

# SAFETY DATA SHEET

Creation Date 09-February-2010

Revision Date 18-December-2025

Revision Number 7

This safety data sheet was created pursuant to the requirements of: Canada WHMIS 2015 which includes the amended Hazardous Products Act (HPA) and the Hazardous Products Regulation (HPR) - SOR 2022-272

## 1. Identification

**Product Name** Magnesium chloride hexahydrate

**Cat No. :** M33-3; M33-500

**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

**Importer/Distributor**  
Fisher Scientific  
112 Colonnade Road,  
Ottawa, ON K2E 7L6,  
Canada  
Tel: 1-800-234-7437

**Manufacturer**  
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

**WHMIS 2015 Classification** This product is not considered hazardous in accordance with the Canada Hazardous Products Act (HPA) and Hazardous Products Regulation (HPR), as amended (SOR/2022-272)

Based on available data, the classification criteria are not met

### Label Elements

None required

### 3. Composition/Information on Ingredients

Component	CAS-No	Weight %
Magnesium chloride (MgCl <sub>2</sub> ), hexahydrate	7791-18-6	>95
Magnesium chloride	7786-30-3	-

### 4. First-aid measures

<b>Eye Contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
<b>Skin Contact</b>	Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur.
<b>Inhalation</b>	Remove to fresh air. Get medical attention immediately if symptoms occur.
<b>Ingestion</b>	Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.
<b>Most important symptoms/effects Notes to Physician</b>	None reasonably foreseeable. Treat symptomatically

### 5. Fire-fighting measures

<b>Suitable Extinguishing Media</b>	Water spray, carbon dioxide (CO <sub>2</sub> ), dry chemical, alcohol-resistant foam.
<b>Unsuitable Extinguishing Media</b>	No information available
<b>Flash Point Method -</b>	No information available No information available
<b>Autoignition Temperature</b>	Not applicable
<b>Explosion Limits</b>	
<b>Upper</b>	No data available
<b>Lower</b>	No data available
<b>Sensitivity to Mechanical Impact</b>	No information available
<b>Sensitivity to Static Discharge</b>	No information available

#### Specific Hazards Arising from the Chemical

Thermal decomposition can lead to release of irritating gases and vapors.

#### Hazardous Combustion Products

Chlorine. Magnesium oxides. Hydrogen chloride gas.

#### 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

<b>Health</b>	<b>Flammability</b>	<b>Instability</b>	<b>Physical hazards</b>
1	0	1	N/A

### 6. Accidental release measures

<b>Personal Precautions</b>	Use personal protective equipment as required. Ensure adequate ventilation. Avoid dust formation.
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**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.** Keep containers tightly closed in a cool, well-ventilated place. Incompatible Materials. Metals.

## 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 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.

**Hand Protection** Wear appropriate protective gloves and clothing to prevent skin exposure.

Glove material	Breakthrough time	Glove thickness	Glove comments
Natural rubber	See manufacturers recommendations	-	Splash protection only
Nitrile rubber			
Neoprene			
PVC			

Inspect gloves before use. observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information) gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion. gloves with care avoiding skin contamination.

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

**Recommended Filter type:** Particle filter

### Environmental exposure controls

No information available.

### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

## 9. Physical and chemical properties

<b>Appearance</b>			
<b>Physical State</b>	Solid		
<b>Color</b>	White		
<b>Odor</b>	Odorless		
<b>Odor Threshold</b>	No information available		
<b>Property</b>	<b>Values</b>	<b>Remarks</b>	<b>• Method</b>
<b>Melting Point/Range</b>	117 °C / 242.6 °F		
<b>Softening Point</b>	No data available		
<b>Boiling Point/Range</b>	No information available		
<b>Flash Point</b>	No information available		
<b>Flammability (liquid)</b>	Not applicable		
<b>Flammability (solid,gas)</b>	No information available		
<b>Explosion Limits</b>	No data available		
<b>Autoignition Temperature</b>	Not applicable		
<b>Decomposition Temperature</b>	> 106°C		
<b>pH</b>	5-6.5	5% aq. solution	
<b>Viscosity</b>	Not applicable	Solid	
<b>Water Solubility</b>	2350 g/L (20°C)		
<b>Solubility in other solvents</b>	No information available		
<b>Partition Coefficient (n-octanol/water)</b>			
<b>Vapor Pressure</b>	No data available		
<b>Density / Specific Gravity</b>	1.56 g/cm <sup>3</sup>		
<b>Bulk Density</b>	No data available		
<b>Vapor Density</b>	Not applicable	Solid	
<b>Particle characteristics</b>	No data available		
<b>Other Information</b>			
<b>Molecular Formula</b>	Mg Cl <sub>2</sub> . 6 H <sub>2</sub> O		
<b>Molecular Weight</b>	203.31		
<b>Evaporation Rate</b>	Not applicable - Solid		

## 10. Stability and reactivity

<b>Reactive Hazard</b>	None known, based on information available
<b>Stability</b>	Stable under normal conditions.
<b>Conditions to Avoid</b>	Avoid dust formation.
<b>Incompatible Materials</b>	Metals
<b>Hazardous Decomposition Products</b>	Chlorine, Magnesium oxides, Hydrogen chloride gas
<b>Hazardous Polymerization</b>	Hazardous polymerization does not occur.
<b>Hazardous Reactions</b>	None under normal processing.

## 11. Toxicological information

### Information on expected route of exposure

<b>Inhalation</b>	Irritating to respiratory system. May be harmful if inhaled.
<b>Ingestion</b>	May be harmful if swallowed. May cause central nervous system effects. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

**Eyes** Irritating to eyes.  
**Skin** May cause irritation. May be harmful in contact with skin.

**Toxicology data for the components**

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Magnesium chloride (MgCl <sub>2</sub> ), hexahydrate	LD50 = 8100 mg/kg ( Rat )	-	-
Magnesium chloride	LD50 = 2800 mg/kg ( Rat )	LD50 > 2000 mg/kg ( Rat )	-

**Toxicologically Synergistic Products** No information available

**(b) skin corrosion/irritation;** No data available

**(c) serious eye damage/irritation;** No data available

**(d) respiratory or skin sensitization;**  
**Respiratory** No data available  
**Skin** No data available

**(e) germ cell mutagenicity;** No data available

**(f) carcinogenicity;**

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

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Magnesium chloride (MgCl <sub>2</sub> ), hexahydrate	7791-18-6	Not listed	Not listed	Not listed	Not listed	Not listed
Magnesium chloride	7786-30-3	Not listed	Not listed	Not listed	Not listed	Not listed

**(g) reproductive toxicity;** No data available

**(h) STOT-single exposure;** No data available

**(i) STOT-repeated exposure;** No data available

**Target Organs** No information available.

**(j) aspiration hazard;** Not applicable  
Solid

**Symptoms / effects, both acute and delayed** No information available.

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

**Endocrine Disrupting Properties** This product does not contain any known or suspected endocrine disruptors.

## 12. Ecological information

### Ecotoxicity

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

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Magnesium chloride	EC50: 2200 mg/L/72h	Pimephales promelas: EC50: 2.12 g/L:96H	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	EC50 : 1400 mg/L/24h

**Persistence 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

#### International Inventories

Component	CAS-No	DSL	NDSL	TSCA	TSCA Inventory notification - Active-Inactive	EINECS	ELINCS	NLP
Magnesium chloride (MgCl <sub>2</sub> ), hexahydrate	7791-18-6	-	-	-	-	-	-	-
Magnesium chloride	7786-30-3	X	-	X	ACTIVE	232-094-6	-	-

Component	CAS-No	IECSC	KECL	ENCS	ISHL	TCSI	AICS	NZIoC	PICCS
Magnesium chloride (MgCl <sub>2</sub> ), hexahydrate	7791-18-6	X	-	X	X	X	X	X	X
Magnesium chloride	7786-30-3	X	KE-22691	X	X	X	X	X	X

#### Legend:

X - Listed '-' - Not listed

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

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

**IECSC** - Chinese Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**ENCS** - Japanese Existing and New Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

#### Canada

SDS in compliance with provisions of information as set out in Canadian Standard - Part 4, Schedule 1 and 2 of the Hazardous Products Regulations (HPR) and its amendments and meets the requirements of the HPR (Paragraph 13(1)(a) of the revised Hazardous Products Act (HPA)).

## Other International Regulations

Authorisation/Restrictions according to EU REACH Not applicable

Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?

Not applicable

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

Component	CAS-No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential	Restriction of Hazardous Substances (RoHS)
Magnesium chloride (MgCl <sub>2</sub> ), hexahydrate	7791-18-6	Listed	Not applicable	Not applicable	Not applicable
Magnesium chloride	7786-30-3	Listed	Not applicable	Not applicable	Not applicable

Component	CAS-No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
Magnesium chloride (MgCl <sub>2</sub> ), hexahydrate	7791-18-6	Not applicable	Not applicable	Not applicable	Not applicable
Magnesium chloride	7786-30-3	Not applicable	Not applicable	Not applicable	Not applicable

## 16. Other information

**Prepared By**

Product stewardship (Regulatory Affairs)  
Thermo Fisher Scientific  
email - begel.sdsdesk@thermofisher.com

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**Revision Summary**

This document has been updated to comply with the requirements of WHMIS 2015 which includes the amended Hazardous Products Act (HPA) and the Hazardous Products Regulation (HPR) to align with the Globally Harmonised System (GHS) (V7/8) for the Classification and Labelling of Chemicals.

**Disclaimer**

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**End of SDS**