

magnesium sulfate

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 10/20/2015

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

1.1. Product identifier

Product form : Substance
 Substance name : magnesium sulfate
 CAS No : 7487-88-9
 Formula : MgSO₄
 Synonyms : epsom salts / magnesium sulfate (1:1) / magnesium sulfate, anhydrous, crystalline / magnesium sulfate, dried, pure / magnesium sulphate / magnesiumsulfate, anhydrous / magnesiumsulfate, dried / PST13510 / sal angalis / sal de sedlitz / sulfuric acid magnesium salt / sulfuric acid magnesium salt (1:1)
 BIG no : 10637

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

Use of the substance/mixture : Laboratory chemical

1.3. Details of the supplier of the safety data sheet

Five Star Chemicals & Supply Inc
 4915 E 52nd Ave
 Commerce City, CO 80022
 (303) 287-0186

1.4. Emergency telephone number

Emergency number : 800-535-5053
 INFOTRAC

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (GHS-US)

Not classified

2.2. Label elements

GHS-US labeling

No labeling applicable

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS-US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substance

Name	Product identifier	%	Classification (GHS-US)
magnesium sulfate (Main constituent)	(CAS No) 7487-88-9	100	Not classified

Full text of H-phrases: see section 16

3.2. Mixture

Not applicable

4.1. Description of first aid measures

First-aid measures general : If you feel unwell, seek medical advice.
 First-aid measures after inhalation : Remove the victim into fresh air.
 First-aid measures after skin contact : Rinse with water. Soap may be used. Take victim to a doctor if irritation persists.
 First-aid measures after eye contact : Rinse with water. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists.

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First-aid measures after ingestion : Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Victim is fully conscious: immediately induce vomiting. Give activated charcoal. Doctor: administration of chemical antidote. Doctor: gastric lavage. Call Poison Information Centre (www.big.be/antigif.htm). Consult a doctor/medical service if you feel unwell.

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

Symptoms/injuries after inhalation : AFTER INHALATION OF DUST: Coughing. Slight irritation.
Symptoms/injuries after skin contact : No data available.
Symptoms/injuries after eye contact : Slight irritation.
Symptoms/injuries after ingestion : AFTER ABSORPTION OF HIGH QUANTITIES: Abdominal pain. Vomiting. Diarrhoea. Disturbances of heart rate. Low arterial pressure. Myasthenia.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Adapt extinguishing media to the environment.
Unsuitable extinguishing media : No unsuitable extinguishing media known.

5.2. Special hazards arising from the substance or mixture

Fire hazard : DIRECT FIRE HAZARD. Non combustible.
Explosion hazard : DIRECT EXPLOSION HAZARD. Not applicable. INDIRECT EXPLOSION HAZARD. Not applicable.
Reactivity : On burning: release of toxic and corrosive gases/vapours (sulphur oxides).

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.
Protection during firefighting : Heat/fire exposure: compressed air/oxygen apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment : Gloves. Protective clothing. Dust cloud production: compressed air/oxygen apparatus. See "Material-Handling" to select protective clothing.
Emergency procedures : Mark the danger area. Prevent dust cloud formation, e.g. by wetting. No naked flames. Wash contaminated clothes.
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

No additional information available

6.2. Environmental precautions

No additional information available

6.3. Methods and material for containment and cleaning up

For containment : Contain released substance, pump into suitable containers. Consult "Material-handling" to select material of containers. Plug the leak, cut off the supply. Knock down/dilute dust cloud with water spray.
Methods for cleaning up : Prevent dust cloud formation. Scoop solid spill into closing containers. See "Material-handling" for suitable container materials. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.

6.4. Reference to other sections

No additional information available

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Comply with the legal requirements. Thoroughly clean/dry the installation before use. Avoid raising dust. Keep away from naked flames/heat. Observe normal hygiene standards. Keep container tightly closed. Carry operations in the open/under local exhaust/ventilation or with respiratory protection.

7.2. Conditions for safe storage, including any incompatibilities

Heat-ignition : KEEP SUBSTANCE AWAY FROM: heat sources.
Prohibitions on mixed storage : KEEP SUBSTANCE AWAY FROM: oxidizing agents. water/moisture.
Storage area : Store in a dry area. Keep container in a well-ventilated place. May be stored under inert gas. Meet the legal requirements. Keep out of direct sunlight.
Special rules on packaging : SPECIAL REQUIREMENTS: hermetical. watertight. dry. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.
Packaging materials : SUITABLE MATERIAL: synthetic material.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

magnesium sulfate (7487-88-9)	
ACGIH	Not applicable
OSHA	Not applicable

8.2. Exposure controls

Materials for protective clothing : GIVE GOOD RESISTANCE: butyl rubber. neoprene. PVC.
Hand protection : Gloves.
Eye protection : Safety glasses. In case of dust production: protective goggles.
Skin and body protection : Protective clothing.
Respiratory protection : Dust production: dust mask with filter type P1.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Solid
Appearance : Crystalline solid. Powder. Needles.
Molecular mass : 120.36 g/mol
Color : Colourless-white
Odor : Odourless
Odor threshold : No data available
pH : 7 (5 %)
pH solution : 5 %
Relative evaporation rate (butyl acetate=1) : No data available
Melting point : 1124 °C
Freezing point : No data available
Boiling point : Not applicable
Flash point : Not applicable
Auto-ignition temperature : Not applicable
Decomposition temperature : 1124 °C
Flammability (solid, gas) : No data available
Vapor pressure : No data available
Relative vapor density at 20 °C : No data available
Relative density : 2.7
Specific gravity / density : 2660 kg/m³

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Solubility	: Soluble in water. Soluble in glycerol. Water: 26 g/100ml (0 °C) Ether: 1.2 g/100ml
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosive limits	: No data available

9.2. Other information

Minimum ignition energy	: Not applicable
VOC content	: 0 %
Other properties	: Hygroscopic. Substance has neutral reaction.

SECTION 10: Stability and reactivity

10.1. Reactivity

On burning: release of toxic and corrosive gases/vapours (sulphur oxides).

10.2. Chemical stability

Hygroscopic.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

No additional information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

magnesium sulfate (1f)7487-88-9	
LD50 oral rat	> 4000 mg/kg (Rat)
LD50 dermal rat	> 2000 mg/kg (Rat)

Skin corrosion/irritation	: Not classified pH: 7 (5 %)
Serious eye damage/irritation	: Not classified pH: 7 (5 %)
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified
Symptoms/injuries after inhalation	: AFTER INHALATION OF DUST: Coughing. Slight irritation.
Symptoms/injuries after skin contact	: No data available.
Symptoms/injuries after eye contact	: Slight irritation.

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Symptoms/injuries after ingestion : AFTER ABSORPTION OF HIGH QUANTITIES: Abdominal pain. Vomiting. Diarrhoea. Disturbances of heart rate. Low arterial pressure. Myasthenia.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - air : Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).

Ecology - water : Mild water pollutant (surface water). For Flanders: maximum concentration in drinking water: 50 mg/l (magnesium)(M.B. 28/1/2003). Maximum concentration in drinking water: 250 mg/l (sulfate) (Directive 98/83/EC). Not harmful to fishes (LC50(96h) >1000 mg/l). Not harmful to algae (EC50 (72h) >1000 mg/l). Not harmful to aquatic organisms (EC50 >1000 mg/l). Not harmful to activated sludge.

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EC50 Daphnia 1	1700 mg/l (EC50; 24 h)
LC50 fish 2	15500 mg/l (LC50; 96 h; Gambusia affinis)

12.2. Persistence and degradability

magnesium sulfate (7487-88-9)	
Persistence and degradability	Biodegradability: not applicable.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable

12.3. Bioaccumulative potential

magnesium sulfate (7487-88-9)	
Bioaccumulative potential	No bioaccumulation data available.

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Effect on ozone layer :

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Precipitate/make insoluble. Remove to an authorized dump (Class I). Obtain the consent of pollution control authorities before discharging to wastewater treatment plants.

Additional information : LWCA (the Netherlands): KGA category 05. Can be considered as non hazardous waste according to Directive 2008/98/EC.

SECTION 14: Transport information

In accordance with DOT
Not regulated for transport

Additional information

Other information : No supplementary information available.

ADR

No additional information available

Transport by sea

No additional information available

Air transport

No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

magnesium sulfate (7487-88-9)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

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15.2. International regulations

CANADA

No additional information available

EU-Regulations

No additional information available

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

Not classified

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Not classified

15.2.2. National regulations

15.3. US State regulations

No additional information available

SECTION 16: Other information

NFPA health hazard

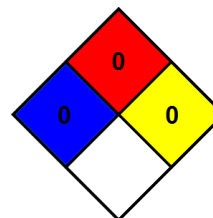
: 0 - Exposure under fire conditions would offer no hazard beyond that of ordinary combustible materials.

NFPA fire hazard

: 0 - Materials that will not burn.

NFPA reactivity

: 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



SDS US (GHS HazCom 2012)

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