Section 1 - Product and Company Information

Product Name                       MAGNESIUM SULFATE, 97+%  
Product Number                     208094  
Brand                              ALDRICH  
Company                            Sigma-Aldrich  
Street Address                     3050 Spruce Street  
City, State, Zip, Country          SAINT LOUIS MO 63103 US  
Technical Phone:                   314 771 5765  
Emergency Phone:                   414 273 3850 Ext. 5996  
Fax:                               800 325 5052

Section 2 - Composition/Information on Ingredient

Substance Name                          CAS #                 SARA 313  
MAGNESIUM SULFATE ANHYDROUS             7487-88-9             No  
Formula         MgSO4  
Synonyms        Epsom salts * Magnesium sulphate * Sulfuric acid magnesium salt (1:1)  
RTECS Number:   OM4500000

Section 3 - Hazards Identification

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

HMIS RATING
HEALTH: 1*  
FLAMMABILITY: 0  
REACTIVITY: 1

NFPA RATING
HEALTH: 1  
FLAMMABILITY: 0  
REACTIVITY: 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

FLASH POINT
N/A

AUTOIGNITION TEMP
N/A

FLAMMABILITY
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)
Exercise appropriate precautions to minimize direct contact with skin or eyes and prevent inhalation of dust.

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.

SPECIAL REQUIREMENTS
Hygroscopic.

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS
Safety shower and eye bath. Mechanical exhaust required.

PERSONAL PROTECTIVE EQUIPMENT
Respiratory: Wear dust mask.
Hand: Protective gloves.
Eye: Chemical safety goggles.
GENERAL HYGIENE MEASURES
    Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>At Temperature or Pressure</th>
</tr>
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<tbody>
<tr>
<td>Appearance</td>
<td>Physical State: Solid Form: Powder</td>
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<tr>
<td>Molecular Weight</td>
<td>120.37 AMU</td>
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<tr>
<td>pH</td>
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<tr>
<td>BP/BP Range</td>
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<tr>
<td>MP/MP Range</td>
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<tr>
<td>Freezing Point</td>
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<td>Vapor Pressure</td>
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<td>20 °C</td>
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<tr>
<td>Vapor Density</td>
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<td>Saturated Vapor Conc.</td>
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<td>SG/Density</td>
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<td>Bulk Density</td>
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<tr>
<td>Odor Threshold</td>
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<tr>
<td>Volatile%</td>
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<td>Solvent Content</td>
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<td>Optical Rotation</td>
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<tr>
<td>Solubility</td>
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</table>

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.

TOXICITY DATA

Intravenous Intravenous
   Woman Woman
   80 MG/KG 80 MG/KG
   LDLo LDLo
   Remarks: Cardiac:Other changes. Lungs, Thorax, or Respiration:Cyanosis. Cardiac:Other changes. Lungs, Thorax, or Respiration:Cyanosis.

Subcutaneous Subcutaneous
   Rat Rat
   1200 MG/KG 1200 MG/KG
   LD50 LD50

Intraperitoneal Intraperitoneal
   Mouse Mouse
   1029 MG/KG 1029 MG/KG
   LD50 LD50

Subcutaneous Subcutaneous
   Mouse Mouse
   645 MG/KG 645 MG/KG
   LD50 LD50

CHRONIC EXPOSURE - TERATOGEN

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

CHRONIC EXPOSURE - REPRODUCTIVE HAZARD

   Species: Woman Woman
   Dose: 320 MG/KG 320 MG/KG
   Route of Application: Intravenous Intravenous
   Exposure Time: (39W PREG) (39W PREG)
   Result: Maternal Effects: Other effects. Effects on Embryo or Fetus: Other effects to embryo. Maternal Effects: Other effects. Effects on Embryo or Fetus: Other effects to embryo.

   Species: Rat
   Dose: 9 GM/KG
   Route of Application: Subcutaneous
   Exposure Time: (15-20D PREG)
   Result: Maternal Effects: Other effects.
Species: Rat
Dose: 18 GM/KG
Route of Application: Subcutaneous
Exposure Time: (15-20D PREG)
Result: Effects on Newborn: Growth statistics (e.g., reduced weight gain). Effects on Newborn: Physical.

Section 12 - Ecological Information

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
S: 22 24/25
Safety Statements: Do not breathe dust. Avoid contact with skin and eyes.

US CLASSIFICATION AND LABEL TEXT

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
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