

## SAFETY DATA SHEET

Preparation Date: 3/7/2017

Revision Date: 3/7/2017

Revision Number: G1

### 1. IDENTIFICATION

#### Product identifier

**Product code:** F1028  
**Product Name:** FERRIC CITRATE, PURIFIED

#### Other means of identification

**Synonyms:** No information available  
**CAS #:** 2338-05-8  
**RTECS #** EV3212000  
**CI#:** Not available

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

**Recommended use:** No information available.  
**Uses advised against** No information available

**Supplier:** Spectrum Chemical Mfg. Corp  
 14422 South San Pedro St.  
 Gardena, CA 90248  
 (310) 516-8000.

**Order Online At:** <https://www.spectrumchemical.com>

**Emergency telephone number** Chemtrec 1-800-424-9300

**Contact Person:** Martin LaBenz (West Coast)

**Contact Person:** Ibad Tirmiz (East Coast)

### 2. HAZARDS IDENTIFICATION

#### Classification

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

Considered a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Acute toxicity - Oral

Category 4

#### Label elements

##### **Warning**

##### **Hazard statements**

Harmful if swallowed



**Hazards not otherwise classified (HNOC)**

Not Applicable

**Other hazards**

Not available

**Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling

Do not eat, drink or smoke when using this product

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

Rinse mouth

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Components	CAS-No.	Weight %
Ferric Citrate	2338-05-8	100

**4. FIRST AID MEASURES****First aid measures****General Advice:**

National Capital Poison Center in the United States can provide assistance if you have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222.

**Skin Contact:**

Wash off immediately with soap and plenty of water removing all contaminated clothing and shoes. Get medical attention if irritation develops. Consult a physician if necessary.

**Eye Contact:**

Flush eyes with water for 15 minutes. Get medical attention if irritation occurs. If symptoms persist, call a physician.

**Inhalation:**

Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.

**Ingestion:**

Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Obtain medical attention.

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

Harmful if swallowed. May cause eye/skin/respiratory tract irritation. May cause coughing and shortness of breath. May affect the liver. pink-colored urine.

**Indication of any immediate medical attention and special treatment needed****Notes to Physician:**

Treat symptomatically.

**Protection of first-aiders**

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste.

**5. FIRE-FIGHTING MEASURES****Extinguishing Media****Suitable Extinguishing Media:**

Carbon dioxide (CO2). Dry chemical. Water spray mist or foam.

**Unsuitable Extinguishing Media:**

No information available.

**Specific hazards arising from the chemical**

**Hazardous Combustion Products:**

Carbon Dioxide, Carbon Monoxide. Iron oxides.

**Specific hazards:**

May be combustible at high temperatures.

**Special Protective Actions for Firefighters**

**Specific Methods:**

No information available.

**Special Protective Equipment for Firefighters:**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

**6. ACCIDENTAL RELEASE MEASURES**

**Personal precautions, protective equipment and emergency procedures**

**Personal Precautions:**

Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid dust formation. Remove all sources of ignition.

**Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

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

**Methods for containment**

Stop leak if you can do it without risk. Cover with plastic sheet to prevent spreading.

**Methods for cleaning up**

Sweep up and shovel into suitable containers for disposal. Clean contaminated surface thoroughly.

**7. HANDLING AND STORAGE**

**Precautions for safe handling**

**Technical Measures/Precautions:**

Provide sufficient air exchange and/or exhaust in work rooms. Avoid dust formation. Keep away from incompatible materials.

**Safe Handling Advice**

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Keep away from heat and sources of ignition. Do not ingest. Do not breathe dust. Handle in accordance with good industrial hygiene and safety practice.

**Conditions for safe storage, including any incompatibilities**

**Technical Measures/Storage Conditions:**

Keep container tightly closed in a dry and well-ventilated place. Protect from light. Sensitive to light. Store in light-resistant containers. Store at room temperature in the original container. Store away from incompatible materials.

**Incompatible Materials:**

Strong oxidizing agents

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

#### National occupational exposure limits

##### United States

Components	CAS-No.	OSHA	NIOSH	ACGIH	AIHA WHEEL
Ferric Citrate	2338-05-8	None	None	None	None

##### Canada

Components	CAS-No.	Canada - Alberta	Canada - British Columbia	Canada - Ontario	Canada - Quebec
Ferric Citrate	2338-05-8	None	None	None	None

##### Australia and Mexico

Components	CAS-No.	Australia	Mexico
Ferric Citrate	2338-05-8	None	None

### Appropriate engineering controls

#### Engineering measures to reduce exposure:

Ensure adequate ventilation. 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.

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

#### Personal Protective Equipment

**Eye protection:** Goggles or Safety glasses with side-shields

**Skin and body protection:** Long sleeved clothing  
Chemical resistant apron  
Gloves

**Respiratory protection:** Effective dust mask. Wear respirator with dust filter. Use a dust respirator under conditions where exposure to the substance is apparent (e.g. generation of high concentration of dust (dust clouds), inadequate ventilation, development of respiratory tract irritation), and engineering controls are not feasible. Be sure to use an approved/certified respirator or equivalent.

**Hygiene measures:** Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

#### Physical state:

Solid

#### Appearance:

Powder. Crystalline powder.

#### Color:

Light brown. Grayish-brown.

#### Odor:

No information available.

#### Taste

No information available.

#### Formula:

Approx.  $\text{FeC}_6\text{H}_{15}\text{O}_7 \cdot x\text{H}_2\text{O}$

<b>Molecular/Formula weight:</b> 244.95 + xH <sub>2</sub> O	<b>Flammability:</b> No information available	<b>Flashpoint (°C/°F):</b> No information available.
<b>Flash Point Tested according to:</b> Not available	<b>Autoignition Temperature (°C/°F):</b> No information available	<b>Lower Explosion Limit (%):</b> No information available
<b>Upper Explosion Limit (%):</b> No information available	<b>Melting point/range(°C/°F):</b> No information available	<b>Decomposition temperature(°C/°F):</b> No information available
<b>Boiling point/range(°C/°F):</b> No information available	<b>Bulk density:</b> No information available	<b>Density (g/cm<sup>3</sup>):</b> No information available
<b>Specific gravity:</b> No information available	<b>pH:</b> No information available	<b>Vapor pressure @ 20°C (kPa):</b> No information available
<b>Evaporation rate:</b> No information available	<b>Vapor density:</b> No information available	<b>VOC content (g/L):</b> No information available
<b>Odor threshold (ppm):</b> No information available	<b>Partition coefficient (n-octanol/water):</b> No information available	<b>Viscosity:</b> No information available
<b>Miscibility:</b> No information available	<b>Solubility:</b> Easily soluble in hot water Soluble in cold water Slowly soluble in cold water	

## 10. STABILITY AND REACTIVITY

### Reactivity

Reactive with oxidizing agents

### Chemical stability

**Stability:** Sensitive to light. Stable under recommended storage conditions.

**Possibility of Hazardous Reactions:** Hazardous polymerization does not occur

**Conditions to avoid:** Heat. Exposure to light. Avoid dust formation.

**Incompatible Materials:** Strong oxidizing agents

**Hazardous decomposition products:** Carbon monoxide. Carbon dioxide. Iron oxides. Ammonia. Nitrogen oxides (NO<sub>x</sub>).

### Other Information

**Corrosivity:** No information available

**Special Remarks on Corrosivity:** No information available

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

**Principal Routes of Exposure:**  
Ingestion. Inhalation.

### Acute Toxicity

**Product code:** F1028

**Product name:** FERRIC CITRATE,  
PURIFIED

5 / 10

## Component Information

Ferric Citrate	
CAS-No.	2338-05-8

LD50/oral/rat = 1487 mg/kg  
LD50/oral/mouse = 1520 mg/kg  
LD50/dermal/rabbit = 2000 mg/kg  
LD50/dermal/rat = No information available  
LC50/inhalation/rat = No information available  
LC50/inhalation/mouse = No information available  
Other LD50 or LC50 information = No information available

## Product Information

LD50/oral/rat =  
VALUE- Acute Tox Oral = 1487 mg/kg

LD50/oral/mouse =  
Value - Acute Tox Oral = 1520 mg/kg

LD50/dermal/rabbit  
VALUE-Acute Tox Dermal = 2000 mg/kg

LD50/dermal/rat  
VALUE -Acute Tox Dermal = No information available

LC50/inhalation/rat  
VALUE-Vapor = No information available  
VALUE-Gas = No information available  
VALUE-Dust/Mist = No information available

LC50/Inhalation/mouse  
VALUE-Vapor = No information available  
VALUE - Gas = No information available  
VALUE - Dust/Mist = No information available

## Symptoms

**Skin Contact:** May cause skin irritation.

**Eye Contact:** May cause eye irritation.

**Inhalation** May cause irritation of respiratory tract. May cause dyspnea (difficulty breathing or shortness of breath). Other symptoms may include sore throat, chest tightness, coughing.

**Ingestion** Harmful if swallowed. May cause upset stomach. Ingestion may cause nausea, vomiting, diarrhea. May affect liver. Pink urine is a strong indicator of iron poisoning.

**Aspiration hazard** No information available.

## Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Chronic Toxicity** Prolonged or repeated ingestion may affect the liver.

**Sensitization:** No information available.

**Product code:** F1028

**Product name:** FERRIC CITRATE,  
PURIFIED

**6 / 10**

**Mutagenic Effects:** No information available

**Carcinogenic effects:** Not considered carcinogenic.

Components	CAS-No.	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic Substances	Australia - Prohibited Carcinogenic Substances
Ferric Citrate	2338-05-8	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

*ACGIH (American Conference of Governmental Industrial Hygienists)*

*IARC (International Agency for Research on Cancer)*

*NTP (National Toxicology Program)*

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

**Reproductive toxicity** No data is available

**Reproductive Effects:** No information available

**Developmental Effects:** No information available

**Teratogenic Effects:** No information available

**Specific Target Organ Toxicity**

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

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

**Target Organs:** No information available.

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

**Ecotoxicity effects:** No data available.

**Persistence and degradability:** No information available

**Bioaccumulative potential:** No information available.

**Mobility:** No information available.

## 13. DISPOSAL CONSIDERATIONS

**Disposal Methods**

**Waste from residues / unused products:**

Waste must be disposed of in accordance with Federal, State and Local regulation.

**Contaminated packaging:**

Empty containers should be taken for local recycling, recovery or waste disposal

Components	CAS-No.	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Ferric Citrate	2338-05-8	None	None	None	None

## 14. TRANSPORT INFORMATION

### DOT

UN-No:	Not Regulated
Proper Shipping Name:	No information available
Hazard Class:	No information available
Subsidiary Class	No information available
Packing group:	No information available
Emergency Response Guide Number	No information available
Marine Pollutant	No data available
DOT RQ (lbs):	No information available
Special Provisions	No Information available
Symbol(s):	No information available
Description:	No information available

### TDG (Canada)

UN-No:	Not Regulated
Proper Shipping Name:	No information available
Hazard Class:	No information available
Subsidiary Risk:	No information available
Packing Group:	No information available
Marine Pollutant	No Information available
Description:	No information available

### ADR

UN-No:	Not Regulated
Proper Shipping Name:	No information available
Hazard Class:	No information available
Packing Group:	No information available
Subsidiary Risk:	No information available

### IMO / IMDG

UN-No:	Not Regulated
Proper Shipping Name:	No information available
Hazard Class:	No information available
Subsidiary Risk:	No information available
Packing Group:	No information available
Marine Pollutant	No information available

### RID

UN-No:	Not Regulated
Proper Shipping Name:	No information available
Hazard Class:	No information available
Subsidiary Risk:	No information available
Packing Group:	No information available

### ICAO

UN-No:	Not Regulated
Proper Shipping Name:	No information available
Hazard Class:	No information available
Subsidiary Risk:	No information available
Packing Group:	No information available

### IATA

UN-No:	Not Regulated
Proper Shipping Name:	No information available
Hazard Class:	No information available



**Subsidiary Risk:** No information available  
**Packing Group:** No information available  
**ERG Code:** No information available  
**Special Provisions** No information available

## 15. REGULATORY INFORMATION

### International Inventories

Components	CAS-No.	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
<i>Ferric Citrate</i>	2338-05-8	Present	Not present	Not present	Present (2)-895 (2)-1324	Not present	Present	Present 219-045-4

### U.S. Regulations

#### *Ferric Citrate*

**FDA - Food Additives Generally Recognized as Safe (GRAS):** 21 CFR 184.1298

**FDA - 21 CFR - Total Food Additives** 184.1298

**California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.**

#### Chemicals Known to the State of California to Cause Cancer:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

#### Chemicals Known to the State of California to Cause Reproductive Toxicity:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Components	CAS-No.	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
<i>Ferric Citrate</i>	2338-05-8	Not Listed	Not Listed	Not Listed	Not Listed

### CERCLA/SARA

Components	CAS-No.	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting de minimis
<i>Ferric Citrate</i>	2338-05-8	None	None	None	None	None

### U.S. TSCA

Components	CAS-No.	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
<i>Ferric Citrate</i>	2338-05-8	Not Applicable	Not Applicable

### Canada

#### **WHMIS hazard class:**

Non-controlled

#### **Canada Controlled Products Regulation:**

This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

### Inventory

**Product code:** F1028

**Product name:** FERRIC CITRATE,  
PURIFIED

**9 / 10**

Components	CAS-No.	Canada (DSL)	Canada (NDSL)
Ferric Citrate	2338-05-8	Present	Not Listed

Components	CAS-No.	CEPA Schedule I - Toxic Substances
Ferric Citrate	2338-05-8	Not listed
Components	CAS-No.	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Ferric Citrate	2338-05-8	Not listed

#### EU Classification

##### R-phrases(s)

R22 - Harmful if swallowed.

##### S -phrase(s)

S46 - If swallowed, seek medical advice immediately and show this container or label.

Components	CAS-No.	Classification	Concentration Limits:	Safety Phrases
Ferric Citrate	2338-05-8		No information	

The product is classified in accordance with Annex VI to Directive 67/548/EEC

#### Indication of danger:

Xn - Harmful.

Xn



#### 16. OTHER INFORMATION

Preparation Date: 3/7/2017  
Revision Date: 3/7/2017  
Prepared by: Sonia Owen

#### Disclaimer:

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

**End of Safety Data Sheet**