1. Identification
Product identifier
Chelated Liquid Iron
Other means of identification
None
Recommended use
Agriculture / Horticulture - Liquid Micronutrient Solution
Recommended restrictions
None known.

Manufacturer/Importer/Supplier/Distributor information
Manufacturer
Company name
Southern Agricultural Insecticides, Inc.
Address
P.O. Box 218
Palmetto, FL 34220
Telephone
(941) -722-3285
Website
souternag.com
Emergency phone number CHEMTREC (24 hours): 1-800-424-3900

2. Hazard(s) identification
Physical hazards
Not classified.
Health hazards
Acute toxicity, oral
Skin corrosion/irritation
Serious eye damage/eye irritation
Environmental hazards
Not classified.
OSHA defined hazards
Not classified.

Label elements

Signal word
Warning
Hazard statement
Harmful if swallowed. Causes skin irritation. Causes serious eye irritation.

Precautionary statement
Prevention
Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves. Wear eye/face protection.

Response
If swallowed: Call a poison center/doctor if you feel unwell. If on skin: Wash with plenty of water. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Specific treatment (see this label). Rinse mouth. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse.

Storage
Disposal
Store away from incompatible materials.
Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information 74.95% of the mixture consists of component(s) of unknown acute oral toxicity.

3. Composition/information on ingredients

Mixtures

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Common name and synonyms</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>FERROUS SULFATE</td>
<td></td>
<td>7782-63-0</td>
<td>20 - &lt; 30*</td>
</tr>
<tr>
<td>Other components below reportable levels</td>
<td></td>
<td></td>
<td>70 - &lt; 80</td>
</tr>
</tbody>
</table>

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact Remove contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

Eye contact Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion Rinse mouth. If vomiting occurs, keep head low so that stomach content doesn’t get into the lungs. Get medical advice/attention if you feel unwell. Get medical attention if symptoms occur. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause redness and pain. Severe eye irritation.

Most important symptoms/effects, acute and delayed

Indication of immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

General information Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire-fighting equipment/instructions Move containers from fire area if you can do so without risk.
Specific methods
Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards
No unusual fire or explosion hazards noted.

6. Accidental release measures
Personal precautions, protective equipment and emergency procedures
Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up
Large Spills: This material is classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways. Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.
Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions
Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage
Precautions for safe handling
Do not taste or swallow. Avoid contact with eyes. Avoid contact with eyes, skin, and clothing. Provide adequate ventilation. Wear appropriate personal protective equipment. When using, do not eat, drink or smoke. Wash hands thoroughly after handling. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities
Store in original tightly closed container. Keep container tightly closed. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection
Occupational exposure limits
No exposure limits noted for ingredient(s).
Biological limit values
No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls
Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.
Individual protection measures, such as personal protective equipment

Eye/face protection  
Face shield is recommended. Wear safety glasses with side shields (or goggles).

Skin protection
Hand protection  
Wear appropriate chemical resistant gloves.

Other
Wear appropriate chemical resistant clothing.

Respiratory protection
In case of insufficient ventilation, wear suitable respiratory equipment. Respiratory protection not required.

Thermal hazards
Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations
Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance  
Aqueous solution.

Physical state  
Liquid.

Form  
Liquid.

Color  
Dark brown

Odor  
Woody.

Odor threshold  
Not available.

pH  
Not available.

Salt-Out / Crystallization Temp  
< 32 °F (< 0 °C) estimated

Melting point/freezing point  
15 - 25 °F (-9.44 - -3.89 °C) estimated

Initial boiling point and boiling range  
> 212 °F (> 100°C) estimated

Flash point  
Not available.

Evaporation rate  
Not available.

Flammability (solid, gas)  
Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)  
Not available.

Flammability limit - upper (%)  
Not available.

Explosive limit -lower (%)  
Not available.

Explosive limit - upper %()  
Not available.

Vapor pressure  
0.00001 hPa estimated

Vapor density  
Not available.

Relative density  
1.15 - 1.2 g/cm3

Solubility(ies)

Solubility (water)  
100%

Partition coefficient
(n-octanol/water)  
Not available.

Auto-ignition temperature  
Not available.

Decomposition temperature  
Not available.

Viscosity  
Not available.

Other information
Percent volatile  
70.66% estimated

pH in aqueous solution  
3.2 - 3.8 10 Solution
Pounds per gallon  9.63 - 10.03 lb/gal
Shelf life  > 2 years

10. Stability and reactivity
Reactivity  The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability  Material is stable under normal conditions.
Possibility of hazardous reactions  Hazardous polymerization does not occur.
Conditions to avoid  Contact with incompatible materials.
Incompatible materials  Strong oxidizing agents.
Hazardous decomposition products  No hazardous decomposition products are known.

11. Toxicological information
Information on likely routes of exposure
Ingestion  Harmful if swallowed.
Inhalation  No adverse effects due to inhalation are expected.
Skin contact  Causes skin irritation.
Eye contact  Causes serious eye irritation.

Symptoms related to the physical, chemical and toxicological characteristics
Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. Severe eye irritation. May cause redness and pain.

Information on toxicological effects
Acute toxicity  Harmful if swallowed. Not known.
Skin corrosion/irritation  Causes skin irritation.
Serious eye damage/eye irritation  Causes serious eye irritation.
Respiratory or skin sensitization
Respiratory sensitization  Not available.
Skin sensitization  This product is not expected to cause skin sensitization.
Germ cell mutagenicity  No data available to indicate product or any components present at greater than 0.1 are mutagenic or genotoxic.
Carcinogenicity  This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
Not listed.
Reproductive toxicity  This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure  Not classified.
Specific target organ toxicity - repeated exposure  Not classified.
Aspiration hazard  Not available.
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 and degradability
No data is available on the degradability of this product.

Bioaccumulative potential
Not available.

Mobility in soil
No data available.

Other adverse effects
No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations
Disposal instructions
Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations
Dispose in accordance with all applicable regulations.

Hazardous waste code
The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products
Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging
Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information
General
Not DOT regulated in domestic (USA ground) transportation in package sizes less than 3,992 lbs (407 gallons); 1,811 kg (1,514 liters). The DOT transportation information below is for shipments with package sizes equal to or exceeding this value.

DOT
Basic shipping requirements:
UN number UN3082
Proper shipping name Environmentally hazardous substances, liquid, n.o.s. (FERROUS SULFATE RQ = 3992 lbs)
Hazard class 9
Packing group III
Environmental hazards
Marine pollutant Yes
Special precautions Read safety instructions, SDS and emergency procedures before handling.

Additional information:
Special provisions 8, 146, 335, 183, T 4, TP1, TP29
Packaging exceptions 155
Packaging non bulk 203
Packaging bulk 241
Notes
DOT Shipping Notes: 40 CFR 172.504(f)(9) For Class 9, a CLASS 9 placard is not required for domestic (USA ground) transportation, however shipments with packaging sizes exceeding the Reportable Quantity (RQ) or bulk packaging must be marked with the appropriate identification number on a CLASS 9 placard, an orange panel, or a white square-on-point display configuration as required. Since the Class 9 placard is not required (although it may be used) the hazardous material endorsement is also not required on a Commercial Drivers License.

IATA
Not regulated as dangerous goods.

IMDG
Not regulated as dangerous goods.

General information
Not DOT regulated in domestic (USA ground) transportation in package sizes less than 3,992 lbs (407 gallons); 1,811 kg (1,514 liters). The DOT transportation information below is for shipments with package sizes equal to or exceeding this value.

DOT

Marine Pollutant

15. Regulatory information
US federal regulations
This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. 0)
Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)
FERROUS SULFATE (CAS 7782-63-0) Listed.

SARA 304 Emergency release notification
Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)
Hazard categories
Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No
SARA 302 Extremely hazardous substance Not listed.
SARA 311/312 Hazardous chemical No
SARA 313 (TRI reporting) Not regulated.

Other federal regulations
Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List
Not regulated.
Clean Air Act (CAA) Section 112 (r) Accidental Release Prevention (40 CFR 68.130)
Not regulated.
Safe Drinking Water Act (SDWA)
Not regulated.

US state regulations
US. Massachusetts RTK - Substance List
FERROUS SULFATE (CAS 7782-63-0)
US. New Jersey Worker and Community Right-to-Know Act
Not listed.
US. Pennsylvania Worker and Community Right-to-Know Law
FERROUS SULFATE (CAS 7782-63-0)
US. Rhode Island RTK
FERROUS SULFATE (CAS 7782-63-0)
US. California Proposition 65
WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

International Inventories

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On Inventory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Australian Inventory of Chemical Substances (AICS)</td>
<td>yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Domestic Substances List (DSI)</td>
<td>no</td>
</tr>
<tr>
<td>Canada</td>
<td>Non-Domestic Substances List (NDSI)</td>
<td>no</td>
</tr>
<tr>
<td>China</td>
<td>Inventory of Existing Chemical Substances in China (IECSC)</td>
<td>yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European Inventory of Existing Commercial Chemical Substances (EINECS)</td>
<td>no</td>
</tr>
<tr>
<td>Europe</td>
<td>European list of Notified Chemical Substances (ELINCS)</td>
<td>no</td>
</tr>
<tr>
<td>Japan</td>
<td>Inventory of Existing and New Chemical Substances (ENCS)</td>
<td>no</td>
</tr>
<tr>
<td>Korea</td>
<td>Existing Chemicals list (ECI)</td>
<td>no</td>
</tr>
<tr>
<td>New Zealand</td>
<td>New Zealand Inventory</td>
<td>yes</td>
</tr>
<tr>
<td>Philippines</td>
<td>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</td>
<td>yes</td>
</tr>
<tr>
<td>United States &amp; Puerto Rico</td>
<td>Toxic Substances Control Act (TSCA) Inventory</td>
<td>no</td>
</tr>
</tbody>
</table>

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s).
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision
Issue date: October 2015
Version #: 1
Disclaimer

Southern Agricultural Insecticides, Inc. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. While the information contained herein are presented in good faith and believed to be accurate, it is provided for your guidance only. Because many factors may affect processing or application, we recommend that you make tests to determine the suitability of a product for your particular purpose prior to use. No warranties of any kind, either expressed or implied, including warranties of merchantability or fitness for a particular purpose, are made regarding products described or information set forth, or that the products, or information may be used without infringing the intellectual property rights of others. In no case shall the information provided be considered a part of our terms and conditions of sale. Further, you expressly understand and agree that the information furnished by our company hereunder are given gratis and we assume no obligation or liability for the information given or results obtained, all such being given and accepted at your risk.