

SAFETY DATA SHEET

according to the Global Harmonized System (and with all of the information required by the HPR)

Revision Date 06/17/2018

Version 1.3

SECTION 1. Identification**Product identifier**

Product number	442615
Product name	Magnesium Chloride, Hexahydrate
CAS-No.	7791-18-6

Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Reagent for research and development
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Details of the supplier of the safety data sheet

Company	Millipore (Canada) Ltd 109 Woodbine Downs Blvd. Unit 5 Etobicoke Ontario M9W 6Y1 Canada General Inquiries: +1 800-645-5476 Monday to Friday, 9:00 AM to 4:00 PM Eastern Time (GMT-5) MilliporeSigma is a business of Merck KGaA, Darmstadt, Germany.
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Emergency telephone	800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week
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SECTION 2. Hazards identification**GHS-Labeling**

Not a dangerous substance according to GHS.

Other hazards

None known.

SECTION 3. Composition/information on ingredients

Formula	MgCl ₂ * 6 H ₂ O	Cl ₂ Mg * 6 H ₂ O (Hill)
Molar mass	203.30 g/mol	

Remarks	WHMIS hazardous composition: No ingredients are hazardous according to the CPR criteria.
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SECTION 4. First aid measures**Description of first-aid measures***Inhalation*

After inhalation: fresh air.

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Skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower.

Eye contact

After eye contact: rinse out with plenty of water. Remove contact lenses.

Ingestion

After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed

irritant effects, respiratory paralysis, Diarrhea, Nausea, Vomiting, cardiovascular disorders, muscular weakness, Tiredness, paralysis symptoms

Indication of any immediate medical attention and special treatment needed

No information available.

SECTION 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

Special hazards arising from the substance or mixture

Not combustible.

Ambient fire may liberate hazardous vapors.

Fire may cause evolution of:

Hydrogen chloride gas

Advice for firefighters

Special protective equipment for fire-fighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Further information

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid inhalation of dusts. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders:

Protective equipment see section 8.

Environmental precautions

Do not let product enter drains.

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Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

SECTION 7. Handling and storage

Precautions for safe handling

Observe label precautions.

Conditions for safe storage, including any incompatibilities

Tightly closed. Dry.

Store at +15°C to +30°C (+59°F to +86°F).

SECTION 8. Exposure controls/personal protection

Exposure limit(s)

Contains no substances with occupational exposure limit values.

Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

Individual protection measures

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

Hygiene measures

Change contaminated clothing. Wash hands after working with substance.

Eye/face protection

Safety glasses

Respiratory protection

required when dusts are generated.

SECTION 9. Physical and chemical properties

Physical state

solid

Color

colorless

Odor

odorless

Odor Threshold

Not applicable

pH

4.5 - 7.0
at 50 g/l
68 °F (20 °C)

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Melting point	ca. 243 °F (117 °C) (decomposition)
Boiling point/boiling range	Not applicable
Flash point	Not applicable
Evaporation rate	No information available.
Flammability (solid, gas)	The product is not flammable.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapor pressure	No information available.
Relative vapor density	No information available.
Density	ca. 1.57 g/cm ³ at 68 °F (20 °C)
Relative density	No information available.
Water solubility	468.7 g/l at 68 °F (20 °C) Method: OECD Test Guideline 105
Partition coefficient: n-octanol/water	No information available.
Autoignition temperature	No information available.
Decomposition temperature	> 243 °F (> 117 °C) Elimination of water of crystallization
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none
Ignition temperature	not combustible

SECTION 10. Stability and reactivity

Reactivity

See below

Chemical stability

releases water of crystallization when heated.

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Possibility of hazardous reactions

no information available

Conditions to avoid

Strong heating (decomposition).

Incompatible materials

no information available

Hazardous decomposition products

in the event of fire: See section 5.

SECTION 11. Toxicological information

Information on toxicological effects

Likely route of exposure

Eye contact, Skin contact, Ingestion

Acute oral toxicity

LD50 Rat: > 2,000 mg/kg

OECD Test Guideline 423

Acute inhalation toxicity

Symptoms: slight mucosal irritations

Acute dermal toxicity

LD50 Rat: > 2,000 mg/kg

OECD Test Guideline 402

(anhydrous substance)

Skin irritation

Humans

Result: No skin irritation

Human Skin Model Test

(ECHA)

Eye irritation

Rabbit

Result: No eye irritation

OECD Test Guideline 405

Sensitization

Maximization Test Guinea pig

Result: negative

Method: OECD Test Guideline 406

Repeated dose toxicity

Subacute toxicity

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Genotoxicity in vitro

Ames test

Bacillus subtilis

Result: negative

(Lit.)

Mutagenicity (mammal cell test): chromosome aberration.

Human lymphocytes

Result: negative

Method: OECD Test Guideline 473

In vitro mammalian cell gene mutation test

MOUSE LYMPHOMA TEST

Result: negative

Method: OECD Test Guideline 476

The value is given in analogy to the following substances: magnesium chloride

Reproductive toxicity

Application Route: Oral

Rat

Method: OECD Test Guideline 422

Teratogenicity

Application Route: Oral

Rat

Number of exposures: daily

Method: OECD Test Guideline 414

Specific target organ systemic toxicity - single exposure

The substance or mixture is not classified as specific target organ toxicant, single exposure.

Specific target organ systemic toxicity - repeated exposure

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration hazard

Regarding the available data the classification criteria are not fulfilled.

Carcinogenicity

IARC

No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA

No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

ACGIH

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

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Further information

After uptake of large quantities:

Metal-fume fever after inhalation of large quantities.

Nausea, Vomiting, Diarrhea

Systemic effects:

drop in blood pressure, Cardiac irregularities, muscular weakness, paralysis symptoms,

Tiredness

After absorption of large quantities:

respiratory paralysis, cardiovascular disorders

However, when the product is handled appropriately, hazardous effects are unlikely to occur.

Handle in accordance with good industrial hygiene and safety practice.

SECTION 12. Ecological information

Ecotoxicity

Toxicity to fish

LC50 Pimephales promelas (fathead minnow): 2,120 mg/l; 96 h

Analytical monitoring: yes(anhydrous substance) (ECHA)

Toxicity to daphnia and other aquatic invertebrates

static test LC50 Daphnia magna (Water flea): 548.4 mg/l; 48 h

Analytical monitoring: yes(ECHA)

Toxicity to algae

Growth rate EC50 Desmodesmus subspicatus (green algae): > 100 mg/l; 72 h

Analytical monitoring: yes

OECD Test Guideline 201

Growth rate NOEC Desmodesmus subspicatus (green algae): 100 mg/l; 72 h

Analytical monitoring: yes

OECD Test Guideline 201

Toxicity to bacteria

static test EC50 activated sludge: > 900 mg/l; 3 h

OECD Test Guideline 209

static test NOEC activated sludge: 900 mg/l; 3 h

OECD Test Guideline 209

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)

semi-static test EC10 Daphnia magna (Water flea): 321 mg/l; 21 d

Analytical monitoring: yes

(ECHA)

Persistence and degradability

Biodegradability

The methods for determining the biological degradability are not applicable to inorganic substances.

Bioaccumulative potential

No information available.

Mobility in soil

No information available.

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Additional ecological information

Discharge into the environment must be avoided.

SECTION 13. Disposal considerations

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

SECTION 14. Transport information

Land transport (DOT)

Not classified as dangerous in the meaning of transport regulations.

Air transport (IATA)

Not classified as dangerous in the meaning of transport regulations.

Sea transport (IMDG)

Not classified as dangerous in the meaning of transport regulations.

SECTION 15. Regulatory information

United States of America

Canada

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR.

Notification status

TSCA: All components of the product are listed in the TSCA-inventory.

DSL: All components of this product are on the Canadian DSL

SECTION 16. Other information

Training advice

Provide adequate information, instruction and training for operators.

Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at www.wikipedia.org.

Revision Date 06/17/2018

The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to appropriate safety precautions. It does not represent a warranty of any product properties and we assume no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

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