



# Ferrous Sulfate Monohydrate Fine Granular

## Safety Data Sheet

### 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

#### Product identifier

Product Name: Ferrous Sulfate Monohydrate  
CAS-No.: 17375-41-6

#### Other means of identification

Synonyms: Ferrous Sulfate 30, Copperas, Iron (II) Sulfate

#### Recommended use of the chemical and restrictions on use

Recommended Use: Fertilizer, Industrial, & Animal Feed

Uses advised against: No information available

#### Details of the supplier of the safety data sheet

Supplier Name: Chemurgic Agricultural Chemicals, Inc.  
Supplier Address: PO Box 2106  
Turlock, CA 95381  
Supplier Phone Number: 209-634-2951 Fax: 209-667-1860

#### Emergency telephone number

INFOTRAC: (800) 535-5053  
EPA National Response Center: (800) 424-8802

### 2. HAZARDS IDENTIFICATION

#### Classification

Acute Toxicity, Oral Category 4  
Skin irritation Category 2  
Eye Irritation Category 2A

#### GHS Label elements, including precautionary statements

Pictogram:



Signal word: Warning

Hazard statement(s): Harmful if swallowed.  
Causes skin irritation.  
Causes serious eye irritation.

Precautionary statement(s): Wash skin thoroughly after handling.  
Do not eat, drink, or smoke when using this product.  
Wear protective gloves/eye protection/face protection.

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.  
IF ON SKIN: Wash with plenty of soap and water.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
Specific treatment (see supplemental first aid instructions on this label). Rinse mouth.  
If skin irritation occurs: Get medical advice/ attention.  
If eye irritation persists: Get medical advice/ attention.  
Remove contaminated clothing and wash before reuse.  
Dispose of contents/container to an approved waste disposal plant.

**Hazards not otherwise classified (HNOC):** None

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### Substances

<u>Synonyms:</u>	Ferrous Sulfate Monohydrate
<u>Formula:</u>	FeSO <sub>4</sub> · 1H <sub>2</sub> O
<u>Molecular Weight:</u>	169.92 g/mol
<u>CAS-No.:</u>	17375-41-6
<u>Weight %:</u>	>99%

#### Hazardous components

<u>Component:</u>	<u>Classification:</u>
Ferrous Sulfate Heptahydrate	Acute Tox. 4; Skin Irrit. 2; Eye Irrit. 2A; H302, H315, H319

### 4. FIRST AID MEASURES

#### Description of first aid measures

**General advice:** Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

**If inhaled:** If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

**In case of skin contact:** Wash off with soap and plenty of water. Consult a physician.

**In case of eye contact:** Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**If swallowed:** Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

**Most important symptoms and effects, both acute and delayed:** The most important known symptoms and effects are described in the labelling (see Section 2.2) and/or in Section 11.

**Indication of any immediate medical attention and special treatment needed:** No data available.

## 5. FIREFIGHTING MEASURES

### Extinguishing media

**Suitable extinguishing media:** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Special hazards arising from the substance or mixture:** Sulphur oxides, Iron oxides.

**Advice for firefighters:** Wear self-contained breathing apparatus for firefighting if necessary.

**Further information:** The product itself does not burn.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures:** Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist, or gas. Ensure adequate ventilation. Avoid breathing dust. For personal protection see Section 8.

**Environmental precautions:** Do not let product enter drains.

**Methods and materials for containment and cleaning up:** Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

**Reference to other sections:** For disposal see Section 13.

## 7. HANDLING AND STORAGE

**Precautions for safe handling:** Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see Section 2.

**Conditions for safe storage, including any incompatibilities:** Keep container tightly closed in a dry and well-ventilated place. Air sensitive. Store under inert gas. Hygroscopic.

**Specific end use(s):** Apart from the uses mentioned in Section 1 no other specific uses are stipulated.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control Parameters

#### **Components with workplace control parameters**

Component	CAS-No.	Value	Control parameters	Basis
Ferrous sulfate Heptahydrate	17375-41-6	TWA	1 mg/m <sup>3</sup>	USA. ACGIH Threshold Limit Values (TLV)
	Remarks	Upper Respiratory Tract & skin irritation varies	TWA	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		TWA	1 mg/m <sup>3</sup>	USA. NIOSH Recommended Exposure Limits

### Exposure Controls

**Appropriate engineering controls:** Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

### **Personal Protective Equipment**

**Eye/face protection:** Safety glasses with side-shields.

**Skin protection:** Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

**Body protection:** Complete suit protecting against chemicals, the type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Respiratory protection:** For nuisance exposures use a particle respirator. For higher level protection use type, wear NIOSH approved air-purifying respirator with cartridges/canisters.

**Control of environmental exposure:** Do not let product enter drains.

## **9. PHYSICAL AND CHEMICAL PROPERTIES**

### **Physical and Chemical Properties**

Physical State:	Solid	
Appearance:	Grey, acidic/sour	Odor: No data available
Color:	Grey	Odor Threshold: No data available

### **Property**

pH	3.0 – 4.0 @ 50 g/l @ 25° C (77° F)
Melting/freezing point	Melting point/range: 64° C (147° F) Loses water
Flash Point	No data available
Boiling Point/Boiling Range	No data available
Evaporation Rate	No data available
Flammability (solid, gas)	No data available
Flammability Limit in Air	
Upper flammability limit	No data available
Lower flammability limit	N/A
Vapor pressure	No data available
Vapor density	No data available
Specific Gravity	No data available
Water solubility	No data available

### **Values**

### **Property**

Solubility in other solvents	No data available
Partition coefficient: n-octanol/water	No data available
Autoignition temperature	No data available
Decomposition temperature	No data available
Kinematic viscosity	No data available
Dynamic viscosity	No data available
Explosive properties	No data available
Oxidizing properties	No data available

### **Values**

### **Other Information**

Bulk density	880 kg/m <sup>3</sup>
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## 10. STABILITY AND REACTIVITY

**Reactivity:** No data available.

**Chemical Stability:** Stable under recommended storage conditions.

**Possibility of Hazardous Reactions:** No data available.

**Hazardous:** Polymerization: No data available.

**Conditions to Avoid:** No data available.

**Incompatible Materials:** Strong oxidizing agents.

**Hazardous Decomposition Products:** Other decomposition products – no data available. In the event of a fire, see Section 5.

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

<b>Product information</b>	Inhalation	No data available
	Eye contact	No data available
	Skin contact	No data available
	Ingestion	Harmful if swallowed

### Component Information

### Information on toxicological effects

**Symptoms** No data available

### Delayed and immediate effects as well as chronic effects from short & long-term exposure

Sensitization:	No data available.
Mutagenic effects:	No data available.
Carcinogenicity:	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
STOT-single exposure:	No data available.
STOT-repeated exposure:	No data available.
Chronic toxicity:	No data available.
Target organ exposure:	No data available.
Aspiration hazard:	No data available.

### Numerical measure of toxicity product information

The following values are calculated based on Section 3 of the GHS document: No data available.

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity:** No data available.

**Persistence and Degradability:** No data available.

**Bioaccumulation:** No data available.

**Other adverse effects:** No data available.

### 13. DISPOSAL CONSIDERATIONS

#### Waste treatment methods

**Disposal methods** Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

**Contaminated packaging** Dispose of as unused product.

### 14. TRANSPORT INFORMATION

**DOT (US)**  
UN Number: 3077      Class: 9      Packing group: III  
Proper shipping name      Environmentally hazardous substance, solid, n.o.s.  
(Ferrous Sulfate Monohydrate)  
Reportable Quantity (RQ): 1,000 lbs  
Marine pollutant: No  
Poison Inhalation Hazard: No

**IMDG** Not dangerous goods.

**IATA** Not dangerous goods.

### 15. REGULATORY INFORMATION

#### INTERNATIONAL INVENTORIES

**TSCA:** CAS# 17375-41-6 is not on the TSCA Inventory because it is a hydrate. It is considered to be listed if the CAS# for the anhydrous form is on the inventory (40CFR720.3(u)(2)).

**DSL:** CAS# 17375-41-6 is listed on the TSCA Inventory.  
CAS# 17375-41-6 is listed on Canada's DSL List.

#### US Federal Regulations

**SARA 313:** SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA + Title III, Section 313.

**SARA 311/312 Hazard Categories:** Acute health hazard  
Chronic health hazard

**CWA (Clean Water Act)** Section 311 Hazardous Substances (40 CFR 117.3)  
Sulfuric acid, Iron(2) salt (1:1), Monohydrate  
Reportable quantity: 1000 lbs.

**CERCLA** (40 CFR 302.4)  
Sulfuric acid, Iron(2) salt (1:1), Monohydrate  
Reportable quantity: 1000 lbs.

#### US State Regulations

**California Prop. 65 Components** This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

**US State Right-to-Know Regulations**

**Massachusetts Right-to-Know Components:**

Ferrous Sulfate Monohydrate CAS-No. 17375-41-6 Revision Date: 1993-04-24

**Pennsylvania Right-to-Know Components:**

Ferrous Sulfate Monohydrate CAS-No. 17375-41-6 Revision Date: 1993-04-24

**New Jersey Right-to-Know Components:**

Ferrous Sulfate Monohydrate CAS-No. 17375-41-6 Revision Date: 1993-04-24

**International Regulations**

**Canada WHMIS Hazard Class:** Uncontrolled product; Disclosure at 1%.

**16. OTHER INFORMATION**

**NFPA Rating** Health hazard: 2 Fire Hazard: 0 Reactivity Hazard: 0

**HMIS Rating** Health hazard: 2 Chronic Health Hazard: Flammability: 0  
Physical Hazard 0

**Further information**

This SDS summarizes to the best of our knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely handle the material in the workplace. Since Chemurgic Agricultural Chemicals, Inc cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, assess and control the risks arising from its use of the material. 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. Chemurgic Agricultural Chemicals, Inc shall not be held liable for any damage resulting from handling or from contact with the above product.

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