



# SAFETY DATA SHEET

## 100%

### MAGNESIUM CHLORIDE HEXAHYDRATE

#### SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

##### 1.1. PRODUCT IDENTIFIER

Product name: Magnesium Chloride Hexahydrate  
Product No.: MAG  
CAS-No.: 7791-18-6  
REACH: 01-2119485597-19  
EC No.: 232-094-6  
Synonym: Magnesium dichloride hexahydrate, Magnesium chloride flakes, Magnesium chloride  
Chemical Formula:  $MgCl_2 \cdot 6H_2O$

##### 1.2. RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST

Recommended use: Additive for marine aquariums;  
Used as a deicer and prevents the formation of ice on surfaces;  
Used in the manufacture of textiles, fire proofing agents, cements and refrigeration brine;  
Used to make sorrel cement;  
Used for dust control;  
Cuisine - magnesium chloride is an important coagulant used in the preparation of tofu from soy milk;  
In gardening. Because magnesium is a mobile nutrient, magnesium chloride can be effectively used as a substitute for epsom salt to help correct magnesium deficiency in plants;  
For the manufacture of magnesium metal and other magnesium compounds.

##### 1.3. DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

HD Chemicals LTD  
UNIT 9 Scott Business Park  
PL2 2PB Plymouth UK

Contact Person responsible for SDS: Mr Peter Konefal, e-mail: [contact@hdchemicals.co.uk](mailto:contact@hdchemicals.co.uk)

**SECTION 2: HAZARDS IDENTIFICATION****2.1. CLASSIFICATION OF THE SUBSTANCE OR MIXTURE**

Classification 67/548/EEC: Not Classified

Classification – EC 1272/2008: Not Classified

**2.2. LABEL ELEMENTS**

No labelling requirements

**SIGNAL WORDS**

Not Classified

**RISK PHRASES**

Not Classified

**HAZARD PHRASES**

Not Classified

**PROTECTION PHRASES**

Not Classified

**SAFETY PHRASES**

Not Classified

**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

67/548/EEC/1999/45/EC

**Composition information – main constituents**

Substance name	Mol. Formula	REACH	Typical conc. (%w/w)	EINECS No.	CAS-No.	Classification
Magnesium Chloride Hexahydrate	MgCl <sub>2</sub> 6H <sub>2</sub> O	01- 2119485597- 19	100%	232-094-6	7791-18-6	Not Classified



EC 1272/2008

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**SECTION 4: FIRST AID MEASURES****4.1. DESCRIPTION OF FIRST AID MEASURES**

**First-aid measures general:** No known delayed effects. If you feel unwell after used with this product, consult a physician. Show this safety data sheet to the doctor in attendance.

**Inhalation:** May cause irritation to mucous membranes. Move the exposed person to fresh air. Seek medical attention if irritation or symptoms persist.

**Ingestion:** Since magnesium salts are absorbed slowly, abdominal pain, vomiting and diarrhoea may be the only symptoms. However, if elimination is blocked, CNS depression, lack of reflexes and hypocalcaemia (low blood calcium levels) may occur. This product may cause irritation to mucous membranes. Rinse mouth thoroughly. Have patient drink several glasses of water to dilute. Seek medical attention if symptoms develop, or if large quantities have been consumed.

**Skin contact:** May cause irritation to skin. Wash immediately with soap and water. Remove contaminated clothing. Seek medical attention if irritation or symptoms persist. Use suitable lotion to moisturise skin.

**Eye contact:** May cause irritation to the eyes. Rinse immediately with plenty of water for 15 minutes holding the eyelids open. Seek medical attention if irritation or symptoms persist.

**4.2. MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED**

**Inhalation:** May be harmful if inhaled. May cause respiratory tract irritation.

**Ingestion:** Vomiting, diarrhoea, abdominal pain.

**Skin contact:** May be harmful if absorbed through skin. May cause skin irritation.

**Eye contact:** May cause eye irritation.



#### **4.3. INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED**

Treat symptomatically.

### **SECTION 5: FIREFIGHTING MEASURES**

#### **5.1. EXTINGUISHING MEDIA**

Suitable extinguishing media: The product is non-combustible. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Water spray, carbon dioxide (CO<sub>2</sub>), dry chemical powder, alcohol-resistant foam.

Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.

#### **5.2. SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE**

Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.

#### **5.3. ADVICE FOR FIRE-FIGHTERS**

Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full face piece operated in pressure-demand or positive-pressure mode. Wear protective clothing. Use an extinguishing agent suitable for the surrounding fire.

### **SECTION 6: ACCIDENTAL RELEASE MEASURES**

#### **6.1. PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES**

Wear suitable protective equipment in compliance with national legislation to prevent any contamination of skin, eyes and personal clothing. Select appropriate protective clothing for the size of the spillage. Ensure adequate ventilation of the working area. Avoid contact with skin and eyes. Avoid formation of dust. Avoid breathing dust, vapours, mist or gas.

#### **6.2. ENVIRONMENTAL PRECAUTIONS**

Should not be released into the environment. Keep away from drains, surface and ground water.

#### **6.3. METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP**

Scoop up spillages and place in suitable container for disposal. Clean spillage area thoroughly with plenty of water. Avoid generation and spreading of dust. Wear appropriate respiratory protection, safety glasses and overalls as a precaution.



## SECTION 7: HANDLING AND STORAGE

### 7.1. PRECAUTIONS FOR SAFE HANDLING

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. 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.

### 7.2. CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Keep in a cool, dry, well ventilated area. Keep containers tightly closed.

### 7.3. SPECIFIC END USE(S)

See section 1.2.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. CONTROL PARAMETERS/EXPOSURE GUIDELINES

Occupational Exposure Limit Values (Magnesium Chloride Hexahydrate) GB:

CAS NO	Exposure limit	Value	Name of Agent
7791-18-6	TWA – 8 Hrs	10 mg/m <sup>3</sup>	inhalable particles
7791-18-6	STEL – 15 Min	15 mg/m <sup>3</sup>	total dust

#### Engineering controls:

If user operations generate dust, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne dust levels below recommended exposure limits.

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location. Wash hands before breaks and at the end of the working day. Keep away from foodstuffs, beverages and feed.

#### Protective equipment:

Use protective goggles with side-shields (European standard - EN 166), gloves (European standard - EN 374) and long sleeved clothing to prevent skin, body and eyes exposure.



PROTECTION WEAR



HAND PROTECTION



EYE PROTECTION



RESPIRATOR

- Respiratory equipment:** No protective equipment is needed under normal use conditions but when the airborne concentration above  $10\text{mg}/\text{m}^3$  or  $15\text{mg}/\text{m}^3$  (see occupational Exposure Limit Values ), wear a respirator.
- Skin and body protection:** Use suitable protective gloves. PVC or rubber gloves are recommended.
- Eye/Face protection:** Use eye protection. Goggles/face shield are recommended.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Solid (crystalline flakes)
Colour:	White
Odour:	Odourless
Initial boiling point (°C):	Not available
Melting point (°C):	117 °C
Freezing point:	No data available
Relative density:	1.569 g/cm <sup>3</sup>
Specific gravity / density:	Not available
Vapour density:	Not available
Vapour pressure:	Not available
Flash point (°C):	Not applicable



Molecular mass:	203.3 g/mol
Auto-ignition temperature:	Not applicable
Oxidizing properties:	Not applicable
Decomposition temperature:	Not available
Molecular formula:	MgCl <sub>2</sub> 6H <sub>2</sub> O

## SECTION 10: STABILITY AND REACTIVITY

### 10.1. REACTIVITY

No specific reactivity hazards associated with this product.

### 10.2. CHEMICAL STABILITY

Magnesium Chloride Hexahydrate is stable under normal temperature conditions and under recommended usage and storage.

### 10.3. POSSIBILITY OF HAZARDOUS REACTIONS

Addition to furan-2-peroxycarboxylic acid will cause the acid to explode.

### 10.4. CONDITIONS TO AVOID

Avoid moisture and heat. Avoid dust formation.

### 10.5. INCOMPATIBLE MATERIALS

Materials to avoid: oxidising agents. In contact with metals corrosion can occur.

### 10.6. HAZARDOUS DECOMPOSITION

None under normal conditions. If heated, magnesium oxide and fumes of hydrogen chloride gas will be produced.

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1. INFORMATION ON TOXICOLOGICAL EFFECTS

TOXIC DOSE	LD50 Oral – Rat – 8100 mg/kg
	LD50 Oral – Mouse – 7600 mg/kg



<b>Inhalation:</b>	May be harmful if inhaled. May cause respiratory tract irritation.
<b>Ingestion:</b>	Vomiting, diarrhoea, abdominal pain.
<b>Skin contact:</b>	May be harmful if absorbed through skin. May cause skin irritation.
<b>Eye contact:</b>	May cause eye irritation.

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1. TOXICITY

<b>Aquatic toxicity to fish:</b>	EC50/96h: 2120 mg/l Pimephales promelas
<b>Aquatic toxicity to water flea:</b>	LC50/48h: 548,4 mg/l Daphnia magna
<b>Aquatic toxicity to freshwater algae:</b>	EC50/72h: > 100 mg/l Desmodesmus subspicatus

### 12.2. PERSISTENCE AND DEGRADABILITY

Not relevant for inorganic substances.

### 12.3. BIOACCUMULATIVE POTENTIAL

Bioaccumulation is unlikely.

### 12.4. MOBILITY

The product is water soluble, and may spread in water systems . Will likely be mobile in the environment due to its water solubility. Highly mobile in soils.

### 12.5. RESULTS OF PBT AND vPvB ASSESSMENT

Magnesium Chloride Hexahydrate is not classified as PBT or vPvB substance.

### 12.6. OTHER ADVERSE EFFECTS

No data available.

## SECTION 13: DISPOSAL CONSIDERATIONS

**Waste disposal recommendations:** Disposal of Magnesium Chloride Hexahydrate should be in accordance with local and national legislation. Processing, use or contamination of this product may change the waste management options. Should not be released into the environment. Dispose of container and unused contents in accordance with applicable member state and local requirements.





**Uncleaned packaging:** Disposal must be made according to official regulations.

## SECTION 14: TRANSPORT INFORMATION

### IMDG

UN number	N/A
UN proper shipping name	N/A
Transport hazard class(es)	N/A
Packing group	N/A

### ADR/RID

UN number	N/A
UN proper shipping name	N/A
Transport hazard class(es)	N/A
Packing group	N/A

### IATA

UN number	N/A
UN proper shipping name	N/A
Transport hazard class(es)	N/A
Packing group	N/A

## SECTION 15: REGULATORY INFORMATION

### 15.1. SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE

1. Health and Safety at Work Act 1974. The Control of Substances Hazardous to Health Regulations 2002 (S.I 2002 No. 2677) with amendments.
2. The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (S.I 2009 No. 716).
3. Safety Data Sheets for Substances and Preparations. Classification and Labelling of Substances and Preparations Dangerous for Supply.
4. REACH – Exempted in accordance with Annex V.7
5. Workplace Exposure Limits 2005 (EH40)

### 15.2 CHEMICAL SAFETY ASSESSMENT

No chemical safety assessment has been carried out.



## SECTION 16: OTHER INFORMATION

### General information

The information contained in this safety data sheet is provided in accordance with the requirements of the regulations. The product should not be used for purposes other than those shown in section 1 without first referring to the supplier and obtaining written handling instruction. As the specific conditions of use of the product are outside the suppliers control, the user is responsible for ensuring that the requirements of relevant legislation are complied with.

### Revision Comments

This information is provided in a revised format to that previously produced.

Revision Date: 01/10/2018

Revision: 01

Safety Data Sheet Status Approved.

Date printed 01/10/2018

Signature Initials P.K.

### DISCLAIMER:

If this product is re-distributed and re-formulated for sale, details of its hazards and recommended methods for safe handling must be passed to customers. Customers are urged to ensure that the product is entirely suitable for their own purpose. It is the customer's responsibility to ensure that a suitable and sufficient assessment of the risks created by a work activity using this product is undertaken before this product is used.

### NOTE:

The information contained in this Safety Data Sheet does not constitute the users own assessment of workplace risk as required by other Health & Safety Legislation (e.g. the Health and Safety at Work Act,1974;the control of Substances Hazardous to Health Regulations,1988). The data given here is based on current knowledge and experience. The purpose of this data sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the product's properties.