



1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: FERROUS SULFATE HEPTAHYDRATE

Other name(s): Ferrous Sulphate Heptahydrate; Iron Sulphate Heptahydrate; Iron Sulfate Heptahydrate.

Recommended use: Fertilizer

Supplier: Marion Ag Service
Street Address: 7746 St. Paul Hwy
St. Paul, Oregon
97137

Telephone Number: 503-633-4281
Facsimile: 503-633-4280
Emergency Telephone: INFOTRAC 1-800-535-5053

2. HAZARDS IDENTIFICATION

Classified as hazardous according to the Globally Harmonized System (GHS) of Classification and Labelling of Chemicals;
HAZARDOUS SUBSTANCE.

Classification of the substance or mixture:

Acute toxicity - oral - Category 4
Skin corrosion/irritation - Category 3
Serious eye damage/eye irritation - Category 2A
Long-term hazards to the aquatic environment - Category 4

SIGNAL WORD: WARNING



Hazard Statement(s):

H302 Harmful if swallowed. H315 Causes skin irritation. H319 Causes serious eye irritation. H433 Harmful to terrestrial vertebrates.

Precautionary Statement (s):

Prevention:

Keep out of reach of children.
Wash hands thoroughly after handling.
Do not eat, drink or smoke when using this product.
Wear protective gloves/protective clothing/eye protection/face protection.
Avoid release to the environment.



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Response:

P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. P330 Rinse mouth. P302+P352 IF ON SKIN: Wash with plenty of soap and water. P321 Specific treatment (see First Aid Measures on this Safety Data Sheet). P332+P313 If skin irritation occurs: Get medical advice/attention. P363 Wash contaminated clothing before re-use. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337+P313 If eye irritation persists: Get medical advice/attention.

Disposal:

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS Number	Proportion	Chemical Formula
Iron(II) sulfate, heptahydrate	7782-63-0	>=98%	FeSO ₄ ·7H ₂ O

4. FIRST AID MEASURES

First Aid Measures

Inhalation: Remove from exposure area to fresh air immediately. If breathing is difficult, oxygen may be administered by a qualified operator. Keep person warm and at rest. Get medical attention for irritation or any other symptom.

Eye Contact: Flush eyes immediately with large amounts of water or normal saline solution occasionally lifting upper and lower lids until no evidence of product remains (approximately 15-20 minutes). Cover with sterile bandages. Call a physician if irritation persists.

Ingestion: DO NOT Induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin Contact Remove contaminated clothing and shoes. Wash affected area with soap or mild detergent and rinse with water until no evidence of product remains. Get medical assistance for irritation, or any other symptom.

Note to Physicians: The decision as to whether the severity of poisoning requires administration of any antidote and actual dose required should be made by a qualified medical personnel

5. FIRE FIGHTING MEASURES

Flash Point: None

Auto Ignition Temperature: Not Determined

Fire and Explosion Hazard: N/A

Extinguishing Media: Use any standard agent suitable for surrounding structural fire or for other chemicals that may be involved.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Dike area to prevent runoff and contamination of water sources.

Hazardous Combustion Products: N/A

Product Name: FERROUS SULFATE HEPTAHYDRATE



6. ACCIDENTAL RELEASE MEASURES

Emergency procedures/Environmental precautions:

Clear area of all unprotected personnel. If contamination of sewers or waterways has occurred advise local emergency services.

Personal precautions/Protective equipment/Methods and materials for containment and cleaning up:

Wear protective equipment to prevent skin and eye contact and breathing in dust. Work up wind or increase ventilation. Cover with damp absorbent (inert material, sand or soil). Sweep or vacuum up, but avoid generating dust. Collect and seal in properly labelled containers or drums for disposal. Wash area down with excess water.

7. HANDLING AND STORAGE

Precautions for safe handling:

Avoid skin and eye contact and breathing in dust.

Conditions for safe storage, including any incompatibilities:

Store in a cool, dry, well ventilated place and out of direct sunlight. Do not store above 24°C. Store away from incompatible materials described in Section 10. Keep containers closed when not in use - check regularly for spills.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters: No value assigned for this specific material by the National Occupational Health and Safety Commission. However, Exposure Standard(s) for constituent(s):

Iron salts, soluble (as Fe): 8hr TWA = 1 mg/m³

TWA - The time-weighted average airborne concentration of a particular substance when calculated over an eight-hour working day, for a five-day working week.

These Workplace Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These workplace exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

Appropriate engineering controls:

Ensure ventilation is adequate and that air concentrations of components are controlled below quoted Workplace Exposure Standards. Avoid generating and breathing in dusts. Use with local exhaust ventilation or while wearing dust mask. Keep containers closed when not in use.

Individual protection measures, such as Personal Protective Equipment (PPE):

The selection of PPE is dependant on a detailed risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods, and environmental factors.

Personal Protection - OVERALLS, SAFETY SHOES, CHEMICAL GOGGLES, GLOVES, DUST MASK.





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Wear overalls, chemical goggles and impervious gloves. If dust exists, wear dust mask/particulate respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Description: Light greenish/gray or white, free-flowing fine granules.

Molecular formula: $\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$ (ferrous sulfate Heptahydrate)

Molecular Weight: 278.05

Melting Point: Loses water at 149 degrees F, decomposes above 300 degrees C

Boiling Point: Decomposition at 300 degrees C

Vapor Pressure: Not applicable

Water Solubility: 448.50 gms in 100ml.

Specific Gravity: 1.898 @ 25 degrees C

PH: 3.7 (10% solution)

10. STABILITY AND REACTIVITY

Reactivity: Hygroscopic: absorbs moisture or water from surrounding air.

Chemical stability: Stable.

Possibility of hazardous reactions: Hazardous polymerisation will not occur.

Conditions to avoid: Avoid dust generation. Avoid exposure to moisture. Avoid exposure to air.

Incompatible materials: Incompatible with alkalis, oxidising agents, soluble carbonates, gold and silver salts, lead acetate, lime water, potassium iodide, sodium tartrate, sodium borate, tannin, vegetable astringent infusions and decoctions.

Hazardous decomposition products: Oxides of sulfur.

11. TOXICOLOGICAL INFORMATION

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:

Ingestion: Swallowing can result in nausea, vomiting, diarrhoea, and gastrointestinal irritation. Symptoms of swallowing large amounts of soluble iron compounds may be delayed several hours and can include epigastric pain, vomiting blood and circulatory failure.

Eye contact: An eye irritant.

Skin contact: Contact with skin will result in irritation.

Inhalation: Breathing in dust may result in respiratory irritation.

Long Term Effects: Evidence indicates that repeated or prolonged exposure to this chemical could result in effects on the liver. (1)

Toxicological Data:

Acute Toxicity:

LD50: 1520 mg/kg, oral, rat

LD50: 1480 mg/kg, oral, mouse

Local Effects: Corrosive to eyes, ingestion, skin irritant, mucous membranes.

Eyes: dose-420 ug: moderate (rabbit)

Inhalation: Inhalation of dust may cause irritation of the respiratory tract with sore throat.



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Ingestion: In patients not in shock or coma, induce emesis with syrup of ipecac if vomiting has not occurred. . Follow with gastric lavage using Deferoxamine, 2 grams in 1 liter of water which contains sodium bicarbonate 20 gm/L. Leave 10 grams of deferoxamine in 50 ml of 5% sodium bicarbonate in the stomach. Maintain airway, blood pressure, and respiration

Delayed/Chronic:

Carcinogen status: Data not available.

Chronic Exposure: Reproductive effects have been reported in animals.

12. ECOLOGICAL INFORMATION

Acute Aquatic Toxicity: No data available.

Degradability: No data available

Log Bio concentration Factor (BCF): No data available

Log Octanol/Water partition coefficient: No data available

13. DISPOSAL CONSIDERATIONS

Disposal methods:

Disposal of Wastes: Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging: Disposal should be in accordance with applicable regional, national and local laws and regulations.

14. TRANSPORT INFORMATION

This product is not regulated in surface transportation in non-bulk quantities. The information below is for shipments exceeding 1,000 pounds in single package, container, truck, or trailer.

US DOT Shipping name: Environmentally hazardous substances, solid, n.o.s. (Ferrous Sulfate), 9, UN 3077,PGIII, ERG31

US DOT Hazard Class: 9- Miscellaneous hazardous material.

US DOT Identification Number: UN 3077

US DOT Packing Group: III

US DOT Label Code: 9

Reportable Quantity: 1,000 lbs. (454kg)

15. REGULATORY INFORMATION

Classification:

Classified as hazardous according to the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals; HAZARDOUS SUBSTANCE.

TSCA Status: All ingredients are listed on the TSCA Inventory of Chemical Substances.

Other TSCA Issues: None

SARA 311 Classification: Not Listed

SARA 313 Notification: There are no ingredients on the SARA 313 reporting list.

California Proposition 65: No data available.

Canadian Inventory: All ingredients are listed on the Canadian domestic Substances List.

WHMIS: This Product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the controlled Products Regulations. Classification: D2B



16. OTHER INFORMATION

NFPA Rating: Health: 1 Flammability: 0 Reactivity: 0

Label Hazard Warning: Warning! Causes irritation to skin, eyes and respiratory tract.

Label Precaution: Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Avoid breathing dust. Use with adequate ventilation.

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.