

**SIGMA-ALDRICH****Material Safety Data Sheet**

Date Printed: 04/27/2007  
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 Version 1.50

**Section 1 - Product and Company Information**

Product Name	Iron(III) sulfate hydrate, 97%
Product Number	307718
Brand	Aldrich Chemical
Company	Sigma-Aldrich
Street Address	3050 Spruce Street
City, State, Zip, Country	SAINT LOUIS, MO 63103 US
Technical Phone:	800-325-5832
Fax:	800-325-5052
	Emergency Phone: 314-776-6555

**Section 2 - Composition/Information on Ingredient**

Substance Name	CAS #	SARA 313	EC no	Annex I Index Number
IRON(III) SULFATE HYDRATE	15244-10-7	No	233-072-9	
Formula Synonyms	Fe <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub> · xH <sub>2</sub> O Ferric sulfate pentahydrate, Sulfuric acid, iron(3+) salt (3:2), pentahydrate			

**Section 3 - Hazards Identification**

**Emergency Overview**  
 Harmful.  
 Harmful if swallowed. Irritating to eyes and respiratory system.  
 Target organ(s): Liver, G.I. System.

**HMIS Rating**  
 Health: 2\* Flammability: 0 Reactivity: 1

**NFPA Rating**  
 Health: 2 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 not breathing give artificial respiration. If breathing is difficult, give oxygen.

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

**Eye Exposure**  
 In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes.

**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 Protection(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**  
 Do not breathe dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

**Storage**  
**Suitable**  
 Keep tightly closed.

**Special Requirements**  
 Hygroscopic. Light sensitive

**Section 8 - Exposure Controls / PPE**

**Engineering Controls**  
 Safety shower and eye bath. Mechanical exhaust required.

**Personal Protective Equipment**

**Respiratory**  
 Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a dust mask type N95 (US) or type P1 (EN 143) respirator.  
**Hand**  
 Compatible chemical-resistant gloves.  
**Eye**  
 Chemical safety goggles.

**General Hygiene Measures**  
Wash thoroughly after handling.

## Section 9 - Physical/Chemical Properties

Appearance	
Physical State	Color
Solid	Yellow
<b>Molecular Weight:</b>	399.88 AMU
pH	N/A
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
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	Soluble.

N/A = not available

## Section 10 - Stability and Reactivity

Stability	
Stable	
Stable.	
Conditions to Avoid	
Light.	
Materials to Avoid	
Strong oxidizing agents.	
Hazardous Decomposition Products	
Hazardous Decomposition Products	
Sulfur oxides.	

**Hazardous Polymerization**  
**Hazardous Polymerization**  
Will not occur.

## Section 11 - Toxicological Information

Route of Exposure	
<b>Skin Contact</b>	May cause skin irritation.
<b>Skin Absorption</b>	May be harmful if absorbed through the skin.
<b>Eye Contact</b>	Causes eye irritation.
<b>Inhalation</b>	Material is irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled.
<b>Ingestion</b>	Harmful if swallowed.

**Target Organ(s) or System(s)**  
Liver, G.I. System.

### Signs and Symptoms of Exposure

Overdose of iron compounds may have a corrosive effect on the gastrointestinal mucosa and be followed by necrosis, perforation, and stricture formation. Several hours may elapse before symptoms that can include epigastric pain, diarrhea, vomiting, nausea, and hematemesis occur. After apparent recovery a person may experience metabolic acidosis, convulsions, and coma hours or days later. Further complications may develop leading to acute liver necrosis that can result in death due to hepatic coma. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**RTECS Number:** NO8520000

### Toxicity Data

Intraperitoneal - Mouse: 588 MG/KG (LD50)

## Section 12 - Ecological Information

No data available.

## Section 13 - Disposal Considerations

### Appropriate Method of Disposal of Substance or Preparation

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:** Environmentally hazardous substances, solid, n.o.s.  
**UN#:** 3077  
**Class:** 9  
**Packing Group:** Packing Group III  
**Hazard Label:** Class 9  
**PIH:** Not PIH

### IATA

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

## Section 15 - Regulatory Information

### EU Additional Classification

Symbol of Danger: Xn

Indication of Danger

Harmful.

Risk Statements

R: 22, 36/37

Harmful if swallowed. Irritating to eyes and respiratory system.

Safety Statements

S: 26

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

### US Classification and Label Text

Indication of Danger

Harmful.

Risk Statements

Harmful if swallowed. Irritating to eyes and respiratory system.

Safety Statements

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

US Statements

Target organ(s): Liver, G.I., System.

### United States Regulatory Information

SARA Listed: No

### 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: No

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. 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. 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 2007 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

