



# MATERIAL SAFETY DATA SHEET

According to the UN GHS revision 9

Version: 1.0

Creation Date: July 15, 2019

Revision Date: July 15, 2019

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## SECTION 1: Identification

### 1.1 GHS Product identifier

Product name Magnesium sulphate

### 1.2 Other means of identification

Product number -

Other names Salts;MgSO<sub>4</sub>;DBO<sub>2</sub>

### 1.3 Recommended use of the chemical and restrictions on use

Identified uses Industrial and scientific research use.

Uses advised against no data available

### 1.4 Supplier's details

Company Shandong Yili-Spring Chemical Industry Co., Ltd.

Address 1016, Xinyue Fortune Center, Zouping County, Binzhou City, Shandong

Telephone 86-543-4865599

### 1.5 Emergency phone number

Emergency phone number +86 15505433527

Service hours Monday to Friday, 8am-5pm (Standard time zone: UTC/GMT +8 hours).

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## SECTION 2: Hazard identification

### 2.1 Classification of the substance or mixture

Not classified.

### 2.2 GHS label elements, including precautionary statements

Pictogram(s) No symbol.

Signal word No signal word

Hazard statement(s) none

**Precautionary statement(s)**

<b>Prevention</b>	none
<b>Response</b>	none
<b>Storage</b>	none
<b>Disposal</b>	none

**2.3 Other hazards which do not result in classification**

no data available

**SECTION 3: Composition/information on ingredients****3.1 Substances**

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
Magnesium sulphate	Magnesium sulphate	7487-88-9	231-298-2	100%

**SECTION 4: First-aid measures****4.1 Description of necessary first-aid measures****If inhaled**

Fresh air, rest.

**Following skin contact**

Rinse skin with plenty of water or shower.

**Following eye contact**

Rinse with plenty of water (remove contact lenses if easily possible).

**Following ingestion**

Rinse mouth. Give one or two glasses of water to drink.

**4.2 Most important symptoms/effects, acute and delayed**

no data available

**4.3 Indication of immediate medical attention and special treatment needed, if necessary****Absorption, Distribution and Excretion**

Magnesium is excreted solely by the kidney at a rate proportional to the serum concentration and glomerular filtration.

**SECTION 5: Fire-fighting measures**



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### **5.1 Suitable extinguishing media**

In case of fire in the surroundings, use appropriate extinguishing media.

### **5.2 Specific hazards arising from the chemical**

Not combustible. Gives off irritating or toxic fumes (or gases) in a fire.

### **5.3 Special protective actions for fire-fighters**

In case of fire in the surroundings, use appropriate extinguishing media.

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## **SECTION 6: Accidental release measures**

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

Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Sweep spilled substance into covered containers. If appropriate, moisten first to prevent dusting. Store and dispose of according to local regulations. Wash away remainder with plenty of water.

### **6.2 Environmental precautions**

Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Sweep spilled substance into covered containers. If appropriate, moisten first to prevent dusting. Store and dispose of according to local regulations. Wash away remainder with plenty of water.

### **6.3 Methods and materials for containment and cleaning up**

Collect and arrange disposal. Keep the chemical in suitable and closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

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## **SECTION 7: Handling and storage**

### **7.1 Precautions for safe handling**

Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

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

Dry. KEEP WELL CLOSED. HEPTAHYDRATE

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## **SECTION 8: Exposure controls/personal protection**

### **8.1 Control parameters**

#### **Occupational Exposure limit values**

no data available



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**Biological limit values**

no data available

**8.2 Appropriate engineering controls**

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

**8.3 Individual protection measures, such as personal protective equipment (PPE)****Eye/face protection**

Wear safety spectacles.

**Skin protection**

Wear fire/flare resistant and impervious clothing. Handle with gloves. Gloves must be inspected prior to use. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

**Respiratory protection**

Avoid inhalation of dust.

**Thermal hazards**

no data available

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**SECTION 9: Physical and chemical properties and safety characteristics**

<b>Physical state</b>	Solid.
<b>Colour</b>	Whitish.
<b>Odour</b>	Odorless
<b>Melting point/freezing point</b>	-103°C(lit.)
<b>Boiling point or initial boiling point and boiling range</b>	55°C(lit.)
<b>Flammability</b>	Not combustible. Gives off irritating or toxic fumes (or gases) in a fire.
<b>Lower and upper explosion limit/flammability limit</b>	no data available
<b>Flash point</b>	94°C(lit.)
<b>Auto-ignition temperature</b>	no data available
<b>Decomposition temperature</b>	1124°C
<b>pH</b>	Neutral to litmus
<b>Kinematic viscosity</b>	no data available
<b>Solubility</b>	In water: Ca. 73.8 g/L. Temperature:100 °C. Remarks:PH not reported.
<b>Partition coefficient n-octanol/water</b>	no data available



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Vapour pressure	<0.1 mm Hg ( 20 °C)
Density and/or relative density	1.67. Temperature:20 °C.
Relative vapour density	<0.01 (vs air)
Particle characteristics	no data available

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Decomposes on heating. This produces toxic and corrosive fumes including sulfur oxides.

### 10.2 Chemical stability

Following date of mfr, mgso4 injections have expiration date of 18 mo to 5 yr, depending on mfr & packaging heptahydrate

### 10.3 Possibility of hazardous reactions

Decomposes on heating. This produces toxic and corrosive fumes including sulfur oxides.

### 10.4 Conditions to avoid

no data available

### 10.5 Incompatible materials

Potentially explosive reaction when heated with ethoxyethynyl alcohols (e.g., 1-ethoxy-3-methyl-1-butyn-3-ol).

### 10.6 Hazardous decomposition products

When heated to decomp ... emits toxic fumes of /sulfur oxides/.

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## SECTION 11: Toxicological information

### Acute toxicity

- Oral: no data available
- Inhalation: no data available
- Dermal: LD50 - rat (male/female) - > 2 000 mg/kg bw.

### Skin corrosion/irritation

no data available

### Serious eye damage/irritation

no data available

### Respiratory or skin sensitization

no data available



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### **Germ cell mutagenicity**

no data available

### **Carcinogenicity**

no data available

### **Reproductive toxicity**

no data available

### **STOT-single exposure**

The substance is mildly irritating to the eyes and respiratory tract.

### **STOT-repeated exposure**

no data available

### **Aspiration hazard**

A harmful concentration of airborne particles can be reached quickly , especially if powdered.

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## **SECTION 12: Ecological information**

### **12.1 Toxicity**

- Toxicity to fish: LC50 - Pimephales promelas - 680 mg/L - 96 h.
- Toxicity to daphnia and other aquatic invertebrates: LC50 - Daphnia magna - 720 mg/L - 48 h.
- Toxicity to algae: EC50 - Chlorella vulgaris - 2 700 mg/L - 18 d.
- Toxicity to microorganisms: EC0 - Photobacterium phosphoreum - 27.4 g/L - 30 min.

### **12.2 Persistence and degradability**

no data available

### **12.3 Bioaccumulative potential**

no data available

### **12.4 Mobility in soil**

no data available

### **12.5 Other adverse effects**

no data available

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## **SECTION 13: Disposal considerations**

### **13.1 Disposal methods**



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## Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

### Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

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## SECTION 14: Transport information

### 14.1UN Number

ADR/RID: Not dangerous goods. (For IMDG: Not dangerous goods. (For IATA: Not dangerous goods. (For  
reference only, please check.) reference only, please check.) reference only, please check.)

### 14.2UN Proper Shipping Name

ADR/RID: Not dangerous goods. (For IMDG: Not dangerous goods. (For IATA: Not dangerous goods. (For  
reference only, please check.) reference only, please check.) reference only, please check.)

### 14.3Transport hazard class(es)

ADR/RID: Not dangerous goods. (For IMDG: Not dangerous goods. (For IATA: Not dangerous goods. (For  
reference only, please check.) reference only, please check.) reference only, please check.)

### 14.4Packing group, if applicable

ADR/RID: Not dangerous goods. (For IMDG: Not dangerous goods. (For IATA: Not dangerous goods. (For  
reference only, please check.) reference only, please check.) reference only, please check.)

### 14.5Environmental hazards

ADR/RID: No IMDG: No IATA: No

### 14.6Special precautions for user

no data available

### 14.7Transport in bulk according to IMO instruments

no data available

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## SECTION 15: Regulatory information

### 15.1Safety, health and environmental regulations specific for the product in question



Chemical name	Common names and synonyms	CAS number	EC number
Magnesium sulphate	Magnesium sulphate	7487-88-9	231-298-2
<b>European Inventory of Existing Commercial Chemical Substances (EINECS)</b>			Listed.
<b>EC Inventory</b>			Listed.
<b>United States Toxic Substances Control Act (TSCA) Inventory</b>			Listed.
<b>China Catalog of Hazardous chemicals 2015</b>			Not Listed.
<b>New Zealand Inventory of Chemicals (NZIoC)</b>			Listed.
<b>Philippines Inventory of Chemicals and Chemical Substances (PICCS)</b>			Listed.
<b>Vietnam National Chemical Inventory</b>			Listed.
<b>Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)</b>			Listed.
<b>Korea Existing Chemicals List (KECL)</b>			Listed.

## SECTION 16: Other information

### Information on revision

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### Abbreviations and acronyms

- CAS: Chemical Abstracts Service
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- IMDG: International Maritime Dangerous Goods
- IATA: International Air Transportation Association
- TWA: Time Weighted Average
- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- EC50: Effective Concentration 50%

### References

- IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>
- HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>
- IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>
- eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: [http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)
- CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>
- ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>





- ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>
- Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>
- ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

### Other Information

Magnesium sulfate heptahydrate is also known as Epsom salt or bitter salt. Other CAS numbers: 14168-73-1 (monohydrate); 17830-05-6 (dihydrate); 15320-30-6 (trihydrate); 15244-29-8 (tetrahydrate); 17830-17-0 (pentahydrate); 17830-18-1 and 13778-97-7 (hexahydrate); 10034-99-8 (heptahydrate); 22189-08-8 (x-hydrate).

*Disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. We as supplier shall not be held liable for any damage resulting from handling or from contact with the above product.*