



# SAFETY DATA SHEET

Issue Date: 01-Mar-2013

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Version 1

## 1. Identification

### Product identifier

Product Name: Ferric Sulfate 12% Iron

### Other means of identification

Product Code: 39931

UN/ID No: UN3264

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

Recommended Use: Industrial, Manufacturing or Laboratory use.

Restrictions on Use: None known

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

Manufacturer: Hawkins, Inc.  
2381 Rosegate  
Roseville, MN 55113  
(612) 331-6910

### Emergency telephone number

Emergency Telephone: CHEMTREC: 1-800-424-9300 (US) / +1 703-741-5970 (International)

## 2. Hazard(s) identification

### Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Oral	Category 4
Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1
Carcinogenicity	Category 1A
Corrosive to metals	Category 1

### Hazards not otherwise classified (HNOC)

Not applicable

### Label elements

Signal word: Danger

### Hazard statements:

Harmful if swallowed

Causes severe skin burns and eye damage

May cause cancer

May be corrosive to metals



**Precautionary Statements - Prevention:**

Obtain special instructions before use  
 Do not handle until all safety precautions have been read and understood  
 Wear protective gloves/protective clothing/eye protection/face protection  
 Wash face, hands and any exposed skin thoroughly after handling  
 Do not eat, drink or smoke when using this product  
 Do not breathe dusts or mists  
 Keep only in original container

**Precautionary Statements - Response:**

Immediately call a POISON CENTER or doctor  
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 Immediately call a POISON CENTER or doctor  
 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower  
 Wash contaminated clothing before reuse  
 IF INHALED: Remove person to fresh air and keep comfortable for breathing  
 Immediately call a POISON CENTER or doctor  
 IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell  
 Rinse mouth  
 Do NOT induce vomiting  
 Absorb spillage to prevent material damage

**Precautionary Statements - Storage:**

Store locked up  
 Store in corrosion resistant container with a resistant inner liner

**Precautionary Statements - Disposal:**

Dispose of contents/container to an approved waste disposal plant

**Unknown Acute toxicity:**

0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

**Other Information**

Not applicable

**3. Composition/information on ingredients**

Chemical name	CAS No	Weight-%
Ferric sulfate	10028-22-5	30-50
Sulfuric acid	7664-93-9	<=2.0

Any concentration shown as a range is due to batch variation or the exact percentage has been withheld as a trade secret.

**4. First-aid measures****Description of first aid measures****General advice**

Show this safety data sheet to the doctor in attendance. Immediate medical attention is required. IF exposed or concerned: Get medical advice/attention.

**Inhalation**

Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical advice/attention.

**Eye contact**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get immediate medical advice/attention.

<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical advice/attention.
<b>Ingestion</b>	Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Get immediate medical advice/attention.
<b>Self-protection of the first aider</b>	Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8). Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

**Most important symptoms and effects, both acute and delayed**

**Symptoms** Redness. Burning. May cause blindness. Coughing and/ or wheezing.

**Indication of any immediate medical attention and special treatment needed**

**Note to physicians** Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure.

**5. Fire-fighting measures**

<b>Suitable Extinguishing Media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Large Fire</b>	CAUTION: Use of water spray when fighting fire may be inefficient.
<b>Unsuitable extinguishing media</b>	Do not scatter spilled material with high pressure water streams.
<b>Specific hazards arising from the chemical</b>	The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors.
<b>Hazardous combustion products</b>	Oxides of sulfur. Hydrogen sulfide. Iron oxides.
<b>Explosion Data</b>	
<b>Sensitivity to mechanical impact</b>	None.
<b>Sensitivity to static discharge</b>	None.
<b>Special protective equipment for fire-fighters</b>	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

**6. Accidental release measures****Personal precautions, protective equipment and emergency procedures**

**Personal precautions** Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Corrosive material. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

**Other information** Refer to protective measures listed in Sections 7 and 8.

**Methods and material for containment and cleaning up**

**Methods for containment** Prevent further leakage or spillage if safe to do so. Keep out of drains, sewers, ditches and waterways.

**Methods for cleaning up** Dike far ahead of liquid spill for later disposal. Neutralize with soda ash (sodium carbonate) or lime over area of spill. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Pick up and transfer to properly labeled containers. Clean contaminated surface thoroughly. After cleaning, flush away traces with water.

## 7. Handling and storage

### Precautions for safe handling

#### Advice on safe handling

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse.

### Conditions for safe storage, including any incompatibilities

#### Storage Conditions

Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture. Store locked up. Keep out of the reach of children. Store away from other materials.

#### Incompatible Materials

Oxidizing agent. Acids. Bases. Metals. Brass. Carbon steel.

#### Packaging materials

Storage tanks and piping should be constructed of suitable material such as fiberglass or cross linked polyethylene.

## 8. Exposure controls/personal protection

### Control parameters

#### Exposure Limits

The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here.

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Ferric sulfate 10028-22-5	TWA: 1 mg/m <sup>3</sup> Fe	(vacated) TWA: 1 mg/m <sup>3</sup> Fe	TWA: 1 mg/m <sup>3</sup> Fe
Sulfuric acid 7664-93-9	TWA: 0.2 mg/m <sup>3</sup> thoracic particulate matter	TWA: 1 mg/m <sup>3</sup> (vacated) TWA: 1 mg/m <sup>3</sup>	IDLH: 15 mg/m <sup>3</sup> TWA: 1 mg/m <sup>3</sup>

#### Exposure Guidelines

Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

### Appropriate engineering controls

#### Engineering controls

Showers  
Eyewash stations  
Ventilation systems.

### Individual protection measures, such as personal protective equipment

#### Eye/face protection

Face protection shield. Tight sealing safety goggles.

#### Hand protection

Wear suitable gloves. Impervious gloves.

#### Skin and body protection

Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron.

#### Respiratory protection

No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

#### Environmental exposure controls

Do not allow into any sewer, on the ground or into any body of water.

#### General hygiene considerations

Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Wash hands before breaks and immediately after handling the product.

## 9. Physical and chemical properties

**Information on basic physical and chemical properties**

<b>Physical State:</b>	Liquid
<b>Appearance:</b>	No information available
<b>Color:</b>	Red brown
<b>Odor:</b>	Acid
<b>Odor Threshold:</b>	No information available

**pH:**

<b>pH Range:</b>	<2.0
<b>Salt Out Point:</b>	No information available
<b>Melting Point/Freezing Point:</b>	< -40 °C / -40 °F
<b>Boiling Point/Boiling Range:</b>	No information available
<b>Flash Point:</b>	No information available
<b>Evaporation Rate (BuAc=1):</b>	No information available
<b>Flammability (solid, gas):</b>	No information available
<b>Flammability Limits in Air:</b>	No information available
<b>Vapor Pressure (mm Hg):</b>	No information available
<b>Vapor density (Air =1):</b>	No information available
<b>Specific Gravity (H<sub>2</sub>O=1):</b>	1.535
<b>Water Solubility:</b>	Soluble
<b>Solubility(ies):</b>	No information available
<b>Partition Coefficient (n-octanol/water):</b>	No information available
<b>Autoignition Temperature:</b>	No information available
<b>Decomposition Temperature:</b>	No information available
<b>Kinematic Viscosity:</b>	No information available
<b>Dynamic Viscosity:</b>	No information available

**Other information**

<b>Explosive properties</b>	No information available
<b>Oxidizing properties</b>	No information available
<b>Molecular Weight:</b>	399.88

**10. Stability and reactivity**

<b>Reactivity</b>	No information available.
<b>Chemical stability</b>	Stable under normal conditions.
<b>Possibility of hazardous reactions</b>	None under normal processing.
<b>Conditions to avoid</b>	Exposure to air or moisture over prolonged periods. Extremes of temperature and direct sunlight.
<b>Incompatible Materials</b>	Oxidizing agent. Acids. Bases. Metals. Brass. Carbon steel.
<b>Hazardous decomposition products</b>	Sulfur oxides. Hydrogen sulfide. Iron oxides.

**11. Toxicological information****Information on likely routes of exposure****Product Information****Inhalation**

Specific test data for the substance or mixture is not available. Corrosive by inhalation. (based on components). Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal.

**Eye contact**

Specific test data for the substance or mixture is not available. Causes burns. (based on components). Corrosive to the eyes and may cause severe damage including blindness.

Causes serious eye damage. May cause irreversible damage to eyes.

**Skin contact**

Specific test data for the substance or mixture is not available. Causes severe burns.

**Ingestion**

Specific test data for the substance or mixture is not available. Causes burns. (based on components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways.

**Symptoms related to the physical, chemical and toxicological characteristics****Symptoms**

Redness. Burning. May cause blindness. Coughing and/ or wheezing.

**Numerical measures of toxicity**

Not applicable

**Acute Toxicity:**

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral) 990.70 mg/kg

**Component Information**

Chemical name	Oral LD <sub>50</sub> :	Dermal LD <sub>50</sub> :	LC <sub>50</sub> (Lethal Concentration):
Ferric sulfate 10028-22-5	500 - 2000 mg/kg ( Rat )	-	-
Sulfuric acid 7664-93-9	= 2140 mg/kg ( Rat )	-	= 0.375 mg/L ( Rat ) 4 h

**Delayed and immediate effects as well as chronic effects from short and long-term exposure****Skin corrosion/irritation**

Causes severe burns.

**Serious eye damage/eye irritation**

Classification based on data available for ingredients. Causes burns. Risk of serious damage to eyes.

**Respiratory or skin sensitization**

No information available.

**Germ cell mutagenicity**

No information available.

**Carcinogenicity**

Classification based on data available for ingredients.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Sulfuric acid 7664-93-9	A2	Group 1	Known	X

**ACGIH (American Conference of Governmental Industrial Hygienists)**

A2 - Suspected Human Carcinogen

**IARC (International Agency for Research on Cancer)**

Group 1 - Carcinogenic to Humans

**NTP (National Toxicology Program)**

Known - Known Carcinogen

**OSHA (Occupational Safety and Health Administration of the US Department of Labor)**

X - Present

**Reproductive toxicity**

No information available.

**STOT - single exposure**

No information available.

**STOT - repeated exposure** No information available.

**Aspiration hazard** No information available.

**Other Adverse Effects:** No information available.

## 12. Ecological information

**Ecotoxicity** The environmental impact of this product has not been fully investigated.

Chemical name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
Sulfuric acid 7664-93-9	-	500 mg/L (LC50 96 h static - Brachydanio rerio)	-	-

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

**Bioaccumulation:** There is no data for this product.

**Mobility:** No information available.

**Other Adverse Effects:** No information available.

## 13. Disposal considerations

### Waste treatment methods

**Waste from residues/unused products** Dispose of in accordance with local, state, and national regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Do not reuse empty containers.

**US EPA Waste Number (product as supplied)** D002.

## 14. Transport information

### DOT

<b>UN/ID No</b>	UN3264
<b>Proper shipping name</b>	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (FERRIC SULFATE)
<b>Hazard Class</b>	8
<b>Packing Group</b>	II
<b>Description</b>	UN3264, CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (FERRIC SULFATE), 8, PGII



## 15. Regulatory information

### International Inventories

Chemical name	TSCA	AICS	DSL	NDSL	EINECS	ELINCS	ENCS	IECSC	KECL	PICCS
Ferric sulfate 10028-22-5	Present ACTIVE	Present	Present	-	Present	-	Present	Present	Present	Present
Sulfuric acid 7664-93-9	Present ACTIVE	Present	Present	-	Present	-	Present	Present	Present	Present

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**AICS** - Australian Inventory of Chemical Substances

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

**ENCS** - Japan Existing and New Chemical Substances

**IECSC** - China Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

### US Federal Regulations

#### **SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Chemical name	SARA 313 - Threshold Values %
Sulfuric acid 7664-93-9	1.0

#### **SARA 311/312 Hazard Categories**

Under the amended regulations at 40 CFR 370, EPCRA 311/312 Tier II reporting for the 2017 and later calendar years will need to be consistent with updated hazard classifications.

#### **CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	SARA Extremely Hazardous Substances TPQ
Ferric sulfate 10028-22-5	1000 lb	-	
Sulfuric acid 7664-93-9	1000 lb	1000 lb	1000 lb TPQ

#### **Clean Water Act (CWA)**

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Ferric sulfate 10028-22-5	1000 lb	-	-	X
Sulfuric acid 7664-93-9	1000 lb	-	-	X

#### **OSHA - Process Safety Management - Highly Hazardous Chemicals**

This product does not contain any substances regulated under Process Safety Management (29 CFR 1910.119).

#### **Department of Homeland Security - Chemical Facility Anti-Terrorism Standards (CFATS)**

This product does not contain any substances regulated under the Chemical Facility Anti-Terrorism Standards (6 CFR 27).

## **16. Other information**

### **NSF/ANSI 60 Certification**





Certified to  
NSF/ANSI 60

**Maximum Use (mg/L unless  
otherwise indicated):** 600

**Prepared By:** HSE Department  
**Issue Date:** 01-Mar-2013  
**Revision Date:** 05-Aug-2021  
**Revision Note:** Format change. Reviewed and Re-issued.

**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.

**End of Safety Data Sheet**