

## MATERIAL SAFETY DATA SHEET

Date Updated: 09/28/2005

## Section 1 - Product and Company Information

Product Description 2.5 M MAGNESIUM SULFATE HYDRATE

Product Number HR2-633

Company Hampton Research Corp.  
Street Address 34 Journey  
City, State, Zip, Country Aliso Viejo, CA 92656-3317 USA  
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Emergency Phone: 949 425 1321  
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For CHEMTREC assistance, call: 800 424 9300  
For International CHEMTREC  
assistance, call: 703 527 3887

## Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313	Formula
MAGNESIUM SULFATE	22189-08-8	No	MgSO <sub>4</sub>

## Section 3 - Hazards Identification

## EMERGENCY OVERVIEW

Appearance: Transparent solid.

May cause eye and skin irritation. May cause respiratory and digestive tract irritation. May cause central nervous system depression. The toxicological properties of this material have not been fully investigated.

Target organ(s): Central nervous system, gastrointestinal system.

## POTENTIAL HEALTH EFFECTS

Eye: May cause mild eye irritation.

Skin: May cause skin irritation.

Ingestion: May cause gastrointestinal irritation with nausea, vomiting, and diarrhea. The toxicological properties of this substance have not been fully investigated.

Inhalation: May cause respiratory tract irritation. The toxicological properties of this substance have not been fully investigated.

## NFPA Rating

HEALTH: 1

FLAMMABILITY: 0

REACTIVITY: 0

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

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#### Section 4 - First Aid Measures

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##### EYE EXPOSURE

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

##### DERMAL EXPOSURE

In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. Call a physician.

##### ORAL EXPOSURE

If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Call a physician immediately. Do not induce vomiting.

##### INHALATION EXPOSURE

If inhaled, remove to fresh air immediately. If not breathing give artificial respiration. If breathing becomes difficult, give oxygen. Call a physician.

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#### Section 5 - Fire Fighting Measures

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##### FLASH POINT

N/A

##### AUTOIGNITION TEMP

N/A

##### EXPLOSION LIMITS

Lower: N/A

Upper: N/A

##### FLAMMABILITY

N/A

##### EXTINGUISHING MEDIA

Substance is noncombustible; use agent most appropriate to extinguish surrounding fire. Use water spray, dry chemical, carbon dioxide, or appropriate foam.

##### FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus in pressure demand, MSHA/NIOSH (approved or equivalent), and protective clothing to prevent contact with skin and eyes. Material will not burn.

Specific Hazard(s): During fire conditions, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

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## Section 6 - Accidental Release Measures

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### PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area.

### PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

### METHODS FOR CLEANING UP

Sweep up, place in a bag and hold for waste disposal. Provide ventilation and ventilate area and wash spill site after material pickup is complete.

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## Section 7 - Handling and Storage

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### Handling

User Exposure: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation.

### Storage

Suitable: Keep tightly closed. Store in a cool, dry, well-ventilated area away from incompatible substances.

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## Section 8 - Exposure Controls / PPE

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### ENGINEERING CONTROLS

Safety shower and eye bath. Use adequate ventilation to keep airborne concentrations low.

### PERSONAL PROTECTIVE EQUIPMENT

Respiratory: Government approved respirator.  
Hand: Compatible chemical-resistant gloves.  
Eye: Chemical safety goggles.

### GENERAL HYGIENE MEASURES

Wash contaminated clothing before reuse. Discard contaminated shoes. Wash thoroughly after handling.

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## Section 9 - Physical/Chemical Properties

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Physical State:	Solid
Appearance	Clear liquid
Form:	Liquid
Color:	Clear
Odor:	Odorless

Property	Value	At Temperature or Pressure
Molecular Formula	MgSO <sub>4</sub> • xH <sub>2</sub> O	
Molecular Weight	120.37 + aq	
pH	6.2 - 7.8	25°C

The following applies to the material when in solid form:

Property	Value	At Temperature or Pressure
BP/BP Range	N/A	
MP/MP Range	N/A	
Freezing Point	N/A	
Vapor Pressure	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
SG/Density	N/A	
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	
Surface Tension	N/A	
Partition Coefficient	N/A	
Decomposition Temp.	N/A	
Flash Point	N/A	
Explosion Limits	N/A	
Flammability	N/A	
Autoignition Temp.	N/A	
Refractive Index	N/A	
Optical Rotation	N/A	
Miscellaneous Data	N/A	
Solubility in Water	N/A	

N/A = not available

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## Section 10 - Stability and Reactivity

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### STABILITY

Stable: Stable.

Conditions to Avoid: Incompatible materials, dust generation, and excess heat.

Materials to Avoid: Strong oxidizing agents.

### HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Irritating and toxic fumes and gases, sulfur oxides (SO<sub>x</sub>), including sulfur oxide and sulfur dioxide.

## HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur.

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## Section 11 - Toxicological Information

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### ROUTE OF EXPOSURE

Skin Contact: May cause skin irritation.

Skin Absorption: May be harmful if absorbed through the skin.

Eye Contact: May cause mild eye irritation.

Inhalation: May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

Ingestion: Harmful if swallowed.

### TARGET ORGAN(S) OR SYSTEM(S)

Central nervous system, gastrointestinal system.

### SIGNS AND SYMPTOMS OF EXPOSURE

Chronic: Exposure to high concentrations may cause central nervous system depression. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

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## Section 12 - Ecological Information

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No data available.

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## Section 13 - Disposal Considerations

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### 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.

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## Section 14 - Transport Information

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### 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.

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## Section 15 - Regulatory Information

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### UNITED STATES REGULATORY INFORMATION

SARA LISTED: No

TSCA INVENTORY ITEM: 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

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## Section 16 - Other Information

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### 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. 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. Hampton Research Corp. 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.

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