



SIGMA-ALDRICH

Material Safety Data Sheet

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Version 1.70

Section 1 - Product and Company Information

Product Name	MAGNESIUM SULFATE, 99%
Product Number	246972
Brand	Aldrich Chemical
Company	Sigma-Aldrich
Street Address	3050 Spruce Street
City, State, Zip, Country	SAINT LOUIS, MO 63103 US
Technical Phone:	314 771 5765
Fax:	800 325 5052
Emergency Phone:	414 273 3850 Ext. 5996

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313
MAGNESIUM SULFATE ANHYDROUS	7487-88-9	No

Formula	MgSO ₄
Synonyms	Epsom salts, Magnesium sulphate, Sulfuric acid magnesium salt (1:1)

Section 3 - Hazards Identification

Emergency Overview

Caution: Avoid contact and inhalation. Target organ(s): Central nervous system. G.I. System.

HMIS Rating	Flammability: 0	Reactivity: 1
Health: 1*		

NFPA Rating	Flammability: 0	Reactivity: 1
Health: 1		

*additional chronic hazards present.

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

Oral Exposure

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

Inhalation Exposure

If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.

Dermal Exposure

In case of contact, immediately wash skin with soap and copious amounts of water.

Eye Exposure

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

Autoignition Temp: N/A

Extinguishing Media

Suitable

Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

Firefighting

Protective Equipment

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Specific Hazard(s)

Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

Procedure(s) of Personal Precaution(s)

Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves.

Methods for Cleaning Up

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

Handling

User Exposure

Avoid inhalation. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

Storage

Suitable

Keep tightly closed. Store in a cool dry place.

Special Requirements

Hygroscopic.

Section 8 - Exposure Controls / PPE

Engineering Controls

Safety shower and eye bath. Mechanical exhaust required.

Personal Protective Equipment

Respiratory

Government approved respirator.

Hand

Compatible chemical-resistant gloves.

Eye

Chemical safety goggles.

General Hygiene Measures
Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

Appearance		Form
Physical State		Powder
Solid		
Molecular Weight:	120.37 AMU	
pH	N/A	
BP/BP Range	N/A	
MP/MP Range	N/A	
Freezing Point	N/A	
Vapor Pressure	< 0.1 mmHg	20 °C
Vapor Density	< 0.01 g/l	
Saturated Vapor Conc.	N/A	
SG/Density	1.07 g/cm ³	
Bulk Density	N/A	
Odor Threshold	N/A	
Volatile%	N/A	
VOC Content	N/A	
Water Content	N/A	
Solvent Content	N/A	
Evaporation Rate	N/A	
Viscosity	N/A	
Partition Coefficient	N/A	
Decomposition Temp.	N/A	
Flash Point °F	N/A	
Flash Point °C	N/A	
Explosion Limits	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Solubility	N/A	
N/A = not available		

Section 10 - Stability and Reactivity

Stability
Stable.
Stable.
Conditions to Avoid
Hygroscopic.
Materials to Avoid
Strong oxidizing agents.

Hazardous Decomposition Products
Hazardous Decomposition Products
Sulfur oxides, Magnesium oxide.

Hazardous Polymerization
Hazardous Polymerization
Will not occur.

Section 11 - Toxicological Information

Route of Exposure

Skin Contact

May cause skin irritation.

Skin Absorption

May be harmful if absorbed through the skin.

Eye Contact

May cause eye irritation.

Inhalation

May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.

Ingestion

May be harmful if swallowed.

Target Organ(s) or System(s)

Central nervous system. G.I. System.

Signs and Symptoms of Exposure

Exposure can cause: Diarrhea. Vomiting. Can cause CNS depression. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

RTECS Number: OM4500000

Toxicity Data

Intravenous - Woman: 80 MG/KG (LDLO)

Remarks: Cardiac:Other changes.
Lungs, Thorax, or Respiration:Cyanosis.

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Remarks: Cardiac:Other changes.
Lungs, Thorax, or Respiration:Cyanosis.

Subcutaneous - Rat: 1200 MG/KG (LD50)

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Intraperitoneal - Mouse: 1029 MG/KG (LD50)

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Subcutaneous - Mouse: 645 MG/KG (LD50)

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Chronic Exposure - Teratogen

<u>Species</u>	<u>Dose</u>	<u>Route of Application</u>	<u>Exposure Time</u>
Rat	750 MG/KG	Intraperitoneal	(17-21D PREG)
Result: Effects on Embryo or Fetus: Other effects to embryo. Specific Developmental Abnormalities: Hepatobiliary system.			
Rat	750 MG/KG	Intraperitoneal	(17-21D PREG)
Result: Effects on Embryo or Fetus: Other effects to embryo. Specific Developmental Abnormalities: Hepatobiliary system.			

Chronic Exposure - Reproductive Hazard

<u>Species</u>	<u>Dose</u>	<u>Route of Application</u>	<u>Exposure Time</u>
Woman	320 MG/KG	Intravenous	(39W PREG)
Result: Maternal Effects: Other effects. Effects on Embryo or Fetus: Other effects to embryo.			
Woman	320 MG/KG	Intravenous	(39W PREG)
Result: Maternal Effects: Other effects. Effects on Embryo or Fetus: Other effects to embryo.			
Rat	9 GM/KG	Subcutaneous	(15-20D PREG)
Result: Maternal Effects: Other effects.			
Rat	18 GM/KG	Subcutaneous	(15-20D PREG)
Result: Effects on Newborn: Growth statistics (e.g., reduced weight gain). Effects on Newborn: Physical.			

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

Appropriate Method of Disposal of Substance or Preparation

Contact a licensed professional waste disposal service to dispose of this material.
Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.
Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT

Proper Shipping Name: None

Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.

IATA

Non-Hazardous for Air Transport: Non-hazardous for air transport.

Section 15 - Regulatory Information

EU Additional Classification

Safety Statements S: 22 24/25

Do not breathe dust. Avoid contact with skin and eyes.

US Classification and Label Text

US Statements

Caution: Avoid contact and inhalation. Target organ(s): Central nervous system. G.I. System.

United States Regulatory Information

SARA Listed: No

TSCA Inventory Item: Yes Yes

Canada Regulatory Information**WHMIS Classification**

This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: Yes

NDSL: No

Section 16 - Other Information

Disclaimer

For R&D use only. Not for drug, household or other uses.

Warranty

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2004 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.