

# Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 06/01/2015 Revision date: 06/11/2018 Supersedes: 10/04/2015

Version: 2.0

# **SECTION 1: Identification**

1.1. Identification

Product form : Substance

Substance name : Ferric Ammonium Citrate

CAS-No. : 1185-57-5

Formula :  $C_6H_8O_7 \bullet xFe \bullet xNH_4$ 

1.2. Recommended use and restrictions on use

Use of the substance/mixture : Nutritional Supplement; Specialized Plant Nutrient

Photographic and blueprint reproduction

Specialty water treatment

Pharmaceuticals

### 1.3. Supplier

#### Manufacturer

Jost Chemical Co. 8150 Lackland Rd.

Saint Louis, Missouri 63114 T 314-428-4300 - F 314-428-4366

sds@jostchemical.com - www.jostchemical.com

### 1.4. Emergency telephone number

Emergency number : For Hazardous Materials [or Dangerous Goods] Incident Spill, Leak, Fire, Exposure, or

Accident

Call CHEMTREC Day or Night

United States and Canada: 1-800-424-9300 / +1 703-527-3887

Global: +1 703-741-5970

### **SECTION 2: Hazard(s) identification**

### 2.1. Classification of the substance or mixture

### **GHS-US** classification

Skin corrosion/irritation H315 Causes skin irritation

Category 2

Serious eye damage/eye H319 Causes serious eye irritation irritation Category 2
Specific target organ H335 May cause respiratory irritation

toxicity (single exposure)

Category 3

Full text of H statements : see section 16

### 2.2. GHS Label elements, including precautionary statements

### GHS-US labeling

Hazard pictograms (GHS-US)



Signal word (GHS-US) : Warning

Hazard statements (GHS-US) : H315 - Causes skin irritation

H319 - Causes serious eye irritation H335 - May cause respiratory irritation

Precautionary statements (GHS-US) : P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.

P264 - Wash hands, forearms and face thoroughly after handling.

P271 - Use only outdoors or in a well-ventilated area.

P280 - Wear protective gloves/protective clothing/eye protection/face protection.

P302+P352 - If on skin: Wash with plenty of water

P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact

lenses, if present and easy to do. Continue rinsing P312 - Call a poison center or doctor if you feel unwell

P321 - Specific treatment (see supplemental first aid instruction on this label)

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P332+P313 - If skin irritation occurs: Get medical advice/attention. P337+P313 - If eye irritation persists: Get medical advice/attention. P362+P364 - Take off contaminated clothing and wash it before reuse. P403+P233 - Store in a well-ventilated place. Keep container tightly closed.

P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

### Other hazards which do not result in classification

Other hazards not contributing to the classification

: None under normal conditions.

### **Unknown acute toxicity (GHS US)**

Not applicable

## **SECTION 3: Composition/Information on ingredients**

## **Substances**

Substance type : Mono-constituent

Name	Product identifier	%	GHS-US classification
Ferric Ammonium Citrate (Main constituent)	(CAS-No.) 1185-57-5	100	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335

Full text of hazard classes and H-statements: see section 16

### **Mixtures**

Not applicable

### **SECTION 4: First-aid measures**

### **Description of first aid measures**

First-aid measures general

: Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with labored breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid

First-aid measures after inhalation

First-aid measures after skin contact

First-aid measures after eye contact

First-aid measures after ingestion

physical strain. Depending on the victim's condition: doctor/hospital. Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

Rinse with water. Soap may be used. Do not apply (chemical) neutralizing agents. Take victim to a doctor if irritation persists.

Rinse with water. Remove contact lenses, if present and easy to do. Continue rinsing. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists.

Rinse mouth with water. Call Poison Information Centre (www.big.be/antigif.htm). Consult a doctor/medical service if you feel unwell. Ingestion of large quantities: immediately to hospital.

#### Most important symptoms and effects (acute and delayed) 4.2.

Potential Adverse human health effects and

symptoms

: Slightly irritant to skin. Slightly irritant to respiratory organs. Slightly irritant to eyes.

Symptoms/effects after inhalation : Slight irritation. : Slight irritation. Symptoms/effects after skin contact Symptoms/effects after eye contact : Slight irritation.

: AFTER INGESTION OF HIGH QUANTITIES: Vomiting, Nausea, Diarrhoea, Symptoms/effects after ingestion

Enlargement/affection of the liver. Urine discolouration.

#### Immediate medical attention and special treatment, if necessary 4.3.

Treat symptomatically.

## **SECTION 5: Fire-fighting measures**

### Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Quick-acting ABC powder extinguisher. Class A foam extinguisher. Water (quick-acting

extinguisher, reel). Water. Class A foam.

Unsuitable extinguishing media : Quick-acting BC powder extinguisher. Quick-acting CO2 extinguisher.

#### Specific hazards arising from the chemical 5.2.

Fire hazard : No data available on direct fire hazard. No data available on indirect fire hazard.

: No data available on direct explosion hazard. No data available on indirect explosion hazard. Explosion hazard

Reactivity : Decomposes on exposure to light.

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### 5.3. Special protective equipment and precautions for fire-fighters

Precautionary measures fire : Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: have neighborhood close doors and windows.

Firefighting instructions : Cool tanks/drums with water spray/remove them into safety. Dilute toxic gases with water

spray

Protection during firefighting : Heat/fire exposure: compressed air/oxygen apparatus.

### SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

### 6.1.1. For non-emergency personnel

Protective equipment : Gloves. Protective clothing. Dust cloud production: compressed air/oxygen apparatus.

Emergency procedures : Mark the danger area. Prevent dust cloud formation, e.g. by wetting. No naked flames. Wash

contaminated clothes.

Measures in case of dust release : In case of dust production: keep upwind. Dust production: have neighborhood close doors and windows. In case of dust production: stop engines and no smoking. In case of dust production:

no naked flames or sparks. Dust: spark-/explosion proof appliances/lighting equipment.

### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information

refer to section 8: "Exposure controls/personal protection".

Emergency procedures : Avoid contact with skin and eyes.

### 6.2. Environmental precautions

Avoid release to the environment.

### 6.3. Methods and material for containment and cleaning up

For containment : Contain released product, pump into suitable containers. Plug the leak, cut off the supply.

Knock down/dilute dust cloud with water spray.

Methods for cleaning up : Stop dust cloud by covering with sand/earth. Scoop solid spill into closing containers. Clean

contaminated surfaces with an excess of water. Wash clothing and equipment after handling.

Other information : Dispose of materials or solid residues at an authorized site.

### 6.4. Reference to other sections

For further information refer to section 13.

# SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Avoid raising dust. Keep away from naked flames/heat. In finely divided state: use spark-

/explosion proof appliances. Finely divided: keep away from ignition sources/sparks. Measure the concentration in the air regularly. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Comply with the legal requirements. Clean contaminated clothing. Thoroughly clean/dry the installation before use. Powdered form: no

compressed air for pumping over.

Hygiene measures : Observe normal hygiene standards. Keep container tightly closed.

# 7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Take all necessary measures to avoid accidental discharge of products into drains and

waterways due to the rupture of containers or transfer systems.

Storage conditions : Store in a clean, dry warehouse in the original unopened containers. Store locked up. Store in a

well-ventilated place. Keep container tightly closed. Keep cool.

Heat-ignition : KEEP SUBSTANCE AWAY FROM: heat sources. ignition sources.

Information on mixed storage : KEEP SUBSTANCE AWAY FROM: oxidizing agents. water/moisture.

Storage area : Store at room temperature. Store in a dry area. Store in a dark area. Keep container in a well-

ventilated place. Meet the legal requirements.

Special rules on packaging : SPECIAL REQUIREMENTS: closing. watertight. dry. opaque. correctly labelled. meet the legal

requirements. Secure fragile packagings in solid containers.

Packaging materials : SUITABLE MATERIAL: cardboard. synthetic material.

# **SECTION 8: Exposure controls/personal protection**

### 8.1. Control parameters

No additional information available

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### **Appropriate engineering controls**

: Ensure good ventilation of the work station. Appropriate engineering controls

Environmental exposure controls : Avoid release to the environment.

### Individual protection measures/Personal protective equipment

### Personal protective equipment:

Dust production: dust mask with filter type P1. Gloves. Safety glasses.

### Materials for protective clothing:

Wear suitable protective clothing, gloves and eye/face protection

### Hand protection:

Gloves

### Eye protection:

Safety glasses. In case of dust production: protective goggles

### Skin and body protection:

Protective clothing

### Respiratory protection:

Dust production: dust mask with filter type P1 Personal protective equipment symbol(s):







# **SECTION 9: Physical and chemical properties**

### Information on basic physical and chemical properties

Physical state : Solid

Appearance : Brown, occurs as thin, transparent brown, red-brown or garnet red scales or granules, Green

powder.

Color : Green to red-brown Odor Mild odor Ammonia odor

: No data available Odor threshold : No data available рΗ pH solution : 10 g/l Aqueous Solution Melting point : No data available

Freezing point : Not applicable Boiling point : No data available Flash point : Not applicable Relative evaporation rate (butyl acetate=1) : No data available Flammability (solid, gas) : Non flammable. Vapor pressure : No data available Relative vapor density at 20 °C : Not applicable

Relative density : 1.8

Specific gravity / density : 1800 kg/m<sup>3</sup> Molecular mass : 261.98 g/mol Solubility Soluble in water. Water: 120 g/100ml

: No data available

Log Pow Auto-ignition temperature : Not applicable

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Decomposition temperature : No data available Viscosity, kinematic : No data available Viscosity, dynamic : No data available Explosion limits : Not applicable Explosive properties : No data available Oxidizing properties : No data available

### 9.2. Other information

VOC content : 0 %

Other properties : Translucent. Hygroscopic. Physical properties depending on the composition.

### **SECTION 10: Stability and reactivity**

### 10.1. Reactivity

Decomposes on exposure to light.

### 10.2. Chemical stability

Unstable on exposure to light. Hygroscopic.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

Thermal decomposition generates: Carbon dioxide. Carbon monoxide. Ammonia. Nitrogen oxides.

# **SECTION 11: Toxicological information**

### 11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified (Lack of data)

Acute toxicity (dermal) : Not classified Acute toxicity (inhalation) : Not classified

Skin corrosion/irritation : Causes skin irritation.

Serious eye damage/irritation : Causes serious eye irritation.

Respiratory or skin sensitization : Not classified (Lack of data)

Germ cell mutagenicity : Not classified (Lack of data)

Carcinogenicity : Not classified

Reproductive toxicity : Not classified (Lack of data)

Specific target organ toxicity – single exposure : May cause respiratory irritation.

Specific target organ toxicity - repeated

exposure

: Not classified (Lack of data)

Aspiration hazard : Not classified

(Not applicable)No data available

Likely routes of exposure : Skin and eye contact.

Potential Adverse human health effects and

symptoms

Viscosity, kinematic

Slightly irritant to skin. Slightly irritant to respiratory organs. Slightly irritant to eyes.

Symptoms/effects after inhalation : Slight irritation.
Symptoms/effects after skin contact : Slight irritation.
Symptoms/effects after eye contact : Slight irritation.

Symptoms/effects after ingestion : AFTER INGESTION OF HIGH QUANTITIES: Vomiting. Nausea. Diarrhoea.

Enlargement/affection of the liver. Urine discolouration.

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### **SECTION 12: Ecological information**

### 12.1. Toxicity

Ecology - general : Not classified as dangerous for the environment according to the criteria of Regulation (EC) No

1272/2008.

Ecology - air : Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).

Ecology - water : Harmful to aquatic organisms. Mild water pollutant (surface water). May cause eutrophication.

### 12.2. Persistence and degradability

### Ferric Ammonium Citrate (1185-57-5)

Persistence and degradability Biodegradability in water: no data available.

### 12.3. Bioaccumulative potential

### Ferric Ammonium Citrate (1185-57-5)

Bioaccumulative potential Not bioaccumulative.

### 12.4. Mobility in soil

No additional information available

### 12.5. Other adverse effects

No additional information available

# **SECTION 13: Disposal considerations**

### 13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

Product/Packaging disposal recommendations : Recycle/reuse.

Additional information : Can be considered as non hazardous waste according to Directive 2008/98/EC, as amended

by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997.

## **SECTION 14: Transport information**

### **Department of Transportation (DOT)**

In accordance with DOT

Not regulated

### **Transportation of Dangerous Goods**

Proper Shipping Name (Transportation of

Dangerous Goods)

: Not regulated for transport

### Transport by sea

Proper Shipping Name (IMDG) : Not regulated for transport

### Air transport

Proper Shipping Name (IATA) : Not regulated for transport

# **SECTION 15: Regulatory information**

### 15.1. US Federal regulations

	Ferric Ammonium Citrate (1185-57-5)		
	Listed on the United States TSCA (Toxic Substances Control Act) inventory		
	CERCLA RQ	1000 lb	

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

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### 15.2. International regulations

#### **CANADA**

### Ferric Ammonium Citrate (1185-57-5)

Listed on the Canadian DSL (Domestic Substances List)

### **EU-Regulations**

### Ferric Ammonium Citrate (1185-57-5)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

### **National regulations**

### Ferric Ammonium Citrate (1185-57-5)

Listed on the AICS (Australian Inventory of Chemical Substances)

Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)

Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory

Listed on the Korean ECL (Existing Chemicals List)

Listed on INSQ (Mexican national Inventory of Chemical Substances)

Listed on NZIoC (New Zealand Inventory of Chemicals)

Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

### 15.3. US State regulations

Ferric Ammonium Citrate (1185-57-5)		
ŭ	U.S Massachusetts - Right To Know List U.S New Jersey - Right to Know Hazardous Substance List U.S Pennsylvania - RTK (Right to Know) List	

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

### **SECTION 16: Other information**

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### Full text of H-phrases:

H315	Causes skin irritation
H319	Causes serious eye irritation
H335	May cause respiratory irritation

NFPA health hazard

: 1 - Materials that, under emergency conditions, can cause

significant irritation.

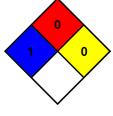
NFPA fire hazard

: 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as

concrete, stone, and sand.

NFPA reactivity

: 0 - Material that in themselves are normally stable, even under fire conditions.



Hazard Rating

Health

: 1 Slight Hazard - Irritation or minor reversible injury possible

Flammability

: 0 Minimal Hazard - Materials that will not burn

Physical

: 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT

react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

### SDS US (HazCom 2012)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product

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