



SIGMA-ALDRICH

Material Safety Data Sheet

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Version 1.40

Section 1 - Product and Company Information

Product Name Ammonium iron(III) citrate
Product Number F5879
Brand Sigma Chemical

Company Sigma-Aldrich
Street Address 3050 Spruce Street
City, State, Zip, Country SAINT LOUIS, MO 63103 US
Technical Phone: 314 771 5765
Fax: 800 325 5052
Emergency Phone: 414 273 3850 Ext. 5996

Section 2 - Composition/Information on Ingredient

| <u>Substance Name</u> | <u>CAS #</u> | <u>SARA 313</u> | <u>EC no</u> | <u>Annex I Index Number</u> |
|-------------------------|--------------|-----------------|--------------|-----------------------------|
| AMMONIUM FERRIC CITRATE | 1185-57-5 | No | 214-686-6 | |

Formula C₆H₈O₇·Fe·H₃N
Synonyms Ammonium ferric citrate, Ammonium iron(III) citrate, Ferric ammonium citrate, Iron(III) ammonium citrate, 1,2,3-Propanetricarboxylic acid, 2-hydroxy-, ammonium iron(3+) salt (9CI)

Section 3 - Hazards Identification

Emergency Overview
Irritant.
Irritating to eyes, respiratory system and skin.

HMIS Rating
Health: 2 Flammability: 0 Reactivity: 1

NFPA Rating
Health: 2 Flammability: 0 Reactivity: 1

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

Oral Exposure
If swallowed, wash out mouth with water provided person is conscious. Call a physician.

Inhalation Exposure
If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

Dermal Exposure
In case of contact, immediately wash skin with soap and copious amounts of water.

Eye Exposure
In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes.

Section 5 - Fire Fighting Measures

Autoignition Temp: N/A

Extinguishing Media
Suitable
Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

Firefighting
Protective Equipment
Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Specific Hazard(s)
Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

Procedure(s) of Personal Precaution(s)
Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves.

Methods for Cleaning Up
Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

Handling
User Exposure
Do not breathe dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

Storage
Suitable
Keep tightly closed.

Special Requirements
Light sensitive. Hygroscopic.

Section 8 - Exposure Controls / PPE

Engineering Controls
Safety shower and eye bath. Mechanical exhaust required.

Personal Protective Equipment
Respiratory
Government approved respirator.
Hand
Compatible chemical-resistant gloves.
Eye
Chemical safety goggles.

General Hygiene Measures
Wash thoroughly after handling.

| <u>Exposure Limits, RTECS</u> | <u>Source</u> | <u>Type</u> | <u>Value</u> |
|-------------------------------|-------------------|-------------|--------------|
| <u>Country</u> | | | |
| USA | MSHA Standard-air | TWA | 1 MG(Fe)/M3 |
| USA | MSHA Standard-air | TWA | 1 MG(Fe)/M3 |

Section 9 - Physical/Chemical Properties

| Appearance | Color | Form |
|-------------------------|-------|---------------|
| Physical State Solid | Brown | Fine crystals |

Molecular Weight: 265.0 AMU

| | |
|-----------------------|-----|
| pH | N/A |
| BP/BP Range | N/A |
| MP/MP Range | N/A |
| Freezing Point | N/A |
| Vapor Pressure | N/A |
| Vapor Density | N/A |
| Saturated Vapor Conc. | N/A |
| SG/Density | N/A |
| Bulk Density | N/A |
| Odor Threshold | N/A |
| Volatile% | N/A |
| VOC Content | N/A |
| Water Content | N/A |
| Solvent Content | N/A |
| Evaporation Rate | N/A |
| Viscosity | N/A |
| Partition Coefficient | N/A |
| Decomposition Temp. | N/A |
| Flash Point °F | N/A |
| Flash Point °C | N/A |
| Explosion Limits | N/A |
| Flammability | N/A |
| Autoignition Temp | N/A |
| Solubility | N/A |

N/A = not available

Section 10 - Stability and Reactivity

Stability
Stable.
Stable.

Conditions of Instability
May decompose on exposure to light.

Conditions to Avoid
Hygroscopic.

Materials to Avoid
Strong oxidizing agents.

Hazardous Decomposition Products

Hazardous Decomposition Products

Carbon monoxide, Carbon dioxide, Nitrogen oxides, Ammonia, Iron and iron salts..

Hazardous Polymerization
Hazardous Polymerization
Will not occur.

Section 11 - Toxicological Information

Route of Exposure

Skin Contact

Causes skin irritation.

Skin Absorption

May be harmful if absorbed through the skin.

Eye Contact

Causes eye irritation.

Inhalation

Material is irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled.

Ingestion

May be harmful if swallowed.

Signs and Symptoms of Exposure

Overdose of iron compounds may have a corrosive effect on the gastrointestinal mucosa and be followed by necrosis, perforation, and stricture formation. Several hours may elapse before symptoms that can include epigastric pain, diarrhea, vomiting, nausea, and hematemesis occur. After apparent recovery a person may experience metabolic acidosis, convulsions, and coma hours or days later. Further complications may develop leading to acute liver necrosis that can result in death due to hepatic coma. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

RTECS Number: GE7540000

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

Appropriate Method of Disposal of Substance or Preparation

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.
Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT

Proper Shipping Name: Environmentally hazardous substances, solid, n.o.s.
UN#: 3077
Class: 9
Packing Group: Packing Group III
Hazard Label: Class 9
PIH: Not PIH

IATA

Non-Hazardous for Air Transport: Non-hazardous for air transport.

Section 15 - Regulatory Information

EU Additional Classification

Symbol of Danger: Xi

Indication of Danger

Irritant.

Risk Statements R: 36/37/38

Irritating to eyes, respiratory system and skin.

Safety Statements S: 26 36

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

US Classification and Label Text

Indication of Danger

Irritant.

Risk Statements

Irritating to eyes, respiratory system and skin.

Safety Statements

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

United States Regulatory Information

SARA Listed: No

TSCA Inventory Item: Yes Yes

Canada Regulatory Information

WHMIS Classification

This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: Yes

NDSL: No

Section 16 - Other Information

Disclaimer

For R&D use only. Not for drug, household or other uses.

Warranty

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. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2005 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.