

Safety Data Sheet

Issue Date: 21-Feb-2018

Revision Date: 22-Mar-2018

Version 3

1. IDENTIFICATION

Product Identifier

Product Name Ferrous Sulfate Heptahydrate

Other means of identification

SDS # VLS-252

Product Code FFN-05024

Synonyms Copperas, Iron (II) Sulfate.

UN/ID No UN3077

Recommended use of the chemical and restrictions on use

Recommended Use Fertilizer, industrial and animal feed.

Details of the supplier of the safety data sheet

Supplier Address

Verdesian Life Sciences, U.S., LLC.
1001 Winstead Drive, Suite 480
Cary, NC 27513

Emergency Telephone Number

Company Phone Number Business Phone: (800) 868-6446

Fax: (919) 535-3652

Emergency Telephone (24 hr) INFOTRAC 1-352-323-3500 (International)

1-800-535-5053 (North America)

2. HAZARDS IDENTIFICATION

Appearance Blue-green crystals

Physical state Solid

Odor No odor

Classification

Acute toxicity - Oral	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A

Signal Word

Warning

Hazard statements

Harmful if swallowed

Causes skin irritation

Causes serious eye irritation



Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling
 Do not eat, drink or smoke when using this product
 Wear protective gloves/eye protection/face protection

Precautionary Statements - Response

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 If eye irritation persists: Get medical advice/attention
 IF ON SKIN: Wash with plenty of water and soap
 Take off contaminated clothing and wash it before reuse
 If skin irritation occurs: Get medical advice/attention
 IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell
 Rinse mouth

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms Copperas, Iron (II) Sulfate.

Chemical Name	CAS No.	Weight-%
Ferrous sulfate heptahydrate	7782-63-0	100

If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

First Aid Measures

Eye Contact Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Skin Contact Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical advice/attention.

Inhalation Remove to fresh air.

Ingestion Call a poison center or doctor/physician if you feel unwell. Rinse mouth.

Most important symptoms and effects

Symptoms Harmful if swallowed. Causes skin irritation. Causes serious eye irritation.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Use extinguishing media suitable for surrounding materials. Dry chemical, carbon dioxide, foam, water spray or fog.

Unsuitable Extinguishing Media Not determined.

Specific Hazards Arising from the Chemical

None known

Hazardous Combustion Products May produce gases such as oxides of sulfur and iron.

Protective equipment and precautions 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 Avoid dust formation. Use personal protective equipment as required.

Environmental precautions

Environmental precautions Prevent material from entering public sewer systems or any waterways. Do not flush to drain. See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for Clean-Up Carefully sweep, scoop or vacuum and place in suitable container. Avoid generating dust or accumulating dust. Avoid dust dispersal in the air (i.e. cleaning dust surfaces with compressed air). If possible, complete cleanup on a dry basis. Spilled material can be a slipping hazard. Eliminate flames, sparks, excessive temperatures and oxidizing agents. Non-sparking tools should be used.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on Safe Handling Wash face, hands and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/eye protection/face protection. Avoid breathing dusts. Avoid contact with skin and eyes. Minimize dust generation and accumulation.

Conditions for safe storage, including any incompatibilities

Storage Conditions Store in closed, properly labeled containers in a cool, ventilated area. Do not transfer contents to bottles or other unlabeled containers. Keep away from heat, open flames and oxidizing agents.

Incompatible Materials Oxidizing agents. Bases. Acids.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Ferrous sulfate heptahydrate 7782-63-0	TWA: 1 mg/m ³ Fe	(vacated) TWA: 1 mg/m ³ Fe	TWA: 1 mg/m ³ Fe

Appropriate engineering controls

Engineering Controls Ensure ventilation and dust-handling systems prevent the escape of dust into work areas and there is no leakage from equipment.

Individual protection measures, such as personal protective equipment

Eye/Face Protection To avoid contact with eyes, wear chemical goggles or shield safety glasses. An emergency eyewash or water supply should be readily accessible to the work area.

Skin and Body Protection	To avoid contact with skin, wear long pants, long-sleeved shirt, socks, shoes and chemical-resistant gloves. An emergency shower or water supply should be readily accessible to the work area.
Respiratory Protection	Nuisance dust mask 3M type 8710 or equivalent. (Recommended).
General Hygiene Considerations	Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Solid	Odor	No odor
Appearance	Blue-green crystals	Odor Threshold	No data available
Color	Blue-green		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	3.0-4.0	
Melting point / freezing point	No data available	
Boiling Point / Boiling Range	No data available	
Flash Point	No data available	
Evaporation Rate	No data available	
Flammability (Solid, Gas)	No data available	
Flammability Limit in Air		
Upper Flammability Limit	No data available	
Lower Flammability Limit	No data available	
Vapor Pressure	No data available	
Vapor Density	No data available	
Relative Density	No data available	
Water Solubility	33 g/100 g H ₂ O	@ 20°C (68°F)
Solubility in other solvents	No data available	
Partition Coefficient	No data available	
Autoignition temperature	No data available	
Decomposition Temperature	No data available	
Kinematic Viscosity	No data available	
Dynamic Viscosity	No data available	
Explosive Properties	Dust can form an explosive mixture with air	
Oxidizing Properties	Not determined	

Other Information

Bulk Density	10,040 kg/m ³
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10. STABILITY AND REACTIVITY

Reactivity

No data available.

Chemical Stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Hazardous Polymerization	Will not occur.
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Conditions to Avoid

Minimize dust generation and accumulation. Incompatible Materials.

Incompatible Materials

Oxidizing agents. Bases. Acids.

Hazardous Decomposition Products

May produce gases such as oxides of sulfur and iron.

11. TOXICOLOGICAL INFORMATION**Information on likely routes of exposure****Product Information**

Eye Contact Avoid contact with eyes.

Skin Contact Avoid contact with skin.

Inhalation Do not inhale.

Ingestion Harmful if swallowed.

Component Information

Not available

Information on physical, chemical and toxicological effects

Symptoms Please see section 4 of this SDS for symptoms.

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

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/eye irritation Causes serious eye irritation.

Carcinogenicity Based on the information provided, this product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral) 500.00 mg/kg

12. ECOLOGICAL INFORMATION**Ecotoxicity**

The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Component Information

Not available

Persistence/Degradability

Not determined.

Bioaccumulation

Not determined.

Mobility

Not determined

Other Adverse Effects

Not determined

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods

Disposal of Wastes	Disposal should be in accordance with applicable regional, national and local laws and regulations.
Contaminated Packaging	Disposal should be in accordance with applicable regional, national and local laws and regulations.

14. TRANSPORT INFORMATION

<u>Note</u>	Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.
<u>DOT</u>	DOT in packages less than 1,000 lbs Not regulated DOT in packages greater than 1,000 lbs
UN/ID No	UN3077
Proper Shipping Name	Environmentally hazardous substances, solid, n.o.s. (Ferrous Sulfate Heptahydrate)
Hazard Class	9
Packing Group	III
Reportable Quantity (RQ)	1,000 lbs.
<u>IATA</u>	Not regulated
<u>IMDG</u>	Not regulated

15. REGULATORY INFORMATION

International Inventories

Chemical Name	TSCA	DSL/NDSL	EINECS/E LINC S	ENCS	IECSC	KECL	PICCS	AICS
Ferrous sulfate heptahydrate	X			X	X		X	X

Legend:

- TSCA* - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINC S - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations

CERCLA

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Ferrous sulfate heptahydrate 7782-63-0	1000 lb		RQ 1000 lb final RQ RQ 454 kg final RQ

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

CWA (Clean Water Act)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Ferrous sulfate heptahydrate				X

US State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Ferrous sulfate heptahydrate 7782-63-0		X	X

16. OTHER INFORMATION**NFPA****Health Hazards**

2

Flammability

0

Instability

0

Special Hazards

No data available

HMIS**Health Hazards**

Not determined

Flammability

Not determined

Physical hazards

Not determined

Personal Protection

Not determined

Issue Date:

21-Feb-2018

Revision Date:

22-Mar-2018

Revision Note:

Regulatory update

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet