



Safety Data Sheet

Report Date 23-Apr-15

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1. Identification

Product Name : ECO-MATE CROP MIX
Synonyms : None
Product Use : Complexed Micronutrient
Manufacturer/Supplier : Helena Chemical Company
Address : 225 Schilling Blvd. Collierville, TN 38017
General Information : 901-761-0050
Transportation Emergency Number : CHEMTREC:800-424-9300

2. Hazard Identification



Signal Word : Warning
Skin Irritation : Causes mild skin irritation.
Eye Irritation : Causes eye irritation.
Acute Toxicity Oral : Harmful if swallowed.
Acute Toxicity Dermal : May be harmful in contact with skin.

Hazard Categories : Dermal/Inhalation Toxicity - 5/5; Oral Toxicity - 4; Eye Irritation - 2B; Skin Irritation - 3

Hazard Statement : Harmful if swallowed
May be harmful in contact with skin
Causes eye irritation
Causes mild skin irritation
May be harmful if inhaled

3. Composition / Information on Ingredients

Component	CAS Number	Weight %
Blend of plant nutrients derived from manganese sulfate, zinc sulfate, ferrous sulfate and lignin sulfonate. The complexing agent is lignin sulfonate. GUARANTEED ANALYSIS: Sulfur (S): 3.50% Iron (Fe): 1.00% Manganese (Mn): 1.00% Zinc (Zn): 4.00%	Proprietary	100.00

4. First Aid Measures

Eye : 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.

Skin : 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. Do not induce vomiting. Do not give anything by mouth if unconscious.

Indication of Immediate Medical Attention and Special Treatment Needed : Treat symptomatically.



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5. Fire Fighting Measures

- Extinguishing Media** : Non-combustible liquid. Use extinguishing media suitable for underlying cause of fire.
- Specific Hazards Arising from the Chemical** : May emit toxic fumes under fire conditions.
- Special Fire Fight Proc** : Wear 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. Eyewash and emergency shower should be available in work area. Wear NIOSH-approved air-purifying respirator if spray mist is present.
- Emergency Procedures** : Contain spilled product. Collect and reuse material if uncontaminated. Do not contaminate water supplies with spilled product.
- Methods and Materials for Containment and Cleanup** : If contaminated, absorb with an inert material, such as clay or sand, collect and place in suitable container for proper disposal.

7. Handling and Storage

- Precautions for Safe Handling** : Keep out of reach of children. Do not contaminate water sources by cleaning of equipment or disposal of spray waste. Do not allow water to be introduced to the contents of this container.
- Conditions for Safe Storage** : Do not store with food, feed or other material to be used or consumed by humans or animals. Keep container tightly closed.

8. Exposure Controls / Personal Protection

- TLV/PEL** : Manganese sulfate - 5 mg/m³; Ferrous sulfate - 1 mg/m³
- Appropriate Engineering Controls** : Local exhaust sufficient.
- Personal Protective Equipment** : Splashproof goggles or face shield, impervious gloves, impervious apron and footwear. Eyewash and emergency shower should be available in work area. Wear NIOSH-approved air-purifying respirator if spray mist is present.

9. Physical and Chemical Properties

- Odor/Appearance** : Opaque brown liquid without solids.
- Flash Point, °F** : Non-combustible
- Boiling Point, °F** : >100 Degrees C.
- Melting Point(Freezing point), °C** : <20 Degrees F.
- Vapor Pressure, mm Hg @ 20 °C** : Not established
- Vapor Density** : Not established
- Solubility in Water** : 99%
- Molecular Formula** : Not applicable, formulated mixture.
- Density, g/mL @ 25 °C** : 1.172 to 1.192
- Evaporation Rate(Butyl Acetate = 1)** : Not established
- Octanol/Water Partition Coefficient** : No information found



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pH : 2.5 to 4.5
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 Products : Emits sulfur dioxide under fire conditions.
Hazardous Polymerization : Will not occur
Conditions to Avoid : None currently known
Incompatible Materials : Product may react vigorously with alkaline materials due to acidic nature.

11. Toxicological Information

Acute Toxicity (Oral LD50) : No data available. Ingestion results in vomiting, abdominal cramps. Harmful if swallowed.
Acute Toxicity (Dermal LD50) : No data available.
Acute Toxicity Inhalation LC50 : No data available. Inhalation of spray mist/vapors may cause irritation. May be harmful if inhaled.
Likely Routes of Exposure : Skin, eyes, inhalation, ingestion
Skin Irritation : Causes mild skin irritation.
Eye Irritation : Causes eye irritation.
Skin Sensitization : Not listed as a sensitizer.
Carcinogenic : Not listed by IARC, NTP or OSHA.
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 in containers less than 913 gallons.
Transport Hazard Class : None
UN Identification Number : None
Packaging Group : None
Environmental Hazards : No information found



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- Transport in Bulk** : If shipped in a single package \geq 913 gallons, ship as RQ, UN3082, Environmentally Hazardous Substance, Liquid, n.o.s., (Zinc Sulfate), 9, PG III "ERG # 171"
- Special Precautions for Transportation** : No information found
- 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) Health: Y
Delayed (Chronic) Health: N
Sudden Release of Pressure: N
Fire: N
Reactive: N

16. Other Information

Data of Preparation/Revision : 23-April-2015