

SECTION 1: Identification

1.1. Product identifier

Product form: Mixture
 Product name: Green Iron *plus* Mn
 Other means of identification: None

1.2. Relevant identified uses of the substance or mixture and uses advised against

Micronutrient Fertilizer.

1.3. Details of the supplier of the safety data sheet

Company Name: Chemurgic Agricultural Chemicals, Inc.
 Company Address: P.O. Box 2106
 Turlock, CA 95381
 Company Phone Number: Telephone: (Day) 209-634-2951 (Eve) 209-652-7260
 Email: info@chemurgic.net.

1.4. Emergency telephone number

INFOTRAC: 1-800-535-5053 EPA National Response Center: (800) 424-8802

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Acute Toxicity – Oral	Category 4	H302
Skin Irritation	Category 2	H315
Eye Irritation	Category 2A	H319
Specific Target Organ Toxicity (Repeated Exposure)	Category 2	H373

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US):



Signal word (GHS-US):

Warning

Hazard statements (GHS-US):

H302 - Harmful if swallowed.
 H315 - Causes skin irritation.
 H319 - Causes serious eye irritation.
 H373 - May cause damage to organs through prolonged or repeated exposure.

Precautionary statements (GHS-US)

Prevention:

Wash hands thoroughly after handling.
 Do not eat, drink or smoke when using this product.
 Wear protective gloves/protective clothing/eye protection/face protection.
 Do not breathe dust.

Response:

If swallowed: Call a poison center or doctor if you feel unwell. Rinse mouth.
 If on skin: Take off contaminated clothing and wash it before reuse. Wash with plenty of water. If skin irritation occurs, get medical advice/attention.
 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 exposed: Get medical advice/attention if you feel unwell.

Disposal:

Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3. Other hazards

Toxic to aquatic life with long lasting effects.

2.4. Unknown acute toxicity (GHS-US)

No data available.

SECTION 3: Composition/information on ingredients

3.1. Mixture

Name	CAS Number	%
Ferrous Sulfate Heptahydrate	7782-63-0	65-85%
Manganese Sulfate Monohydrate	10034-96-5	10-20%

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

SECTION 4: First aid measures

4.1. Description of first aid measures

- General:** In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.
- Inhalation:** Remove to fresh air, keep patient warm and at rest. If breathing is irregular or stopped, give artificial respiration. If unconscious place in the recovery position and obtain immediate medical attention.
- 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.
- Skin:** Remove contaminated clothing. Wash skin thoroughly with soap and water or use a recognized skin cleanser. If skin irritation occurs, get medical advice/attention.
- Ingestion:** Never give anything by mouth to an unconscious person. Rinse mouth with water. Call a physician or Poison Control Center immediately.

4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/injuries: Causes eye and skin irritation. May cause damage to organs.
- Symptoms/injuries after ingestion: Swallowing a small quantity of this material will result in serious health hazard.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available.

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media: Foam. Dry powder. Carbon dioxide. Water spray. Sand.
- Unsuitable extinguishing media: Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

- Reactivity: Thermal decomposition generates: Corrosive vapours. Fire may cause evolution of sulfur oxides.

5.3. Advice for firefighters

- Firefighting instructions: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Avoid (reject) fire-fighting water to enter environment.
- Protection during firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

- Protective equipment: Safety glasses. Gloves. Dust mask.
- Emergency procedures: Evacuate unnecessary personnel.

For emergency responders

- Protective equipment: Equip cleanup crew with proper protection.
- Emergency procedures: Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

- Methods for cleaning up: On land, sweep or shovel into suitable containers. Minimize generation of dust. Store away from other materials. For waste disposal, see Section 13 of the SDS.

6.4. Reference to other sections

See Section 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour. Do not breathe dust/fumes. Avoid contact during pregnancy/while nursing.

Hygiene measures: Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Keep only in the original container. Store in a cool, dry, well ventilated place. Keep container closed when not in use.

Incompatible products: Strong bases. Strong acids. Strong oxidizers. Peroxides.

Incompatible materials: Sources of ignition. Direct sunlight.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Ferrous sulfate, heptahydrate (7782-63-0)		
USA ACGIH	ACGIH TWA (mg/m ³)	1 mg/m ³
Manganese sulfate, monohydrate (10034-96-5)		
USA ACGIH	ACGIH TWA (mg/m ³)	0.2 mg/m ³
USA OSHA	OSHA PEL (Ceiling) (mg/m ³)	5 mg/m ³

8.2. Exposure controls

Appropriate engineering controls: Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protective equipment: Avoid all unnecessary exposure.

Hand protection: Wear protective gloves.

Eye protection: Chemical goggles or face shield.

Skin and body protection: Wear suitable protective clothing.

Respiratory protection: Wear appropriate mask.

Other information: Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: Solid

Color: Green

Odor: Characteristic Odor

Odor threshold: No data available

pH: ≤2

Melting point/freezing point: ≤0 degrees C

Initial boiling point and boiling range: ≥100 degrees C

Flash point: None

Evaporation rate: No data available

Flammability (solid, gas): Not flammable

Upper/lower flammability or explosive limits: Not applicable

Vapor pressure: No data available

Vapor density: No data available

Relative density: Not applicable

Solubility: Soluble in water

Auto-ignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity:	No data available

9.2. Other information

No additional information available.

SECTION 10: Stability and reactivity

10.1. Reactivity

Thermal decomposition generates: Corrosive vapors.

10.2. Chemical stability

Not established.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong acids. Strong bases. Strong oxidizers. Strong reducing agents. Peroxides.

10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide. Sulfur oxides. Thermal decomposition generates: Corrosive vapors.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity: Harmful if swallowed.

Ferrous sulfate, heptahydrate (7782-63-0)	
LD50 oral rat	1480 mg/kg (Rat)
Manganese sulfate, monohydrate (10034-96-5)	
LD50 oral rat	2150 mg/kg

Skin corrosion/irritation: Contact with skin will result in irritation.

Serious eye damage/irritation: An eye irritant.

Respiratory or skin sensitization: Not classified

Germ cell mutagenicity: Not classified

Carcinogenicity: Not classified

Reproductive toxicity: Not classified

Specific target organ toxicity (single exposure): Not classified

Specific target organ toxicity (repeated exposure): May cause damage to organs through prolonged or repeated exposure. Lungs. Liver. Blood.

Aspiration hazard: Not classified

Potential Adverse human health effects and symptoms: Based on available data, the classification criteria are not met. Harmful if swallowed.

Symptoms/injuries after ingestion: Swallowing a small quantity of this material will result in serious health hazard.

SECTION 12: Ecological information

12.1. Toxicity

Toxic to aquatic life with long lasting effects.

Aquatic Ecotoxicity

Manganese sulfate (CAS 10034-96-5)

Crustacea	EC50	Water flea (Daphnia magna)	7.09 – 9.36 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	29.7 – 52.7 mg/l, 192 hours
			24.3 – 38.9 mg/l, 96 hours

12.2. Persistence and degradability

No data available.

12.3. Bioaccumulative potential

No data available.



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Green Iron *plus* Mn

12.4. Mobility in soil

No data available.

12.5. Other adverse effects

Other information: Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations: Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to comply with local, state and federal regulations.

Ecology - waste materials: Avoid release to the environment.

SECTION 14: Transport information

DOT (US): Not regulated as dangerous goods

Air Transport (IATA):

UN Number: UN3077

Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Manganese Sulfate, monohydrate)

Class: 9

Packing Group: III

Sea transport (IMDG):

UN Number: UN3077

Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Manganese Sulfate, monohydrate)

Class: 9

Packing Group: III

Marine Pollutant: Yes

SECTION 15: Regulatory information

15.1. US Federal regulations

Ferrous sulfate, heptahydrate (7782-63-0)

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

RQ (Reportable quantity, section 304 of EPA's List of Lists):	1000 lb
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Manganese sulfate, monohydrate (10034-96-5)

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

Listed on SARA Section 313 (Specific toxic chemical listings)

SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard
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15.2. US State regulations

California Prop. 65 Components: This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

SECTION 16: Other information

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to our products. Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.

This is the first version in the GHS SDS format. Listings of changes from previous versions in other formats are not applicable.

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