

Page 1 of 4

1. Identification

| Synonyms Product Use Manufacturer/Supplier Address General Information | Inorganic liquid fertilizer Helena Chemical Company 225 Schilling Blvd. Collierville, TN 38017 901-761-0050 |
|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| General Information Transportation Emergency Number | |
| | |

2. Hazard Identification



| Eye Irritation Acute Toxicity Oral | Warning Causes skin irritation Causes serious eye irritation May be harmful if ingested May be harmful if absorbed through skin |
|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Hazard Categories | : Oral/Dermal/Inhalation Toxicity-5/5/5; Eye/Skin Irritation-2A/2 |
| Hazard Statement | : May be harmful if swallowed May be harmful in contact with skin Causes serious eye irritation Causes skin irritation May be harmful if inhaled |

3. Composition / Information on Ingredients

| Component Blend of urea nitrogen, ferrous sulfate heptahydrate and water. GUARANTEED ANALYSIS: | CAS Number Proprietary | Weight % 100.00 | |
|----------------------------------------------------------------------------------------------------------------|---------------------------|---------------------------|--|
| Total Nitrogen (N): | | 15.00% | |
| 15.00% Urea Nitrogen Sulfur (S): | | 3.40% | |
| 3.40% Combined Sulfur Iron (Fe): 6.00% Water Soluble Iron | | 6.00% | |

4. First Aid Measures

| | Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for further treatment advice. Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes. Call a poison control center or doctor for treatment advice. |
|------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Inhalation | : Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice. |
| Ingestion | . Call a poison control center or doctor immediately for treatment advice. Rinse mouth with water. Do not induce vomiting. Do not give anything by mouth if unconscious. |
| Indication of Immediate Medical Attention and Special Treatment Needed | : In the event of an adverse response, treatment should be directed toward control of the symptoms. |



Page 2 of 4

5. Fire Fighting Measures

| | Noncombustible liquid. Use extinguishing media for underlying cause of fire. Decompose on heating to nitrogen oxides. |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| Chemical | |
| Special Fire Fight Proc | : Use positive pressure self-contained breathing apparatus and full protective clothing. Use water spray to keep fire exposed containers cool. |

6. Accidental Release Measures

| Personal Precautions | : Keep unprotected and unnecessary personnel out of spill area. |
|------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Protective Equipment | : Splashproof goggles or face shield, impervious gloves, impervious apron and footwear. Respiratory protection not normally needed. Eyewash and emergency shower should be available in work area. |
| Emergency Procedures | : Contain product. Do not contaminate water supplies. |
| Methods and Materials for Containment and Cleanup | : Reuse material if uncontaminated. If contaminated, absorb material with an absorbent such as clay or sand and place in suitable container for proper disposal. |

| 7. Handling and Storage | |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Precautions for Safe Handling | : Keep locked up and out of reach of children. Do not contaminate water, food or feed by storage, handling or disposal. Keep container tightly closed. Do not |
| Conditions for Safe Storage | allow water to be introduced into the contents of the container. : Store in original container only. Do not store near heat or open flame. Do not store with oxidizing agents or ammonium nitrate. |

8. Exposure Controls / Personal Protection

| TLV/PEL | : Ferrous sulfate heptahydrate - TLV 5 mg/m3. |
|----------------------------------|-------------------------------------------------------------------------------|
| Appropriate Engineering Controls | : Local (mechanical) exhaust normally sufficient. |
| Personal Protective Equipment | : Splashproof goggles or face shield, impervious gloves, impervious apron and |
| | footwear. Respiratory protection not normally needed. Eyewash and emergency |
| | shower should be available in work area. |

9. Physical and Chemical Properties

| Odor/Appearance | : Clear, dark green liquid with sulfurous odor. |
|-----------------------------------------------|-------------------------------------------------|
| Flash Point, ^o F | : Noncombustible |
| Boiling Point, ^o F | : >212 Degrees F. |
| Melting Point(Freezing point), ^o C | : <32 Degrees F. |
| Vapor Pressure, mm Hg @ 20 ºC | : Not determined |
| Vapor Density | : Not determined |
| Solubility in Water | : 99% Soluble |
| Molecular Formula | : Not applicable |
| Density, g/mL @ 25 °C | : 1.31-1.36 |
| Evaporation Rate(Butyl Acetate = | : No information found |
| 1) | |
| Octanol/Water Partition | : No information found |
| Coefficient | |
| рН | : >2.1 |



Page 3 of 4

 Flammable Limits (approximate volume % in air)
 : Not applicable

 Auto-ignition Temperature
 : Not applicable

 Decomposition temperature
 : No information found

10. Stability and Reactivity

| Reactivity | : No information found |
|--------------------------|--------------------------------------------------------------------------|
| Chemical Stability | : Stable |
| Hazardous Decomposition | : May produce nitrogen oxide and oxides of carbon under fire conditions. |
| Products | |
| Hazardous Polymerization | : Will not occur |
| Conditions to Avoid | : Avoid extreme heat. |
| Incompatible Materials | : Hypochlorite bleach, strong acids and alkalis. |

11. Toxicological Information

| Acute Toxicity (Oral LD50) | : No LD50 available. May be harmful if swallowed. |
|--------------------------------|-----------------------------------------------------------|
| Acute Toxicity (Dermal LD50) | : No LD50 available. May be harmful in contact with skin. |
| Acute Toxicity Inhalation LC50 | : No LC50 available. May be harmful if inhaled. |
| Likely Routes of Exposure | : Skin, eyes, inhalation |
| Skin Irritation | : Causes skin irritation. |
| | : Causes serious eye irritation. |
| Skin Sensitization | : Not listed as a skin sensitizer. |
| Carcinogenic | : Not listed |
| Chronic Effects | : None currently known. |
| Other Hazards | : None currently known. |

12. Ecological Information

| Ecotoxicity | : No information found |
|----------------------------------|------------------------|
| Persistence and Degradability | : No information found |
| Bioaccumulative Potential | : No information found |
| Mobility in Soil | : No information found |
| Other Adverse Effects | : No information found |

13. Disposal Considerations Waste Disposal Method : This material must be disposed of according to federal, state, or local procedures under the Resource Conservation and Recovery Act.

14. Transport Information

| UN Proper Shipping Name | : Not regulated by DOT, unless >300 gallons in a single container. |
|------------------------------|-------------------------------------------------------------------------------------------------|
| Transport Hazard Class | : None |
| UN Identification Number | : None |
| Packaging Group | : None |
| Environmental Hazards | : No information found |
| Transport in Bulk | : If 300.3 gallons or more in a single package, ship as RQ, UN3082, |
| | Environmentally Hazardous Substance, Liquid, n.o.s. (Ferrous Sulfate), 9, PG III "ERG # 171" |



Page 4 of 4

| Special Precautions for Transportation | : Reportable quantity for ferrous sulfate is met when 300.3 gallons in a single package. |
|-------------------------------------------|-----------------------------------------------------------------------------------------------------|
| Freight Classification | : Fertilizing Compound, (Manufactured Fertilizer), Liquid, NOIBN (NMFC Item 68140, Sub 6, Class 70) |

| 15. Regulatory Information | | | | | | |
|-----------------------------------------------------|-----------------------|---------------|-------------|---------|----------------------|--------------|
| National Fire Protection Association Rating | | | | | | |
| | Health: | 2 | Fire: 0 | | Reactivity: 0 | |
| | | Rating Level: | (4-Extreme, | 3-High, | 2-Moderate, 1-Slight | , 0-Minimum) |
| S.A.R.A Title III Hazard Classification (Yes/No) | | | | | | · · |
| | Immediate(Acute) Hea | lth: Y | | | | |
| Delayed (Chronic) Health: N | | | | | | |
| | Sudden Release | of N | | | | |
| | Pressu | ire: | | | | |
| | F | ire: N | | | | |
| | Reacti | ve: N | | | | |
| | | | | | | |
| | | | | | | |

16. Other Information

Data of Preparation/Revision : 31-October-2018