

# Safety Data Sheet

Issue Date: 21-Feb-2018

Revision Date: 29-Mar-2018

Version 1

## 1. IDENTIFICATION

### Product Identifier

**Product Name** Ferrous Sulfate Monohydrate

### Other means of identification

**SDS #** VLS-254-CA

**Product Code** FFN-05055  
**Synonyms** Copperas, Iron (II) Sulfate

**UN/ID No** UN3077

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

**Recommended Use** Fertiliser, industrial and animal feed

**Uses Advised Against** No information available

### Details of the supplier of the safety data sheet

#### Initial Supplier Identifier

THIS SAFETY DATA SHEET  
IS NOT COMPLIANT UNLESS  
CANADIAN ADDRESS IS USED

#### Manufacturer Address

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

### Emergency Telephone Number

**Initial supplier 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

**Odour** No odor

### Classification

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

### Label Elements

#### 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/protective clothing/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  
If skin irritation occurs: Get medical advice/attention  
Take off all contaminated clothing and wash it before reuse  
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

**Substance**

**Synonyms**                                   Copperas, Iron (II) Sulfate.

Chemical Name	CAS No	Weight-%	Hazardous Material Information Review Act registry number (HMIRA registry #)	Date HMIRA filed and date exemption granted (if applicable)
Iron (II) Sulfate monohydrate	17375-41-6	100	-	-

### 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 CENTRE/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**

**Note to doctors** Treat symptomatically.

**5. FIREFIGHTING MEASURES**

<b>Suitable Extinguishing Media</b>	Use extinguishing agent suitable for type of surrounding fire. Dry chemical. Carbon dioxide (CO <sub>2</sub> ). Foam. Water spray or fog.
<b>Unsuitable extinguishing media</b>	CAUTION: Use of water spray when fighting fire may be inefficient.
<b>Specific hazards arising from the chemical</b>	No information available.
<b>Hazardous Combustion Products</b>	May produce gases such as oxides of sulfur and iron.
<b>Explosion Data</b>	
<b>Sensitivity to Mechanical Impact</b>	None.
<b>Sensitivity to Static Discharge</b>	None.
<b>Special protective equipment for fire-fighters</b>	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

**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 cleaning 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.

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

**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. Minimise dust generation and accumulation.

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

<b>Storage Conditions</b>	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.
<b>Incompatible materials</b>	Oxidizing agents Bases Acids

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Control parameters****Exposure Limits**

Chemical Name	Canada - Alberta - Occupational Exposure Limits - Ceilings	Canada - British Columbia - Occupational Exposure Limits - Ceilings	Canada - Ontario - Occupational Exposure Limits - Ceilings	Quebec
Iron (II) Sulfate monohydrate 17375-41-6	TWA: 1 mg/m <sup>3</sup>	TWA: 1 mg/m <sup>3</sup> STEL: 2 mg/m <sup>3</sup>	TWA: 1 mg/m <sup>3</sup>	TWA: 1.0 mg/m <sup>3</sup>

**Appropriate engineering controls**

<b>Engineering controls</b>	Ensure ventilation and dust-handling systems prevent the escape of dust into work areas and there is no leakage from equipment.
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**Individual protection measures, such as personal protective equipment**

<b>Eye/face protection</b>	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.
<b>Skin and body protection</b>	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.
<b>Respiratory protection</b>	Nuisance dust mask 3M type 8710 or equivalent. (Recommended).
<b>General hygiene considerations</b>	Handle in accordance with good industrial hygiene and safety practice.

**9. PHYSICAL AND CHEMICAL PROPERTIES****Information on basic physical and chemical properties**

<b>Physical state</b>	Solid
<b>Appearance</b>	Blue-green crystals
<b>Colour</b>	Blue-green
<b>Odour</b>	No odor
<b>Odour Threshold</b>	No data available

<b><u>Property</u></b>	<b><u>Values</u></b>	<b><u>Remarks • Method</u></b>
<b>pH</b>	3.0-4.0	
<b>Melting point / freezing point</b>	No data available	
<b>Boiling Point / Boiling Range</b>	No data available	
<b>Flash Point</b>	No data available	
<b>Evaporation Rate</b>	No data available	

<b>Flammability (Solid, Gas)</b>	No data available	
<b>Flammability Limit in Air</b>		
<b>Upper Flammability Limit</b>	No data available	
<b>Lower Flammability Limit</b>	No data available	
<b>Vapour Pressure</b>	No data available	
<b>Vapour Density</b>	No data available	
<b>Relative Density</b>	No data available	
<b>Water Solubility</b>	33 g/100 g H <sub>2</sub> O	@ 20°C (68°F)
<b>Solubility in other solvents</b>	No data available	
<b>Partition Coefficient</b>	No data available	
<b>Autoignition temperature</b>	No data available	
<b>Decomposition Temperature</b>	No data available	
<b>Kinematic Viscosity</b>	No data available	
<b>Dynamic Viscosity</b>	No data available	
<b>Explosive properties</b>	No information available.	
<b>Oxidising properties</b>	No information available.	
<b><u>Other Information</u></b>		
<b>Softening Point</b>	No information available	
<b>Molecular weight</b>	No information available	
<b>VOC Content (%)</b>	No information available	
<b>Density</b>	No information available	
<b>Bulk Density</b>	10,040 kg/m <sup>3</sup>	

## 10. STABILITY AND REACTIVITY

<b>Reactivity</b>	No information available.
<b>Chemical Stability</b>	Stable under normal conditions.
<b>Possibility of Hazardous Reactions</b>	None under normal processing.
<b>Hazardous Polymerisation</b>	Will not occur.
<b>Conditions to Avoid</b>	Minimise dust generation and accumulation. Incompatible Materials.
<b>Incompatible Materials</b>	Oxidizing agents. Bases. Acids.
<b>Hazardous Decomposition Products</b>	May produce gases such as oxides of sulfur and iron.

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

#### Product Information

<b>Eye contact</b>	Causes serious eye irritation.
<b>Skin contact</b>	Causes skin irritation.
<b>Inhalation</b>	Do not inhale.
<b>Ingestion</b>	Harmful if swallowed.

### Information on physical, chemical and toxicological effects

<b>Symptoms</b>	Please see section 4 of this SDS for symptoms.
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**Numerical measures of toxicity****Acute Toxicity**

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

ATEmix (oral) 500.00 mg/kg

Unknown acute toxicity No information available

Component Information Not available

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

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

## 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.

**Persistence/Degradability** No information available.

**Bioaccumulation** No information available.

**Other Adverse Effects** No information available.

## 13. DISPOSAL CONSIDERATIONS

**Waste Treatment Methods**

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Do not reuse empty containers.

## 14. TRANSPORT INFORMATION

**DOT** 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 Monohydrate)  
**Hazard Class** 9  
**Packing Group** III  
**Reportable Quantity (RQ)** 1,000 lbs.

**TDG**

**UN/ID No** UN3077  
**Proper Shipping Name** Environmentally hazardous substances, solid, n.o.s. (Ferrous Sulfate Monohydrate)  
**Hazard Class** 9  
**Packing Group** III

**IATA**

Not regulated

**IMDG**

Not regulated

<b>15. REGULATORY INFORMATION</b>
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**REGULATORY INFORMATION****International Regulations**

**Ozone-depleting substances (ODS)** Not applicable

**Persistent Organic Pollutants** Not applicable

**Export Notification requirements** Not applicable

**International Inventories**

Chemical Name	TSCA	DSL/NDSL	EINECS/ELI NCS	ENCS	IECSC	KECL	PICCS	AICS
Iron (II) Sulfate monohydrate	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/ELINCS** - 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

**16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION**

<u>NFPA</u>	<b>Health Hazards</b> 2	<b>Flammability</b> 0	<b>Instability</b> 0	<b>Special Hazards</b> No data available
<u>HMIS</u>	<b>Health Hazards</b> Not determined	<b>Flammability</b> Not determined	<b>Physical hazards</b> Not determined	<b>Personal Protection</b> Not determined

**Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA	TWA (time-weighted average)
STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value
*	Skin designation
<b>Issue Date:</b>	21-Feb-2018

**Revision Date:** 29-Mar-2018

**Revision Note:** No information available.

**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**