

# Safety Data Sheet

Issue Date: 10-Oct-2012

Revision Date: 17-May-2016

Version 2

## 1. IDENTIFICATION

### Product Identifier

**Product Name** Multi-Corn Granular Iron 10%

### Other means of identification

**SDS #** VLS-009R

**Other Information** Factory Formula: 01199.

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

**Recommended Use** Plant Nutrients.

### 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** Dark colored pellets      **Physical state** Solid Dry material      **Odor** No odor

### Classification

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

### 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 soap and water  
 If skin irritation occurs: Get medical advice/attention  
 Take off contaminated clothing and wash before reuse  
 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician  
 Rinse mouth

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name                | CAS No    | Weight-% |
|------------------------------|-----------|----------|
| Ferrous sulfate, monohydrate | 7720-78-7 | 35.4     |

### 4. FIRST-AID MEASURES

**First Aid Measures**

|                     |  |
|---------------------|--|
| <b>Eye Contact</b>  | 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. |
| <b>Skin Contact</b> | IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical advice/attention.                          |
| <b>Inhalation</b>   | Remove to fresh air. If breathing becomes difficult, call a physician.   |
| <b>Ingestion</b>    | Drink large volumes of milk or water. Call a physician or poison control center immediately. Induce vomiting only if advised by medical personnel.   |

**Most important symptoms and effects**

|                 |  |
|-----------------|--|
| <b>Symptoms</b> | Direct contact may cause skin or eye irritation. Inhalation may aggravate respiratory problems. Ingestion may result in nausea, vomiting, diarrhea, blood in vomit and stools, burning pain in mouth and throat, abdominal pain, lethargy, confusion, edema, leukocytosis, hyperglycemia, acidosis, shock, liver and kidney damage, and other gastrointestinal and neuralgic symptoms and damage. Ingestion by a child of more than 60 ml (2 ounces) or by an adult of more than 150 ml (5 ounces) may be fatal. |
|-----------------|--|

**Indication of any immediate medical attention and special treatment needed**

|                           |                        |
|---------------------------|------------------------|
| <b>Notes to Physician</b> | Treat symptomatically. |
|---------------------------|------------------------|

### 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable Extinguishing Media** Not determined.

**Specific Hazards Arising from the Chemical**

None.

**Hazardous Combustion Products** May release toxic oxides of Zinc and Sulfur in a fire.

**Explosion Data****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** Use personal protective equipment as required.

**Environmental precautions**

**Environmental precautions** See Section 13: DISPOSAL CONSIDERATIONS. 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** Neutralize with suitable material, such as slaked lime or sodium bicarbonate. Neutralized residues may be permitted to be flushed with water to sanitary sewer. Check with local authorities before flushing to sewer. Follow all Federal, State and Local regulations.

## 7. HANDLING AND STORAGE

**Precautions for safe handling**

**Advice on Safe Handling** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Use personal protection recommended in Section 8. Wash face, hands, and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Do not breathe dust.

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

**Storage Conditions** Keep container tightly closed and store in a cool, dry and well-ventilated place. Store at 32°F - 105°F. Protect from direct sunlight. Keep out of the reach of children.

**Incompatible Materials** Strong alkalis.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Exposure Guidelines**

| Chemical Name                             | ACGIH TLV                   | OSHA PEL                              | NIOSH IDLH                  |
|---|-----------------------------|---------------------------------------|-----------------------------|
| Ferrous sulfate, monohydrate<br>7720-78-7 | TWA: 1 mg/m <sup>3</sup> Fe | (vacated) TWA: 1 mg/m <sup>3</sup> Fe | TWA: 1 mg/m <sup>3</sup> Fe |

**Appropriate engineering controls**

**Engineering Controls** Apply technical measures to comply with the occupational exposure limits. Eyewash stations. Showers.

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

|                                       |   |
|---------------------------------------|---|
| <b>Eye/Face Protection</b>            | Safety goggles.   |
| <b>Skin and Body Protection</b>       | Wear neoprene or other acid resistant gloves. Chemically resistant apron, boots, and gloves or rubber rain suit is recommended. |
| <b>Respiratory Protection</b>         | Ensure adequate ventilation, especially in confined areas. In case of inadequate ventilation wear respiratory protection.       |
| <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 Dry material   | <b>Odor</b>           | No odor        |
| <b>Appearance</b>     | Dark colored pellets | <b>Odor Threshold</b> | Not determined |
| <b>Color</b>          | Dark colored         |                       |                |

| <u>Property</u>                     | <u>Values</u>  | <u>Remarks • Method</u> |
|-------------------------------------|----------------|-------------------------|
| <b>pH</b>                           | Not applicable |                         |
| <b>Melting Point/Freezing Point</b> | Not applicable |                         |
| <b>Boiling Point/Boiling Range</b>  | Not applicable |                         |
| <b>Flash Point</b>                  | Not applicable |                         |
| <b>Evaporation Rate</b>             | Not applicable |                         |
| <b>Flammability (Solid, Gas)</b>    | Not determined |                         |
| <b>Flammability Limits in Air</b>   |                |                         |
| <b>Upper Flammability Limits</b>    | Not determined |                         |
| <b>Lower Flammability Limit</b>     | Not determined |                         |
| <b>Vapor Pressure</b>               | Not known      |                         |
| <b>Vapor Density</b>                | Not known      |                         |
| <b>Relative Density</b>             | Not determined |                         |
| <b>Water Solubility</b>             | ~98%           |                         |
| <b>Solubility in other solvents</b> | Not determined |                         |
| <b>Partition Coefficient</b>        | Not determined |                         |
| <b>Auto-ignition Temperature</b>    | Not determined |                         |
| <b>Decomposition Temperature</b>    | Not determined |                         |
| <b>Kinematic Viscosity</b>          | Not determined |                         |
| <b>Dynamic Viscosity</b>            | Not determined |                         |
| <b>Explosive Properties</b>         | Not determined |                         |
| <b>Oxidizing Properties</b>         | Not determined |                         |

**Other Information**

|                     |               |
|---------------------|---------------|
| <b>Bulk Density</b> | 47 lb/cu. ft. |
|---------------------|---------------|

**10. STABILITY AND REACTIVITY****Reactivity**

Not reactive under normal conditions.

**Chemical Stability**

Stable under recommended storage conditions.

**Possibility of Hazardous Reactions**

None under normal processing.

|                                 |                           |
|---------------------------------|---------------------------|
| <b>Hazardous Polymerization</b> | No information available. |
|---------------------------------|---------------------------|

**Conditions to Avoid**

Keep out of reach of children.

**Incompatible Materials**

Strong alkalis.

**Hazardous Decomposition Products**

May release toxic oxides of Zinc and Sulfur in a fire.

## 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>   | Avoid inhalation of dust.      |
| <b>Ingestion</b>    | Harmful if swallowed.          |

**Component Information**

| Chemical Name                             | ATEmix (oral)       | ATEmix (dermal) | Inhalation LC50 |
|---|---------------------|-----------------|-----------------|
| Ferrous sulfate, monohydrate<br>7720-78-7 | = 319 mg/kg ( Rat ) | -               | -               |

**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**

**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**

Not Determined

## 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**

| Chemical Name                             | Algae/aquatic plants | Fish  | Crustacea  |
|---|----------------------|---|--|
| Ferrous sulfate, monohydrate<br>7720-78-7 |                      | 0.56: 96 h Cyprinus carpio mg/L<br>LC50 semi-static 925: 96 h Poecilia<br>reticulata mg/L LC50 static | 152: 48 h Daphnia magna mg/L<br>EC50 6.15 - 9.26: 48 h Daphnia<br>magna mg/L EC50 Static |

**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****Note**

Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

**DOT**

Not regulated

**IATA**

Not regulated

**IMDG**

Not regulated

**15. REGULATORY INFORMATION****International Inventories**

| Chemical Name                   | TSCA | DSL/NDSL | EINECS/E<br>LINCS | ENCS    | IECSC | KECL    | PICCS | AICS |
|---------------------------------|------|----------|-------------------|---------|-------|---------|-------|------|
| Ferrous sulfate,<br>monohydrate | X    | X        | X                 | Present | X     | Present | 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***US Federal Regulations****CERCLA**

| Chemical Name                             | Hazardous Substances RQs | CERCLA/SARA RQ | Reportable Quantity (RQ)                  |
|---|--------------------------|----------------|---|
| Ferrous sulfate, monohydrate<br>7720-78-7 | 1000 lb                  |                | RQ 1000 lb final RQ<br>RQ 454 kg final RQ |

**SARA 313**

Not determined

**CWA (Clean Water Act)**

| Chemical Name                | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants | CWA - Hazardous Substances |
|------------------------------|-----------------------------|------------------------|---------------------------|----------------------------|
| Ferrous sulfate, monohydrate | 1000 lb                     |                        |                           | X                          |

**US State Regulations**

**U.S. State Right-to-Know Regulations**

| Chemical Name                             | New Jersey | Massachusetts | Pennsylvania |
|---|------------|---------------|--------------|
| Ferrous sulfate, monohydrate<br>7720-78-7 | X          | X             | X            |

**16. OTHER INFORMATION**

**NFPA**

**Health Hazards**

**Flammability**

**Instability**

**Special Hazards**

Not determined

Not determined

Not determined

Not determined

**HMIS**

**Health Hazards**

**Flammability**

**Physical hazards**

**Personal Protection**

Not determined

Not determined

Not determined

Not determined

Issue Date: 10-Oct-2012  
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 Revision Note: Address change

**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**