

Material Safety Data Sheet



Martrex, Inc.

Section 1: Chemical Product and Company Information

Product name: Ferrous Sulfate Monohydrate

Reference Number: n/a

Web: www.martrexinc.com

Supplier/ Further Information: Martrex, Inc.

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EPA Registration Number: n/a

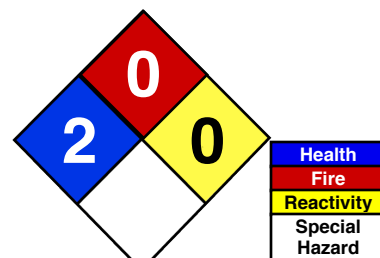
CAS#: 13463-43-9

Chemical Name: Ferrous Sulfate Monohydrate

Synonyms: Ferrous Sulfate Monohydrate

Chemical Family: Inorganic salt

MSDS Number: n/a



For Rating Explanation see Section 16

24 Hour Emergency Phone - Chemtrec Transport: 1-800-424-9300; Medical: 1-800-441-3637

Section 2: Composition/Information on Ingredients

Hazardous Component	CAS#	%	OSHA Limits	ACGIH Limits	OTHER Limits
Ferrous Sulfate Monohydrate	13463-43-9	100	n/a	TWA: 1 mg/m ³	See Section 11,12,15

Section 3: Hazards Identification

Emergency Overview

NFPA: Health: 2 Flammability: 0 Reactivity: 0

Health Effects

Inhalation (breathing):

Acute Inhalation Exposure: May cause irritation of the respiratory tract.

Chronic Inhalation Exposure: no data

Skin Contact:

Acute Skin Exposure: May cause irritation

Chronic Skin Exposure: Repeated exposure to irritants may cause dermatitis.

Eye Contact:

Acute Eye Exposure: Corrosive. Contact with eyes may cause severe irritation and corrosive action due to acidity.

Chronic Eye Exposure: Effects depend on concentration and duration of exposure. Prolonged contact with corrosives may result in conjunctivitis.

Ingestion (swallowing):

Acute Ingestion (swallowing) 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 Ingestion (swallowing) Exposure: Reproductive effects have been reported in animals.

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Medical Conditions Aggravated By Long-Term Exposure: no data

Carcinogenicity Data:

See Section 11 for more Toxicological information

Section 4: First Aid Measures

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

Call a physician.

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

Eye Exposure: Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. **Call a physician.**

Ingestion: **Call a physician immediately. Never give anything by mouth to an unconscious person. 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 in the stomach. Maintain airway, blood pressure and respiration.

NOTE TO THE PHYSICIAN: Treat symptomatically and supportively.

Section 5: Fire Fighting Measures

Flammability Classification: no data

Fire: Negligible fire hazard when exposed to heat and flame.

Fire Extinguishing Media: Dry chemical, carbon dioxide, water spray or foam.

Explosion: (See Section 10 Incompatibilities)

Arsenic trioxide and sodium nitrate: Spontaneously combustible mixture

Methyl isocyanacetate: May decompose explosively at 25° Section 10 Reactivity Incompatibilities.

Special Fire Fighting Information: Move container from fire area if possible. Do not scatter spilled material with high-pressure water. Use agents appropriate to surrounding fire.

Section 6: Accidental Release Measures

Procedure to be Followed in Case of Leak or Spill: Use personal protective equipment. See Section 8.

Small Spills: Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

Large Spills: Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Cleanup Conditions to Avoid: Avoid formation of dust and aerosols. (See Section 7)

Environmental and Regulatory Reporting: See Sections 12, 13 and 15. Obey all Federal, State and Local regulations when storing or disposing of ferrous sulfate monohydrate.

Section 7: Handling and Storage

Minimum/maximum Storage Temperature: no data.

Precautions in Handling: Do not breathe dust. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. **If you feel unwell, seek medical attention and show the label when possible.** Avoid contact with skin and eyes.

Storage: Hygroscopic. Keep container tightly closed. Keep container in a cool, well-ventilated area. Do not store above 24°C (75.2°F).

REGULATORY REQUIREMENTS: Obey all Federal, State and Local regulations when storing or disposing of ferrous sulfate monohydrate. See Section 15.

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Section 8: Exposure Controls / Personal Protection**Ventilation/Engineering Controls:**

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection:

Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Eye wash station: Maintain eye wash fountain.

Personal Protection In Case of Large Spills: Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; **consult a specialist BEFORE handling this product.**

Exposure Limits: ACGIH Limits: TWA: 1 mg/m³ (See Section 2)

Section 9: Physical and Chemical Properties

Chemical Name: Ferrous Sulfate monohydrate

Percent Equivalent: no data

Physical State: Solid Powder

Color and Appearance: Grayish White Powder.

Odor: no data

Odor Threshold: no data

Boiling Point: no data

Melting Point: Decomposes at 671°F

Evaporation Rate: no data

Vapor Pressure: no data

Vapor Density (Air = 1): no data

Density: 30 lb./cu. ft.. (loose), 45 lb./cu. ft.. (packed)

Specific Gravity (water=1): no data

Solubility in water: Slowly soluble in water

Other Solubilities: no data

pH (10% solution): 2.8 - 5

Formula: FeSO₄ · H₂O

Formula Wt: 169.94

Section 10: Stability and Reactivity

Chemical Stability (stable under normal temperature and pressures): Stable X Unstable

Chemical Incompatibility and Materials to Avoid: Alkalis

Arsenic trioxide and sodium nitrate: Spontaneously combustible mixture

Methyl isocyanacetate: May decompose explosively at 25°

Hazardous Decomposition Products: Thermal decomposition products may include toxic sulfur oxides.

Hazardous Polymerization: May Occur Will Not Occur X

Section 11: Toxicological Information**Acute toxicity**

LD50 Oral - rat - 319 mg/kg

Skin corrosion/irritation

no data available

Serious eye damage/eye irritation

no data available

Respiratory or skin sensitization

no data available

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Germ cell mutagenicity

no data available

Carcinogenicity

IARC: 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.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity

no data available

Specific target organ toxicity - single exposure (GHS)

no data available

Specific target organ toxicity - repeated exposure (GHS)

no data available

Aspiration hazard

no data available

Potential health effects

Inhalation May be harmful if inhaled. May cause respiratory tract irritation.

Ingestion Toxic if swallowed.

Skin May be harmful if absorbed through skin. May cause skin irritation.

Eyes May cause eye irritation.

Signs and Symptoms of Exposure

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Additional Information: no data

Section 12: Ecological Information

Toxicity: no data available

Persistence and degradability: no data available

Bioaccumulative potential: no data available

Mobility in soil: no data available

PBT and vPvB assessment: no data available

Other adverse effects: no data available

Section 13: Disposal Considerations

Disposal of Product: Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging: Dispose of as unused product.

Section 14: Transport Information

US DOT Classification: Not a DOT controlled material unless packaged above RQ (see section 15)

UN-Number: 3077 Class: 9 Packing group: III

Proper shipping name:

RQ, Environmentally hazardous substances, solid, n.o.s. (Iron sulphate hydrate)

Reportable Quantity:

(RQ): 1000 lbs

Marine pollutant: No

Poison Inhalation Hazard: No

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IMDG: Not dangerous goods

IATA: Not dangerous goods

Section 15: Regulatory Information

OSHA Hazards

Target Organ Effect, Toxic by ingestion

DSL Status

All components of this product are on the Canadian DSL list.

SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

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 Hazards

Acute Health Hazard, Chronic Health Hazard

Pennsylvania Right To Know Components

	<u>CAS#</u>	<u>Revision Date</u>
Iron sulphate hydrate	13463-43-9	04-24-1993

Massachusetts Right To Know Components

	<u>CAS#</u>	<u>Revision Date</u>
Iron sulphate hydrate	13463-43-9	04-24-1993

New Jersey Right To Know Components

	<u>CAS#</u>	<u>Revision Date</u>
Iron sulphate hydrate	13463-43-9	04-24-1993

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.

Section 16: Other Information

ACGIH - American Conference of Governmental Industrial Hygienists

ANSI - American National Standards Institute

CAS - Chemical Abstracts Service

CERCLA - Comprehensive Environmental Response, Compensation & Liability Act of 1980

CFR - Code of Federal Regulations

CHEMTREC - Chemical Transportation Emergency Center

CPR - Controlled Products Regulations

CWC - Chemical Weapons Convention

DOT - U.S. Department of Transportation

DSL - Canadian Domestic Substance List

EHS - Extremely Hazardous Substance

EPA - U.S. Environmental Protection Agency

HMIS - Hazardous Material Identification System

IARC - International Agency for Research on Cancer

LEL/UEL - Lower and Upper Explosive Limit

mg/m³ - Milligrams per cubic meter


MSDS - Material Safety Data Sheet

NAERG - North American Emergency Response Guidebook

NIOSH - National Institute of Occupational Safety and Health

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- NFPA** - National Fire Protection Association
- NTP** - National Toxicology Program
- OSHA** - Occupational Safety and Health Administration
- PEL** - Permissible Exposure Limit (set by OSHA)
- PPE** - Personal Protective Equipment
- RCRA** - Resource Conservation and Recovery Act of 1976
- SARA** - Superfund Amendments and Reauthorization Act
- TDG (Canadian)**: Transport of Dangerous Goods Regulations
- TLV** - Threshold Limit Value (set by ACGIH)
- TWA** - 8-hour Time Weighted Average
- TSCA** - US Toxic Substance Control Act
- WHMIS** - Workplace Hazardous Material Information System

NFPA Rating Explanation Guide					
Rating Number	Health Hazard	Flamibility Hazard	Instability Hazard	Rating Symbol	Special Hazard
4	Can be lethal	Will vaporize and readily burn at normal temperatures	May explode at normal temperatures and pressures	ALK	Alkaline
3	Can cause serious or permanent injury	Can be ignited under almost all ambient temperatures	May explode at high temperature or shock	ACID	Acidic
2	Can cause temporary incapacitation or residual injury	Must be heated or high ambient temperature to burn	Violent chemical change at high temperatures or pressures	BIO	BioHazard
1	Can cause significant irritation	Must be preheated before ignition can occur	Normally stable. High temperatures make unstable	COR	Strong Corrosive
0	No Hazard	Will not burn	Stable	CRYO	Cryogenic
				OXY	Oxidizer
					Radioactive
				W	Reacts violently or explosively with water
				W OX	Reacts violently or explosively with water or oxidizer

This chart for reference only - For complete specifications consult the NFPA Standard

MSDS Issue Date: n/a
Revised Date: 11-7-2011
Supersedes: n/a

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