

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

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 Version 1.130

Section 1 - Product and Company Information

Product Name Iron(II) sulfate heptahydrate, puriss. p.a., ≥99.5% (RT), ACS
Product Number 44970
Brand Fluka 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
FERROUS SULFATE HEPTAHYDRATE	7782-63-0	No	231-753-5	

Formula FeSO₄ · 7H₂O
Synonyms Ferrous sulfate heptahydrate, Fesofor, Fesotyme, Green vitrol, Haemofort, Ironate, Iron protosulfate, Iron sulfate heptahydrate, Irosul, Mol-Iron, Presfersul

Section 3 - Hazards Identification**Emergency Overview**

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

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 not breathing give artificial respiration. If breathing is difficult, give oxygen.

Dermal Exposure

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

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 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. 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

Air and moisture 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.

Exposure Limits, RTECS

<u>Country</u>	<u>Source</u>	<u>Type</u>	<u>Value</u>
USA	MSHA Standard-air	TWA	1 MG(FE)/M3

Section 9 - Physical/Chemical Properties

Appearance
Physical State
Solid

Molecular Weight: 278.01 AMU

pH	3.0 - 4.0
BP/BP Range	N/A
MP/MP Range	64 °C
Freezing Point	N/A
Vapor Pressure	14.6 mmHg
Vapor Density	N/A
Saturated Vapor Conc.	N/A
SG/Density	1.9 g/cm3
Bulk Density	1.300 kg/l
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
Autoglowition Temp	N/A
Solubility	N/A

N/A = not available

Section 10 - Stability and Reactivity

Stability
Stable.

Stable.

Conditions to Avoid

Moisture.

Materials to Avoid

Strong oxidizing agents.

Hazardous Decomposition Products

Hazardous Decomposition Products
Iron oxides, Sulfur oxides.

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

Harmful if swallowed.

Target Organ(s) or System(s)

G.I. System. Liver.

Signs and Symptoms of Exposure

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

RTECS Number: NO8510000

Toxicity Data

Oral - Mouse: 1520 mg/kg (LD50)

Intraperitoneal - Mouse: 245 MG/KG (LD50)

Intravenous - Mouse: 51 MG/KG (LD50)

Remarks: Behavioral:Somnolence (general depressed activity).

Cardiac:Other changes.

Lungs, Thorax, or Respiration:Respiratory depression.

Chronic Exposure - Mutagen

<u>Species</u>	<u>Dose</u>	<u>Cell Type</u>	<u>Mutation test</u>
Mouse	500 UMOL/L	Other cell types	Micronucleus test

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.

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Section 15 - Regulatory Information

EU Additional Classification

Symbol of Danger: Xn

Indication of Danger

Harmful.

Risk Statements R: 22

Harmful if swallowed.

Safety Statements S: 36/37/39

Wear suitable protective clothing, gloves, and eye/face protection.

US Classification and Label Text

Indication of Danger

Harmful.

Risk Statements

Harmful if swallowed.

Safety Statements

Wear suitable protective clothing, gloves, and eye/face protection.

US Statements

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

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

NDRL: 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.

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Health**