble in water

Partition coefficient; n-octanol/water
No data available

Autoignition Temperature
Not applicable

Decomposition Temperature
> 106°C

Viscosity
Not applicable

Molecular Formula
Cl₂ Mg . 6 H₂ O

Molecular Weight
203.31

10. Stability and reactivity
Magnesium chloride hexahydrate

Reactive Hazard  None known, based on information available

Stability  Stable under normal conditions.

Conditions to Avoid  Avoid dust formation.

Incompatible Materials  Metals

Hazardous Decomposition Products  Chlorine, Magnesium oxides, Hydrogen chloride gas

Hazardous Polymerization  Hazardous polymerization does not occur.

Hazardous Reactions  None under normal processing.

11. Toxicological information

Acute Toxicity

Product Information

Component Information

<table>
<thead>
<tr>
<th>Component</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnesium chloride, hexahydrate</td>
<td>LD50 = 8100 mg/kg (Rat)</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
<tr>
<td>Magnesium chloride</td>
<td>LD50 = 2800 mg/kg (Rat)</td>
<td>LD50 &gt; 2000 mg/kg (Rat)</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Toxicologically Synergistic Products  No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation  May cause skin, eye, and respiratory tract irritation

Sensitization  No information available

Carcinogenicity  The table below indicates whether each agency has listed any ingredient as a carcinogen.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No</th>
<th>IARC</th>
<th>NTP</th>
<th>ACGIH</th>
<th>OSHA</th>
<th>Mexico</th>
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<tbody>
<tr>
<td>Magnesium chloride, hexahydrate</td>
<td>7791-18-6</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
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<tr>
<td>Magnesium chloride</td>
<td>7786-30-3</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Mutagenic Effects  No information available

Reproductive Effects  No information available.

Developmental Effects  No information available.

Teratogenicity  No information available.

STOT - single exposure  None known

STOT - repeated exposure  None known

Aspiration hazard  No information available

Symptoms / effects, both acute and delayed  No information available

Endocrine Disruptor Information  No information available

Other Adverse Effects  The toxicological properties have not been fully investigated.

12. Ecological information

Ecotoxicity
Contains no substances known to be hazardous to the environment or that are not degradable in waste water treatment plants.

<table>
<thead>
<tr>
<th>Component</th>
<th>Freshwater Algae</th>
<th>Freshwater Fish</th>
<th>Microtox</th>
<th>Water Flea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnesium chloride</td>
<td>EC50: 2200 mg/L/72h</td>
<td>Pimephales promelas: EC50: 2.12 g/L/96H</td>
<td>EC50 Pseudomonas putida: EC50:26.14 g/L/h Photobacterium phosphoreum: EC50: 36.3 mg/L/30 min Photobacterium phosphoreum: EC50: 77.2 mg/L/24 h</td>
<td>EC50 : 1400 mg/L/24h</td>
</tr>
</tbody>
</table>

**Persistency and Degradability**

Soluble in water. Persistence is unlikely based on information available.

**Bioaccumulation/Accumulation**

No information available.

**Mobility**

Will likely be mobile in the environment due to its water solubility.

### 13. Disposal considerations

**Waste Disposal Methods**

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

### 14. Transport information

- **DOT**
  - Not regulated
- **TDG**
  - Not regulated
- **IATA**
  - Not regulated
- **IMDG/IMO**
  - Not regulated

### 15. Regulatory information

#### United States of America Inventory

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No</th>
<th>TSCA</th>
<th>TSCA Inventory notification - Active-Inactive</th>
<th>TSCA - EPA Regulatory Flags</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnesium chloride, hexahydrate</td>
<td>7791-18-6</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Magnesium chloride</td>
<td>7786-30-3</td>
<td>X</td>
<td>ACTIVE</td>
<td>-</td>
</tr>
</tbody>
</table>

Legend:
- **TSCA** US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)
- **X** - Listed
- **-'** - Not Listed

- **TSCA - Per 40 CFR 751, Regulation of Certain Chemical Substances & Mixtures, Under TSCA Section 6(h) (PBT)**
  - Not applicable

- **TSCA 12(b) - Notices of Export**
  - Not applicable

### International Inventories

- Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No</th>
<th>DSL</th>
<th>NDSL</th>
<th>EINECS</th>
<th>PICCS</th>
<th>ENCS</th>
<th>ISHL</th>
<th>AICS</th>
<th>IECSC</th>
<th>KECL</th>
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<tr>
<td>Magnesium chloride</td>
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<td>232-094-6</td>
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<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>KE-22691</td>
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</tbody>
</table>

**KECL** - NIER number or KE number (http://ncis.nier.go.kr/en/main.do)

### U.S. Federal Regulations

- **SARA 313**
  - Not applicable

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Magnesium chloride hexahydrate

SARA 311/312 Hazard Categories
See section 2 for more information

CWA (Clean Water Act)
Not applicable

Clean Air Act
Not applicable

OSHA - Occupational Safety and Health Administration
Not applicable

CERCLA
Not applicable

California Proposition 65
This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations
Not applicable

U.S. Department of Transportation
Reportable Quantity (RQ):
DOT Marine Pollutant
DOT Severe Marine Pollutant
N
N

U.S. Department of Homeland Security
This product does not contain any DHS chemicals.

Other International Regulations
Mexico - Grade
No information available

Authorisation/Restrictions according to EU REACH
Not applicable

<table>
<thead>
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<td>-</td>
</tr>
</tbody>
</table>

Safety, health and environmental regulations/legislation specific for the substance or mixture

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No</th>
<th>OECD HPV</th>
<th>Persistent Organic Pollutant</th>
<th>Ozone Depletion Potential</th>
<th>Restriction of Hazardous Substances (RoHS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnesium chloride, hexahydrate</td>
<td>7791-18-6</td>
<td>Listed</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
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<td>7786-30-3</td>
<td>Listed</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?
Not applicable

Other International Regulations

|----------------------------|-------------------------|-----------------------------------------------------------|-----------------------------------------------------------|-----------------------------|-----------------------------------|
16. Other information

Prepared By
Regulatory Affairs
Thermo Fisher Scientific
Email: EMSDS.RA@thermofisher.com

Creation Date 09-Feb-2010
Revision Date 13-Oct-2023
Print Date 13-Oct-2023
Revision Summary
This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of SDS