



# Magnesium chloride - flakes 47 %

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878  
Issue date: 7/20/2023 Revision date: 7/20/2023 Supersedes version of: 5/25/2023 Version: 1.3

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

Product form	: Substance
Trade name	: Magnesium chloride - flakes 47 %
EC-No.	: 232-094-6
CAS-No.	: 7791-18-6
REACH registration exemptions	: Exempted from REACH registration Annex V
Type of product	: Industrial applications
Formula	: MgCl <sub>2</sub>
Synonyms	: Magnesium chloride hexahydrate
Product group	: Trade product

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

##### 1.2.1. Relevant identified uses

Use of the substance/mixture	: Cement: additive De-icing salt
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##### 1.2.2. Uses advised against

No additional information available

#### 1.3. Details of the supplier of the safety data sheet

##### Supplier

Chemische Fabrik Kalk GmbH  
Olpener Straße, 9-13  
51103 Köln  
T + 49 221 82 96 1  
[gm-cfk@k-plus-s.com](mailto:gm-cfk@k-plus-s.com) - [www.cfk-gmbh.com](http://www.cfk-gmbh.com)

#### 1.4. Emergency telephone number

Emergency number	: For Chemical Emergency Call : for incidents involving hazardous materials [or dangerous goods] spill, leak, fire, exposure or accident, call CHEMTREC 24hr/day 7days/week Within USA and Canada: +1 800 424 - 9300 Outside USA and Canada: +1 703 741 - 5970 (collect calls accepted)
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### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

##### Adverse physicochemical, human health and environmental effects

To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

#### 2.2. Label elements

##### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

No labelling applicable

#### 2.3. Other hazards

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII  
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII  
Contains no PBT and/or vPvB substances  $\geq 0.1\%$  assessed in accordance with REACH Annex XIII

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### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

Substance type	: Mono-constituent
Name	: Magnesium chloride hexahydrate; magnesium chloride - flakes 47 %.
CAS-No.	: 7791-18-6
EC-No.	: 232-094-6

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
magnesium chloride, hexahydrate	CAS-No.: 7791-18-6	> 95	Not classified

#### 3.2. Mixtures

Not applicable

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

First-aid measures general	: If you feel unwell, seek medical advice.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Wash skin with plenty of water.
First-aid measures after eye contact	: Rinse eyes with water as a precaution.
First-aid measures after ingestion	: Call a poison center or a doctor if you feel unwell.

#### 4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after inhalation	: No effects known.
Symptoms/effects after skin contact	: No effects known.
Symptoms/effects after eye contact	: No effects known.
Chronic symptoms	: No effects known.

#### 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	: Water spray. Dry powder. Foam.
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#### 5.2. Special hazards arising from the substance or mixture

Fire hazard	: DIRECT FIRE HAZARD: Non combustible.
Explosion hazard	: DIRECT EXPLOSION HAZARD: No direct explosion hazard.
Hazardous decomposition products in case of fire	: Toxic fumes may be released.

#### 5.3. Advice for firefighters

Precautionary measures fire	: Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: have neighbourhood close doors and windows.
Firefighting instructions	: Dilute toxic gases with water spray. Take account of toxic/corrosive precipitation water.
Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

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### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

##### 6.1.1. For non-emergency personnel

- Protective equipment : Gloves (EN 374). Protective clothing (EN 14605 or EN 13034). Dust cloud production: self-contained breathing apparatus (EN 136 + EN 137).
- Emergency procedures : Ventilate spillage area.
- Measures in case of dust release : In case of dust production: keep upwind. Dust production: have neighbourhood close doors and windows.

##### 6.1.2. For emergency responders

- Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

#### 6.2. Environmental precautions

Avoid release to the environment.

#### 6.3. Methods and material for containment and cleaning up

- For containment : Contain released product, collect/pump into suitable containers. Plug the leak, cut off the supply. Knock down/dilute dust cloud with water spray.
- Methods for cleaning up : Mechanically recover the product.
- Other information : Dispose of materials or solid residues at an authorized site.

#### 6.4. Reference to other sections

For further information refer to section 13.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

- Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment.
- Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

#### 7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Store in a well-ventilated place. Keep cool. Protect from moisture. Hygroscopic product.
- Storage area : Store in a cool area. Store in a dry area. Meet the legal requirements.

#### 7.3. Specific end use(s)

No additional information available

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### 8.1.1 National occupational exposure and biological limit values

No additional information available

##### 8.1.2. Recommended monitoring procedures

No additional information available

##### 8.1.3. Air contaminants formed

No additional information available

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### 8.1.4. DNEL and PNEC

Magnesium chloride - flakes 47 % (7791-18-6)	
<b>DNEL/DMEL (General population)</b>	
Long-term - systemic effects,oral	7 mg/m <sup>3</sup>
<b>PNEC (Water)</b>	
PNEC aqua (freshwater)	3.21 mg/l
PNEC aqua (marine water)	0.32 mg/l
<b>PNEC (Sediment)</b>	
PNEC sediment (freshwater)	288.9 mg/kg dwt
PNEC sediment (marine water)	28.89 mg/kg dwt
<b>PNEC (Soil)</b>	
PNEC soil	662.77 mg/kg dwt
<b>PNEC (STP)</b>	
PNEC sewage treatment plant	90 mg/l

### 8.1.5. Control banding

No additional information available

## 8.2. Exposure controls

### 8.2.1. Appropriate engineering controls

#### Appropriate engineering controls:

Ensure good ventilation of the work station.

### 8.2.2. Personal protection equipment

#### Personal protective equipment symbol(s):



#### 8.2.2.1. Eye and face protection

##### Eye protection:

Safety glasses

#### 8.2.2.2. Skin protection

##### Skin and body protection:

Wear suitable protective clothing

##### Hand protection:

Protective gloves

##### Other skin protection

##### Materials for protective clothing:

Good resistance: Butyl rubber, neoprene (chloroprene rubber), Nitrile rubber

#### 8.2.2.3. Respiratory protection

##### Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

#### 8.2.2.4. Thermal hazards

No additional information available

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### 8.2.3. Environmental exposure controls

#### Environmental exposure controls:

Avoid release to the environment.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Solid
Colour	: Colourless to white-grey.
Appearance	: Crystalline solid. Flakes. Grains.
Molecular mass	: 95.21 g/mol
Odour	: Odourless.
Odour threshold	: Not available
Melting point	: 712 °C (1010 hPa)
Freezing point	: Not applicable
Boiling point	: 1412 °C
Flammability	: Non flammable.
Explosive properties	: The product is not explosive. Is not classified according to Regulation (EU) 2019-1148.
Lower explosion limit	: Not applicable
Upper explosion limit	: Not applicable
Flash point	: Not applicable
Auto-ignition temperature	: Not applicable
Decomposition temperature	: Not available
pH	: 5 – 6.5 (2.5 %)
pH solution	: Not available
Viscosity, kinematic	: Not applicable
Solubility	: Exothermically soluble in water. Soluble in ethanol. Water: 46.9 g/100ml (20 °C, EU Method A.6: Water solubility) Ethanol: 7.4 g/100ml (30 °C)
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapour pressure	: Not applicable
Vapour pressure at 50°C	: Not available
Density	: 2316 kg/m <sup>3</sup>
Relative density	: 2.32 (20 °C, OECD 109: Density of Liquids and Solids)
Relative vapour density at 20°C	: Not applicable
Particle size	: Not available

### 9.2. Other information

#### 9.2.1. Information with regard to physical hazard classes

No additional information available

#### 9.2.2. Other safety characteristics

Minimum ignition energy	: Not applicable
VOC content	: Not applicable (inorganic)
Other properties	: Hygroscopic, Acid reaction

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

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### 10.4. Conditions to avoid

Protect from moisture. Hygroscopic product.

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral) : Not classified  
Acute toxicity (dermal) : Not classified  
Acute toxicity (inhalation) : Not classified

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LD50 oral rat	> 5000 mg/kg bodyweight (OECD 423: Acute Oral Toxicity – Acute Toxic Class Method, Rat, Female, Experimental value, Oral, 15 day(s))
LD50 dermal rat	> 2000 mg/kg bodyweight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value, Dermal, 15 day(s))

#### magnesium chloride, hexahydrate (7791-18-6)

LD50 oral rat	8100 mg/kg (Rat, Oral)
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Skin corrosion/irritation : Not classified  
pH: 5 – 6.5 (2.5 %)

#### magnesium chloride, hexahydrate (7791-18-6)

pH	5 – 6.5 (5 %)
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Serious eye damage/irritation : Not classified  
pH: 5 – 6.5 (2.5 %)

#### magnesium chloride, hexahydrate (7791-18-6)

pH	5 – 6.5 (5 %)
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Respiratory or skin sensitisation : Not classified  
Germ cell mutagenicity : Not classified  
Carcinogenicity : Not classified  
Reproductive toxicity : Not classified  
STOT-single exposure : Not classified  
STOT-repeated exposure : Not classified  
Aspiration hazard : Not classified

#### Magnesium chloride - flakes 47 % (7791-18-6)

Viscosity, kinematic	Not applicable
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### 11.2. Information on other hazards

#### 11.2.1. Endocrine disrupting properties

No additional information available

#### 11.2.2. Other information

Potential adverse human health effects and symptoms : Non-toxic if swallowed (LD50 oral, rat > 5000 mg/kg), Not irritant to skin, Practically non-toxic in contact with skin (LD50 skin > 2000 mg/kg), Not irritant to eyes

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### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - general	: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Ecology - air	: Not included in the list of substances which may contribute to the greenhouse effect (IPCC). Not included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014). Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).
Ecology - water	: Slightly harmful to crustacea. Slightly harmful to fishes. Inhibition of activated sludge. Slightly harmful to algae.
Hazardous to the aquatic environment, short-term (acute)	: Not classified
Hazardous to the aquatic environment, long-term (chronic)	: Not classified
Not rapidly degradable	

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LC50 - Fish [1]	541 mg/l (US EPA, 96 h, Pimephales promelas, Static system, Fresh water, Experimental value, Magnesium ion)

magnesium chloride, hexahydrate (7791-18-6)	
LC50 - Fish [1]	16500 mg/l (96 h, Gambusia affinis, Anhydrous form)
EC50 - Crustacea [1]	3190 mg/l (24 h, Daphnia magna, Anhydrous form)
EC50 72h - Algae [1]	2200 mg/l (Scenedesmus subspicatus, Anhydrous form)

#### 12.2. Persistence and degradability

Magnesium chloride - flakes 47 % (7791-18-6)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)

magnesium chloride, hexahydrate (7791-18-6)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

#### 12.3. Bioaccumulative potential

Magnesium chloride - flakes 47 % (7791-18-6)	
Bioaccumulative potential	Not bioaccumulative.

magnesium chloride, hexahydrate (7791-18-6)	
Bioaccumulative potential	No bioaccumulation data available.

#### 12.4. Mobility in soil

Magnesium chloride - flakes 47 % (7791-18-6)	
Ecology - soil	No (test) data on mobility of the substance available.

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### 12.5. Results of PBT and vPvB assessment

#### Magnesium chloride - flakes 47 % (7791-18-6)

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

### 12.6. Endocrine disrupting properties

No additional information available

### 12.7. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Additional information : Can be considered as non hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997.

European List of Waste (LoW, EC 2000/532) : 15 01 10\* - packaging containing residues of or contaminated by dangerous substances  
06 04 99 - wastes not otherwise specified

## SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
<b>14.1. UN number or ID number</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.2. UN proper shipping name</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.3. Transport hazard class(es)</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.4. Packing group</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.5. Environmental hazards</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
No supplementary information available				

### 14.6. Special precautions for user

#### Overland transport

Not applicable

#### Transport by sea

Not applicable

#### Air transport

Not applicable

#### Inland waterway transport

Not applicable



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### Rail transport

Not applicable

### 14.7. Maritime transport in bulk according to IMO instruments

Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

##### REACH Annex XVII (Restriction List)

Not listed on REACH Annex XVII

##### REACH Annex XIV (Authorisation List)

Not listed on REACH Annex XIV (Authorisation List)

##### REACH Candidate List (SVHC)

Not listed on the REACH Candidate List

##### PIC Regulation (Prior Informed Consent)

Not listed on the PIC list (Regulation EU 649/2012)

##### POP Regulation (Persistent Organic Pollutants)

Not listed on the POP list (Regulation EU 2019/1021)

##### Ozone Regulation (1005/2009)

Not listed on the Ozone Depletion list (Regulation EU 1005/2009)

##### VOC Directive (2004/42)

VOC content : Not applicable (inorganic)

##### Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

##### Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

#### 15.1.2. National regulations

Exempted from REACH registration

### 15.2. Chemical safety assessment

Listed in Annex IV / V REACH, exempted from registration.

A safety data sheet is not required for this product under Article 31 of REACH. This Product Safety Information Sheet has been created on a voluntary basis

No chemical safety assessment has been carried out

## SECTION 16: Other information

### Abbreviations and acronyms:

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)

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Abbreviations and acronyms:	
COD	Chemical oxygen demand (COD)
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS-No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified
vPvB	Very Persistent and Very Bioaccumulative
ED	Endocrine disrupting properties

The classification complies with : ATP 12

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.