

Material Safety Data Sheet

Material Name: Ferrous Sulfate Heptahydrate

*** Section 1 - Chemical Product and Company Identification ***

Manufacturer Information

Gerdau Ameristeel
4221 West Boy Scout Blvd.
Suite 600
Tampa, FL 33607

Phone: (800) 876-3626

Emergency # 800-424-9300 CHEMTREC

*** Section 2 - Hazards Identification ***

Emergency Overview

May cause eye, skin and respiratory tract irritation.

Potential Health Effects: Eyes

Acute Exposure: contact with eyes may cause severe irritation and corrosive action due to acidity. Chronic Exposure: effects depend on concentration and duration of exposure. Prolonged contact with corrosives may result in conjunctivitis.

Potential Health Effects: Skin

Acute Exposure: may cause irritation. Chronic Exposure: repeated exposure to irritants may cause dermatitis.

Potential Health Effects: Ingestion

Acute Exposure: 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. Chronic Exposure: Reproductive effects have been reported in animals.

Potential Health Effects: Inhalation

Acute exposure: may cause irritation of the respiratory tract. Chronic exposure: No information available.

HMIS Ratings: Health: 2 Fire: 0 HMIS Reactivity 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard

*** Section 3 - Composition / Information on Ingredients ***

CAS #	Component	Percent
7782-63-0	Ferrous sulfate heptahydrate	100

*** Section 4 - First Aid Measures ***

First Aid: Eyes

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. In case of mechanical abrasions and cuts, seek medical attention.

First Aid: Skin

Remove contaminated clothing and shoes immediately. Wash affected area with soap and water.

First Aid: 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 grains of deferoxamine in 50 ml of 5% sodium bicarbonate in the stomach. Maintain airway, blood pressure and respiration. Treat symptomatically and supportively. (Dreisbach, Handbook of Poisoning, 11th edition.) Get medical attention. Treatment should be administered by qualified medical personnel. The decision whether the severity of poisoning requires administering of any antidotes and actual dose required should be made by qualified medical personnel.

First Aid: Inhalation

Remove from exposure area to fresh air. If breathing has stopped, perform artificial respiration. Consult physician.

Material Safety Data Sheet

Material Name: Ferrous Sulfate Heptahydrate

*** Section 5 - Fire Fighting Measures ***

General Fire Hazards

See Section 9 for Flammability Properties.
Negligible fire hazard when exposed to heat or flame.

Hazardous Combustion Products

Thermal decomposition products may include toxic sulfur oxides.

Extinguishing Media

Dry chemical, carbon dioxide, water spray or foam.

Fire Fighting Equipment/Instructions

Move container from fire area if possible. Do not scatter spilled material with high pressure water. Use agents appropriate to surrounding fire. Fire fighters should wear full-face, self contained breathing apparatus and impervious protective clothing. Fire fighters should avoid inhaling any combustion products.

NFPA Ratings: Health: 2 Fire: 0 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

*** Section 6 - Accidental Release Measures ***

Containment Procedures

Contain soil spill or liquid spills.

Clean-Up Procedures

Neutralize with lime or sodium carbonate if necessary. Place into suitable container for later disposal. Reportable quantity: 1000 lbs.

Evacuation Procedures

None necessary.

Special Procedures

None

*** Section 7 - Handling and Storage ***

Handling Procedures

Avoid inhaling dusts or vapors produced during thermal processing. Avoid eye and excessive skin contact. Use only with adequate ventilation. As with all chemicals, good industrial hygiene practices should be followed when handling this material. Special care must be taken to avoid buildup of dusts.

Storage Procedures

Obey all federal, state, and local regulations when storing or disposing of ferrous sulfate heptahydrate. Always store away from incompatible substances.

*** Section 8 - Exposure Controls / Personal Protection ***

A: Component Exposure Limits

ACGIH, OSHA, and NIOSH have not developed exposure limits for any of this product's components.

Engineering Controls

Ventilation should be sufficient to effectively remove and prevent buildup of any dusts or fumes that may be generated during handling or thermal processing.

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment: Eyes/Face

Wear safety glasses with side shields.

Personal Protective Equipment: Skin

Use impervious gloves.

Personal Protective Equipment: Respiratory

When dusts or thermal processing fumes are generated and ventilation is not sufficient to effectively remove them, appropriate NIOSH/MSHA approved respiratory protection must be provided.

Personal Protective Equipment: General

Use good industrial hygiene practices in handling this material. Eye wash fountain and emergency showers are recommended.

*** Section 9 - Physical & Chemical Properties ***

Material Safety Data Sheet

Material Name: Ferrous Sulfate Heptahydrate

Appearance: Hygroscopic, blue green crystals, monoclinic, effloresces in dry air, becomes yellow brown when stored for extended time periods, forming a layer of ferric sulfate.

Odor: None

Physical State: Solid

Vapor Pressure: NA

Boiling Point: > 572°F

Solubility (H2O): 48.6g/100g water at 20°C

Evaporation Rate: NA

Octanol/H2O Coeff.:

Flash Point Method: NA

Lower Flammability Limit

(LFL): NA

Auto Ignition: NA

pH: 5% Solution: 2.5 - 5

Vapor Density: NA

Melting Point: Loses water at 149°F

Specific Gravity: 55 lbs/cubic ft

VOC: NA

Flash Point: NA

Upper Flammability Limit

(UFL):

Burning Rate: NA

*** Section 10 - Chemical Stability & Reactivity Information ***

Chemical Stability

This is a stable material.

Chemical Stability: Conditions to Avoid

None

Incompatibility

Alkalies, Arsenic trioxide and sodium nitrate: spontaneously combustible mixture. Methyl isocyanacetate: may decompose explosively at 25 degrees C.

Hazardous Decomposition

Thermal decomposition products may include toxic sulfur oxides.

Possibility of Hazardous Reactions

Will not occur.

*** Section 11 - Toxicological Information ***

Acute Dose Effects

A: General Product Information

No information available for the product.

B: Component Analysis - LD50/LC50

Ferrous sulfate heptahydrate (7782-63-0)

Oral LD50 Mouse 1520 mg/kg

Carcinogenicity

A: General Product Information

No information available for the product.

B: Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, OSHA, NIOSH, or NTP.

*** Section 12 - Ecological Information ***

Ecotoxicity

A: General Product Information

No information available for the product.

B: Component Analysis - Ecotoxicity - Aquatic Toxicity

No ecotoxicity data are available for this product's components.

*** Section 13 - Disposal Considerations ***

US EPA Waste Number & Descriptions

Component Waste Numbers

No EPA Waste Numbers are applicable for this product's components.

Material Safety Data Sheet

Material Name: Ferrous Sulfate Heptahydrate

Disposal Instructions

All wastes must be handled in accordance with local, state and federal regulations.
See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations.

*** Section 14 - Transportation Information ***

US DOT Information

Shipping Name: Environmentally hazardous substances, solid, n.o.s.
UN/NA #: 3077 **Hazard Class:** 9

TDG Information

Shipping Name: Not Regulated

*** Section 15 - Regulatory Information ***

US Federal Regulations

Component Analysis

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

Ferrous sulfate heptahydrate (7782-63-0)

CERCLA: 1000 lb final RQ; 454 kg final RQ

State Regulations

A: General Product Information

Other state regulations may apply. Check individual state requirements.

B: Component Analysis - State

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA	RI
Ferrous sulfate heptahydrate	7782-63-0	No	Yes	No	No	Yes	No

Component Analysis - WHMIS IDL

No components are listed in the WHMIS IDL.

Additional Regulatory Information

Component Analysis - Inventory

Component	CAS #	TSCA	CAN	EEC
Ferrous sulfate heptahydrate	7782-63-0	No	No	No

*** Section 16 - Other Information ***

Other Information

Reasonable care has been taken in the preparation of this information, but the manufacturer makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. The manufacturer makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use.

Key/Legend

EPA = Environmental Protection Agency; TSCA = Toxic Substance Control Act; ACGIH = American Conference of Governmental Industrial Hygienists; IARC = International Agency for Research on Cancer; NIOSH = National Institute for Occupational Safety and Health; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration., NJTSR = New Jersey Trade Secret Registry.

End of Sheet