

# Material Safety Data Sheet

## AG Specialties Brand Ferrous Sulfate

### Section 1 – Product and Company Identification

Product Name: Ferrous Sulfate  
Trade Names: AG SPECIALTIES BRAND FERROUS SULFATE  
Synonyms: Ferrous sulfate monohydrate  
MSDS Creation Date: July 2000  
MSDS Current revision date: None  
Distributed by: AG Specialties LLC; 12220 SW Grant Ave; Tigard, OR 97223; 877-601-7670  
EMERGENCY: CHEMTREC (24 Hour Emergency Response) 1-800-424-9300

### Section 2 – Composition / Information on Ingredients

Ingredient Name	CAS Number	%wt
Ferrous Sulfate Monohydrate	7720-78-7	>99

### Section 3 – Hazards Identification

**Emergency overview:** Product dusts may irritate respiratory tract.

**NFPA Rating:** Health=1, Fire=0, Reactivity=0

**Potential Health Effects:**

*Inhalation:* May cause irritation of the respiratory tract, no data is available on chronic exposure.

*Skin Contact:* May cause irritation, chronic exposure to irritants may cause dermatitis.

*Eye Contact:* Contact may cause irritation, possibly severe. Additional effects based on duration may include irritation and/or conjunctivitis.

*Ingestion:* Side effects of ingestion of iron salts may include heartburn, nausea, gastric discomfort, constipation or diarrhea. Symptoms of severe poisoning may occur within 30 minutes or be delayed for several hours. Severe hemorrhagic gastritis with abdominal pain, retching, violent diarrhea and vomiting may occur. Circulatory system may be affected with symptoms of shock, rapid, weak or no pulse, severe hypotension and pulmonary changes with dyspnea, and emphysema may occur. The average lethal dose of iron is about 200 to 250 mg per kg of body weight.

*Long-Term and/or delayed effects:* Reproductive effects have been reported in animals.

**CARCINOGEN STATUS:** OSHA: Not listed NTP: Not listed IARC: Not listed

### Section 4 – 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.

*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.

*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. Get medical attention immediately.

*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.

**NOTE TO PHYSICIAN:** The decision as to whether the severity of poisoning requires administration of any antidote and actual dose required should be made by qualified medical personnel.

## Section 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.

*Firefighting:* Wear appropriate self-contained positive pressure breathing apparatus. Dike area to prevent runoff and contamination of water sources.

*Hazardous Combustion Products:* N/A

## Section 6 – Accidental Release Measures

*In Case of Spill:* Pick up dry spills by scooping, shoveling or vacuuming and place into containers for reuse or disposal. Wear respirator, protective clothing and gloves. Keep unnecessary people away. Obey all federal, state, and local regulations when storing or disposing of ferrous sulfate.

## Section 7 – Handling and Storage

*Storage:* Store in a cool, dry place.

*Normal Handling:* Avoid contact with skin and eyes. Avoid dispersion of dust into air.

## Section 8 – Exposure Controls / Personal Protection

### Exposure Limits

Ingredient	OSHA PEL	ACGIH TLV	OTHER VALUES
No ingredients	-----	-----	-----

\*= ACGIH Biological Exposure Value

\*\*= AIHA Workplace Environmental Exposure Level

*Ventilation:* Use of local exhaust is recommended at product transfer points and where dusty conditions exist.

*Eye Protection:* Wear safety glasses. Use of splash shields or safety goggles is recommended for very dusty conditions.

*Clothing:* Wear trousers and long sleeved shirt to avoid skin contact with this product. Clean work clothing before taking them home (preferred) or launder separately from household laundry.

*Gloves:* Wear cotton or canvas protective gloves to prevent contact with this product.

*Respirator:* For normal product handling, use an NIOSH approved air-purifying dust respirator. For extremely dusty conditions, the use of a full-face air purifying particulate respirator is recommended.

**EMERGENCY WASH FACILITIES:** Where there is the potential that an employee's eyes and/or skin may be exposed to this product, the employer should provide an eye wash fountain and safety shower or another source of running water within the immediate work area.

## Section 9 – Physical and Chemical Properties

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

*Molecular Formula:* FeSo4 (ferrous sulfate monohydrate)

*Molecular Weight:* 278.01

*ph:* 3.0-5.0 @ 5% solution

*Melting Point:* Loses water at 149 degrees F, decomposes above 572 degrees F

*Boiling Point:* Not applicable

*Vapor Pressure:* Not applicable

*Water Solubility:* 29.65g/100ml water.

*Solvent Solubility:* Insoluble in alcohol

*Specific Gravity:* 2.970 @ 25 degrees C

## Section 10 – Stability and Reactivity

*Reactivity:* Stable under normal temperatures and pressures.

*Conditions to Avoid:* Extremely high temperatures.

*Incompatibilities:* Oxidizing agents and alkalis.

*Hazardous Decomposition:* Products of sulfur oxides, i.e.: SO<sub>2</sub> and SO<sub>3</sub>.

*Polymerization:* Will not occur

## Section 11 – Toxicological Information

Toxicological information listed below is for Ferrous Sulfate

### *Acute Toxicity:*

LD50: 1520 mg/kg, oral, rat

LD50: 1480mg/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.

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.

## Section 12 – Ecological Information

*Acute Aquatic Toxicity:* No data available

*Degradability:* No data available

*Log Bioconcentration Factor (BCF):* No data available

*Log Octanol/Water partition coefficient:* No data available

## Section 13 – Disposal Considerations

Sweep up and repackage or place in a receptacle for future disposal or use in accordance with any and all federal, state, or local regulations.

## Section 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 a single package, container, truck, or railcar.

*US DOT Shipping name:* Environmentally hazardous substances, solid, n.o.s. (Ferrous Sulfate), 9, UN 3077, PG III, ERG 31

*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 (454 kg)

## Section 15 – Regulatory Information

**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.

**CERCLA RQ's and TPQ's:** Ferrous Sulfate has a reportable quantity (RQ) of 1,000 lbs.

**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 MSDS contains all the information required by the Controlled Products Regulations. Classification: D2B

## Section 16 – Other Information

**NFPA Ratings:** Health: 1, Flammability: 0, Reactivity: 0

**Label Hazard Warning:** WARNING! CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT.

**Label Precautions:**

Avoid contact with eyes, skin and clothing.

Wash thoroughly after handling.

Avoid breathing dust.

Use with adequate ventilation.

**Label First Aid:** If swallowed, induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. In case of contact, wipe off excess material from skin then immediately flush eyes or skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In all cases, get medical attention. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. Customers are responsible for compliance with local, state and federal regulations that may be pertinent in the storage, application and disposal of this product.

**Product Use:** Fertilizer and animal feed ingredient additive.

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