SAFETY DATA SHEET

according to 2012 OSHA Hazard Communication Standard (29CFR 1910.1200) as amended

Magnesium chloride hexahydrate

Creation date	01st February 2024		
Revision date		Version	1

SECTION 1: Identification

Product identifier

Chemical name	Magnesium chloride hexahydrate
CAS number	Magnesium chloride hexahydrate
EC (EINECS) number	7791-18-6
Registration number	232-094-6
	01-2119485597-19-0001

Recommended use

Industrial chemicals. Component of infusion and dialysis solutions. Food supplement.

Substance uses advised against

Details of the supplier of the safety data sheet

Manufacturer

Name or trade name	Macco Organiques, s.r.o.
Address	Zahradní 1938/46c, Bruntál 1, 792 01 Czech Republic
Identification number (CRN)	26819210
VAT Reg No	CZ26819210
Phone	+420 555 530 300
E-mail	macco@macco.cz

Emergency telephon number

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

SECTION 2: Hazards identification

Classification of the substance or mixture

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

Most serious adverse physico-chemical effects

Not specified.

Most serious adverse effects on human health and the environment

May cause skin irritation, respiratory tract irritation, eye irritation. May cause gastrointestinal irritation.

Label elements

None required

Hazard not otherwise classified (HNOC)

Non identified

SECTION 3: Composition/information on ingredients

Identification numbers	Substance name	Content in % weight	Classification according to 29CFR 1910.1200	Note
CAS: 7791-18-6 EC: 232-094-6 Registration number: 01-2119485597-19-0001	**substance main component** Magnesium chloride hexahydrate	99-100	not classified as dangerous	

SECTION 4: First-aid measures

Take care of your own safety. If any health problems are manifested or if in doubt, inform a doctor and show him information from this safety data sheet. In the event of unconsciousness, do not provide food by mouth.

Inhalation
Terminate the exposure immediately; move the affected person to fresh air. In life threatening conditions first of all provide resuscitation of the affected person and ensure medical assistance.

Skin Contact
Remove contaminated clothes. And wash it before reuse. Wash the affected area with plenty of water, lukewarm if possible. Soap, soap solution or shampoo should be used if there is no skin injury. Provide medical treatment if skin irritation persists.

Eye Contact
Rinse eyes immediately with a flow of running water, open the eyelids (also using force if needed); remove contact lenses immediately if worn by the affected person. No neutralization should be performed in any case! Provide medical treatment, specialized if possible.

Ingestion
Rinse out the mouth with clean water. In the event of issues, find medical help. DO NOT INDUCE VOMITING! Provide medical treatment.

Most important symptoms and effects, both acute and delayed

Inhalation
May cause respiratory irritation. Not expected.

Skin Contact
Possible irritation.

E**ye Contact**
Possible irritation.

Ingestion
Nausea, stomach pain, vomiting, diarrhoea.

Notes to Physician
Symptomatic treatment. The effects of acute magnesium toxicity are partially offset by the use of calcium tartrate. Ventricular support along with Calcium Chloride infusion and forced urination by means of mannitol can also be successful.

SECTION 5: Fire-fighting measures

Suitable extinguishing media
Accommodate extinguishing components to the location of fire. Alcohol-resistant foam, carbon dioxide, powder, water spray jet, water mist.

Unsuitable extinguishing media
Water - full jet.

Specific hazards arising from the chemical
Non-flammable. Upon heating, decomposition occurs with the release of irritating gases and vapors (hydrogen chloride or chlorine).

Protective equipment and precautions for firefighters
Self-Contained Breathing Apparatus (SCBA) with chemical resistant gloves. Use a self-contained breathing apparatus and full-body protective clothing.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures
Follow the instructions in the Sections 7 and 8. Prevent contact with skin and eyes. Provide sufficient ventilation.

Environmental precautions
Prevent contamination of the soil and entering surface or ground water.

Methods and material for containment and cleaning up
Place the product mechanically in an appropriate manner. Dispose of the collected material according to the instructions in the section 13. After removal of the product, wash the contaminated site with plenty of water.

Reference to other sections
See the Section 7, 8 and 13.

SECTION 7: Handling and storage

Precautions for safe handling

Use personal protective equipment as per Section 8. Do not eat, drink or smoke when using this product. Wash hands and exposed parts of the body thoroughly after handling. Observe valid legal regulations on safety and health protection.

Conditions for safe storage, including any incompatibilities

Store in tightly closed containers in cold, dry and well ventilated areas designated for this purpose.

Specific end use(s)

not available

SECTION 8: Exposure controls/personal protection

Control parameters

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

Magnesium chloride hexahydrate		**DNEL**			
Workers / consumers	Route of exposure	Value	Effect	Value determination	Source
Consumers	Oral	15 mg/kg bw/day	Chronic effects local	Calculation of value	CSR

Appropriate engineering controls

Good ventilation, showers, eyewash station

Personal protective equipment

Follow the usual measures intended for health protection at work and especially for good ventilation. Provide showers and eye wash possibility. Do not eat, drink and smoke during work. Wash your hands thoroughly with water and soap after work and before breaks for a meal and rest.

Eye/face protection

Protective goggles or face shield (based on the nature of the work performed).

Skin and body protection

When handling in long-term or repeatedly, use protective gloves. EN ISO 374-1. Other protection: protective workwear.

Respiratory protection

In case of inadequate ventilation wear respiratory protection. Respirator.

Thermal hazard

Not available.

Environmental exposure controls

Observe usual measures for protection of the environment, see Section 6.

SECTION 9: Physical and chemical properties

Appearance	
Physical state	Solid, crystalline, powder
Colour	Colourless, white
Odour	Without fragrance
pH	5.5 - 7.0 (5% aq. solution at 20°C)
Melting point/freezing point	117.2°C
Boiling point or initial boiling point and boiling range	Cannot be determined - decomposition occurs
Flash point	Not applicable
Flammability	Non-inflammable
Evaporation rate	Not applicable
Upper and lower explosion limit	Not applicable
Vapour pressure	Not applicable
Vapour density	Not applicable
Relative density	1,57
Solubility in water	304.35g / 100g 20°C
Solubility Ethanol	5.6g / 100g 20°C
Partition coefficient n-octanol/water (log value)	Not applicable
Auto-ignition temperature	Not applicable
Decomposition temperature	120°C
Kinematic viscosity	Not applicable
Oxidising properties	It is not oxidising.

SECTION 10: Stability and reactivity

Reactivity

The substance is non-flammable.

Chemical stability

The product is stable under normal conditions.

Possibility of hazardous reactions

The product is stable under normal conditions.

Conditions to avoid

The product is stable and no degradation occurs under normal use. Humid air. Heat.

Incompatible materials

Strong oxidizing agents releasing chlorine.

Hazardous decomposition products

Not developed under normal uses. At high temperatures, irritating or toxic gases may be formed. Above 135°C hydrogen chloride, above 300°C chlorine. Reaction with metals may release hydrogen.

SECTION 11: Toxicological information

Acute toxicity

Based on available data the classification criteria are not met.

Magnesium chloride hexahydrate								
Route of exposure	Parameter	Method	Value	Exposure time	Species	Sex	Value determination	Source
Oral	LD_{50}	OECD 423	>5000 mg/kg bw		Rat	F/M	Experimentally	CSR
Dermal	LD_{50}	OECD 402	>2000 mg/kg bw		Rat	F/M	Experimentally	CSR

Skin corrosion/irritation

No data available for the substance. Based on available data the classification criteria are not met.

Serious eye damage/irritation

No data available for the substance. Based on available data the classification criteria are not met.

Respiratory or skin sensitisation

No data available for the substance. Based on available data the classification criteria are not met.

Mutagenicity

No data available for the substance. Based on available data the classification criteria are not met.

Carcinogenicity

No data available for the substance. Based on available data the classification criteria are not met.
IARC - not listed; NTP - not listed; ACGIH - not listed; OSHA - not listed; Mexico - not listed

Reproductive toxicity

No data available for the substance. Based on available data the classification criteria are not met.

Toxicity for specific target organ - single exposure

No data available for the substance. Based on available data the classification criteria are not met.

Toxicity for specific target organ - repeated exposure

No data available for the substance. Based on available data the classification criteria are not met.

Aspiration hazard

No data available for the substance. Based on available data the classification criteria are not met.

Endocrine disruptor information

The substance does not have endocrine disrupting properties.

SECTION 12: Ecological information

Ecotoxicity

Based on available data the classification criteria are not met.

Acute toxicity

Magnesium chloride hexahydrate							
Parameter	Method	Value	Exposure time	Species	Environment	Value determination	Source
LC_{50}		4526 mg/l	96 hours	Fish (Pimephales promelas)	Fresh water	Experimentally	CSR
LC_{50}	EPA OPPTS 850.1075	23420 mg/l	48 hours	Fish	Salt water	Experimentally	CSR
LC_{50}		548.4 mg/l	48 hours	Daphnia (Daphnia magna)	Fresh water	Experimentally	CSR
LC_{50}		6959 mg/l	48 hours	Invertebrates (Americamysis bahia)	Salt water	Experimentally	CSR

Chronic toxicity

Magnesium chloride hexahydrate							
Parameter	Method	Value	Exposure time	Species	Environment	Value determination	Source
NOEC		321 mg/l	21 days	Daphnia (Daphnia magna)	Fresh water	Experimentally	CSR
NOEC	OECD 201	213.5 mg/l	72 hours	Algae (Desmodesmus subspicatus)	Fresh water	Experimentally	CSR

Persistence and degradability

No data available for the substance.

Bioaccumulative potential

Not available.

Mobility in soil

Not available.

Other adverse effects

Not available.

SECTION 13: Disposal considerations

Hazard of environmental contamination; dispose of the waste in accordance with the local and/or national regulations. Proceed in accordance with valid regulations on waste disposal. Any unused product and contaminated packaging should be put in labelled containers for waste collection and submitted for disposal to a person authorised for waste removal (a specialized company) that is entitled for such activity. Do not empty unused product in drainage systems. The product must not be disposed of with municipal waste. Empty containers may be used at waste incinerators to produce energy or deposited in a dump with appropriate classification. Perfectly cleaned containers can be submitted for recycling.

SECTION 14: Transport information

UN number or ID number	not subject to transport regulations
UN proper shipping name	not relevant
Transport hazard class(es)	not relevant
Packing group	not relevant
Environmental hazards	not relevant
Special precautions for user	Reference in the Sections 4 to 8.
Maritime transport in bulk according to IMO instruments	not relevant

SECTION 15: Regulatory information

United States of America Inventory

TSCA*	not listed (Magnesium chloride, CAS nr. 7786-30-3: listed)
TSCA* Inventory notification - Active-Inactive	not listed (Magnesium chloride, CAS nr. 7786-30-3: active)
TSCA* - EPA Regulatory Flags	not listed (Magnesium chloride, CAS nr. 7786-30-3: not listed)

*TSCA: US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

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

U.S. Federal Regulations

SARA 313	Not applicable
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):	N
DOT Marine Pollutant	N
DOT Severe Marine Pollutant	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

REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	---
REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	---
REACH (1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)	---

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

OECD HPV	Listed
Persistent Organic Pollutant	Not applicable
Ozone Depletion Potential	Not applicable
Restriction of Hazardous Substances (RoHS)	Not applicable
Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?	Not applicable

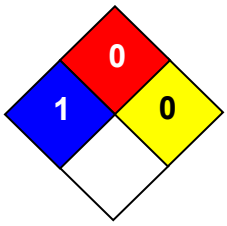
Other International Regulations

Seveso III Directive (2012/18/EC) Qualifying Quantities for Major Accident Notification	Not applicable
Seveso III Directive (2012/18/EC) Qualifying Quantities for Safety Report	Not applicable
Requirements Rotterdam Convention (PIC)	Not applicable
Basel Convention (Hazardous Waste)	Not applicable

SECTION 16: Other information

NFPA (National Fire Protection Association

Health	1
Flammability	0
Reactivity	0
Special Hazard	None



4: Extreme, 3: High, 2: Moderate, 1: Slight, 0: Insignificant; OX: Oxidiser, W: Water Reactives, SA: Simple Asphyxiants

Competent person responsible for the safety data sheet

Name	Petr Ševčík
E-mail	petr.sevcik@macco.cz
Creation Date	01-Feb-2024
Revision Date	---
Revision Summary	---

Statement

The safety data sheet provides information aimed at ensuring safety and health protection at work and environmental protection. The provided information corresponds to the current status of knowledge and experience and complies with valid legal regulations. The information should not be understood as guaranteeing the suitability and usability of the product for a particular application.

End of SDS