1. IDENTIFICATION

Product Identifier
Product Name PolyAmine Iron Organic

Other means of identification
SDS # FFN: 01210

Recommended use of the chemical and restrictions on use
Recommended Use Fertilizer.

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 Phone: (919) 535-3652
Emergency Telephone (24 hr) INFOTRAC 1-352-323-3500 (International)
1-800-535-5053 (North America)

2. HAZARDS IDENTIFICATION

Appearance Dark liquid Physical State Liquid Odor Citrus

Classification
Hazards Not Otherwise Classified (HNOC)
Causes mild skin irritation

Unknown Acute Toxicity
1% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No</th>
<th>Weight-%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ferrous Sulfate</td>
<td>7782-63-0</td>
<td>5.52</td>
</tr>
<tr>
<td>Organic Acid</td>
<td>Proprietary</td>
<td>1-10</td>
</tr>
</tbody>
</table>

**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 immediately with plenty of water, also under the eyelids, for at least 15 minutes. If eye irritation persists: Get medical advice/attention.

Skin Contact  Wash with soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse. If skin irritation persists, call a physician.

Inhalation  Remove to fresh air. Get medical attention if discomfort persists.

Ingestion  Call a physician or poison control center immediately.

Most important symptoms and effects

Symptoms  Inhalation may cause irritation to nasal passages. May cause skin and 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 measures that are appropriate to local circumstances and the surrounding environment. Dry chemical. Carbon dioxide (CO2). Foam. Water spray (fog).

Unsuitable Extinguishing Media  Not determined.

Specific Hazards Arising from the Chemical
Combustion products may be toxic.

Hazardous Combustion Products  Nitrogen oxides (NOx).

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. Use water spray to keep fire-exposed containers cool. Do not release runoff from fire control methods to sewers or waterways.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions  Use personal protective equipment as required.

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  Absorb liquids by covering with clay or tuber absorbent material. Vacuum or sweep up material and place in a disposal container.
7. HANDLING AND STORAGE

Precautions for safe handling

Advice on Safe Handling Handle in accordance with good industrial hygiene and safety practice. Observe precautions found on the label.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Do not contaminate food or feed stuffs. Protect from freezing.

Incompatible Materials Strong oxidizers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ferrous Sulfate 7782-63-0</td>
<td>TWA: 1 mg/m³ Fe</td>
<td>(vacated) TWA: 1 mg/m³ Fe</td>
<td>TWA: 1 mg/m³ Fe</td>
</tr>
<tr>
<td>Organic Acid</td>
<td>-</td>
<td>15 mg / m³ (Total)</td>
<td>-</td>
</tr>
</tbody>
</table>

Appropriate engineering controls

Engineering Controls Apply technical measures to comply with the occupational exposure limits.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Avoid contact with eyes.

Skin and Body Protection Protective gloves are not required, but recommended. Wear suitable protective clothing.

Respiratory Protection None normally required. If vapors may exceed acceptable levels, use an OSHA/NIOSH-approved respirator or mask for protection against pesticide dusts, mists, and vapors.

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

<table>
<thead>
<tr>
<th>Physical State</th>
<th>Appearance</th>
<th>Odor</th>
<th>Odor Threshold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liquid</td>
<td>Dark liquid</td>
<td>Citrus</td>
<td></td>
</tr>
<tr>
<td>Ferrous Sulfate 7782-63-0</td>
<td>Dark Colored</td>
<td></td>
<td>Not determined</td>
</tr>
</tbody>
</table>
### 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.

*Hazardous Polymerization*  
Hazardous polymerization does not occur.

**Conditions to Avoid**
- Excessive heat.

**Incompatible Materials**
- Strong oxidizers.

**Hazardous Decomposition Products**
- Nitrogen oxides (NOx).

### 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure**

**Product Information**

**Eye Contact**
Avoid contact with eyes.

**Skin Contact**
Causes mild skin irritation.

**Inhalation**
Avoid breathing vapors or mists.

**Ingestion**
Do not taste or swallow.
### Component Information

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organic Acid</td>
<td>= 3000 mg/kg (Rat)</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

#### 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**

This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

**Numerical measures of toxicity**

Not determined

**Unknown Acute Toxicity**

1% of the mixture consists of ingredient(s) of unknown toxicity.

### 12. ECOLOGICAL INFORMATION

#### Ecotoxicity

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Algae/aquatic plants</th>
<th>Fish</th>
<th>Toxicity to microorganisms</th>
<th>Crustacea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organic Acid</td>
<td></td>
<td>1516: 96 h Lepomis macrochirus mg/L LC50 static</td>
<td>120: 72 h Daphnia magna mg/L EC50</td>
<td></td>
</tr>
</tbody>
</table>

#### Persistence/Degradability

Not determined.

#### Bioaccumulation

Not determined.

#### Mobility

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Partition Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organic Acid</td>
<td>-1.72</td>
</tr>
</tbody>
</table>

#### 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**
Not determined

**US Federal Regulations**

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Hazardous Substances RQs</th>
<th>CERCLA/SARA RQ</th>
<th>Reportable Quantity (RQ)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ferrous Sulfate</td>
<td>1000 lb</td>
<td></td>
<td>RQ 1000 lb final RQ</td>
</tr>
<tr>
<td>7782-63-0</td>
<td></td>
<td></td>
<td>RQ 454 kg final RQ</td>
</tr>
</tbody>
</table>

**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**

<table>
<thead>
<tr>
<th>Component</th>
<th>CWA - Reportable Quantities</th>
<th>CWA - Toxic Pollutants</th>
<th>CWA - Priority Pollutants</th>
<th>CWA - Hazardous Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ferrous Sulfate 7782-63-0 (5.52)</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

**US State Regulations**

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

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ferrous Sulfate</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>7782-63-0</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### 16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Instability</th>
<th>Special Hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not determined</td>
<td>Not determined</td>
<td>Not determined</td>
<td>Not determined</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HMIS</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Physical Hazards</th>
<th>Personal Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not determined</td>
<td>Not determined</td>
<td>Not determined</td>
<td>Not determined</td>
</tr>
</tbody>
</table>

**Issue Date:** 17-Nov-2000  
**Revision Date:** 28-Mar-2016  
**Revision Note:** Address Changes

**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