



# Safety Data Sheet

Issue Date 01-May-2006

Revision Date: 17-Sep-2013

Version 1

## 1. IDENTIFICATION

**Product Identifier**

**Product Name** CHEM-STARTER LIQUID MANGANESE 3%S, 5%Mn

**Other means of identification**

**SDS #** CNI-012

**Recommended use of the chemical and restrictions on use**

**Recommended Use** Plant Nutrients.

**Details of the supplier of the safety data sheet**

**Supplier Address**

CNI AgriMinerals  
P.O. Box 3706  
Albany, GA 31706

**Emergency Telephone Number**

**Company Phone Number** 1-229-883-5538 (Business)

1-229-439-0842 (fax)

**Emergency Telephone (24 hr)** Chemtrec 1-800-424-9300 (North America) 1-703-527-3887 (International)

## 2. HAZARDS IDENTIFICATION

**Appearance** Dark brown liquid

**Physical State** Liquid

**Odor** Ammonia

**Classification**

**Hazards Not Otherwise Classified (HNOC)**

Causes mild skin irritation

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%
A proprietary blend of Micronutrient citrates and sulfates in an aqueous ammonia solution	Proprietary	100
Manganese as derived from Manganese Citrate	Proprietary	5 (Included in the above blend)
Combined Sulfur	Proprietary	3 (Included in the above blend)

## 4. FIRST-AID MEASURES

### First Aid Measures

<b>Eye Contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Seek immediate medical attention/advice.
<b>Skin Contact</b>	Remove contaminated clothing. Wash skin with soap and water. Wash clothing before reuse. Get medical attention if irritation develops or persists.
<b>Inhalation</b>	Remove to fresh air. Seek medical attention if irritation develops or persists.
<b>Ingestion</b>	If victim is conscious and alert, give 2-4 cupfuls of milk or water. Call a physician or poison control center immediately.

### Most important symptoms and effects

<b>Symptoms</b>	Direct contact with eyes may cause irritation or damage. Contact with skin may cause irritation. May cause irritation to the mucous membranes and upper respiratory tract. Ingestion may cause irritation of the gastrointestinal tract, cramps, vomiting or diarrhea.
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### Indication of any immediate medical attention and special treatment needed

<b>Notes to Physician</b>	Treat symptomatically. Overexposure may aggravate pre-existing skin and lung disorders. Chronic ingestion may cause damage to heart, liver, and blood-forming tissues. Ingestion of large quantities may cause headache, mental impairment, dizziness, and may be fatal.
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## 5. FIRE-FIGHTING MEASURES

### Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Do not release runoff from fire control methods to sewers or waterways.

**Unsuitable Extinguishing Media** Not determined.

### Specific Hazards Arising from the Chemical

None.

**Hazardous Combustion Products** Metal oxide/oxides. Oxides of sulfur. Ammonia.

### 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.

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

<b>Personal Precautions</b>	Use personal protective equipment as required.
<b>For Emergency Responders</b>	Follow applicable OSHA regulations (29 CFR 1910.120).
<b>Environmental Precautions</b>	Prevent runoff to sewers, streams, and other bodies of water. See Section 12 for additional Ecological Information. See Section 13, Disposal Considerations, for additional information.

**Methods and material for containment and cleaning up**

<b>Methods for Containment</b>	Prevent further leakage or spillage if safe to do so. For large spills, dike far ahead of spill for later disposal.
<b>Methods for Clean-Up</b>	For small spills, absorb with sand, clay, or other inert absorbent. For large spills contained material may be salvaged for use if uncontaminated.

**7. HANDLING AND STORAGE****Precautions for safe handling**

<b>Advice on Safe Handling</b>	Handle in accordance with good industrial hygiene and safety practice. Use personal protection recommended in Section 8. Use in accordance with product label instructions.
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**Conditions for safe storage, including any incompatibilities**

<b>Storage Conditions</b>	Store in closed, properly labeled containers in a cool, ventilated area. Keep away from children, pets, domestic animals, and wildlife. Product may be corrosive to aluminum, mild steel and brass. Store in HDPE, fiberglass or stainless steel containers. Use only stainless steel, PVC or polypropylene fittings.
<b>Packaging Materials</b>	Do not reuse container. Empty containers should be triple rinsed and use the rinsate in product tank.
<b>Incompatible Materials</b>	None known based on information supplied.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Exposure Guidelines**

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Manganese as derived from Manganese Citrate	-	(vacated) Ceiling: 5 mg/m <sup>3</sup> Ceiling: 5 mg/m <sup>3</sup> Mn	IDLH: 500 mg/m <sup>3</sup> Mn TWA: 1 mg/m <sup>3</sup> Mn STEL: 3 mg/m <sup>3</sup> Mn

**Appropriate engineering controls**

<b>Engineering Controls</b>	Apply technical measures to comply with the occupational exposure limits. Eyewash stations. Showers.
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**Individual protection measures, such as personal protective equipment**

<b>Eye/Face Protection</b>	Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133.
<b>Skin and Body Protection</b>	Wear chemically protective gloves to prevent skin contact. Wear protective clothing. Contaminated Equipment: Separate contaminated work clothes from street clothes. Launder before reuse. Remove this material from your shoes and clean personal protective equipment.
<b>Respiratory Protection</b>	Respiratory protection suitable for ammonia vapors may be needed. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, wear a MSHA/NIOSH-approved respirator. Seek professional advice prior to respirator selection and use. Select respirator based on its suitability to provide adequate worker protection for given working conditions, level of airborne contamination, and presence of sufficient oxygen. <b>WARNING!</b> Air-purifying respirators do not protect workers in oxygen-deficient atmospheres. If respirators are used, OSHA requires a written respiratory program that includes at least: medical certification, training, fit-testing, periodic environmental monitoring, maintenance, inspection, cleaning, and convenient, sanitary storage areas.

**General Hygiene Considerations** Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Physical State</b>	Liquid	<b>Odor</b>	Ammonia
<b>Appearance</b>	Dark brown liquid	<b>Odor Threshold</b>	Not determined
<b>Color</b>	Dark brown		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>pH</b>	Not determined	
<b>Melting Point/Freezing Point</b>	~ 0 °C / ~32 °F	
<b>Boiling Point/Boiling Range</b>	~ 84 °C / ~184 °F	
<b>Flash Point</b>	Not available	
<b>Evaporation Rate</b>	Not determined	
<b>Flammability (Solid, Gas)</b>	Liquid-not applicable	
<b>Upper Flammability Limits</b>	Not available	
<b>Lower Flammability Limit</b>	Not available	
<b>Vapor Pressure</b>	Not available	
<b>Vapor Density</b>	Not available	
<b>Specific Gravity</b>	1.254-1.264	(1=Water)
<b>Water Solubility</b>	Completely soluble	
<b>Solubility in other solvents</b>	Not determined	
<b>Partition Coefficient</b>	Not determined	
<b>Autoignition Temperature</b>	Not determined	
<b>Decomposition Temperature</b>	Not determined	
<b>Kinematic Viscosity</b>	Not determined	
<b>Dynamic Viscosity</b>	Not determined	
<b>Explosive Properties</b>	Not determined	
<b>Oxidizing Properties</b>	Not determined	

## 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

Keep out of reach of children. Avoid evaporating to dryness.

### Incompatible Materials

None known based on information supplied.

### Hazardous Decomposition Products

Metal oxides. Sulfur oxides. Ammonia.

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

#### Product Information

<b>Eye Contact</b>	Avoid contact with eyes.
<b>Skin Contact</b>	Causes mild skin irritation.
<b>Inhalation</b>	Avoid breathing vapors or mists.
<b>Ingestion</b>	Do not taste or swallow.

### Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
A proprietary blend of Micronutrient citrates and sulfates in an aqueous ammonia solution	> 90 mL/kg ( Rat )	-	-
Combined Sulfur	> 3000 mg/kg ( Rat )	> 2000 mg/kg ( Rabbit )	> 9.23 mg/L ( Rat ) 4 h

### 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

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

This product may be moderately toxic to aquatic life and may cause eutrophication. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

### Component Information

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Combined Sulfur		866: 96 h Brachydanio rerio mg/L LC50 static 14: 96 h Lepomis macrochirus mg/L LC50 static 180: 96 h Oncorhynchus mykiss mg/L LC50 static		

### Persistence/Degradability

Not determined

### Bioaccumulation

Not determined

**Mobility**

Not determined

**Other Adverse Effects**

Not determined

**13. DISPOSAL CONSIDERATIONS****Waste Treatment Methods**

<b>Disposal of Wastes</b>	Disposal should be in accordance with applicable regional, national and local laws and regulations.
<b>Contaminated Packaging</b>	Disposal should be in accordance with applicable regional, national and local laws and regulations.

**14. TRANSPORT INFORMATION**

<b><u>Note</u></b>	Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.
<b><u>DOT</u></b>	Not regulated
<b><u>IATA</u></b>	Not regulated
<b><u>IMDG</u></b>	Not regulated

**15. REGULATORY INFORMATION****International Inventories**

Not determined

**Legend:***TSCA - United States Toxic Substances Control Act Section 8(b) Inventory**DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List**EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances**ENCS - Japan Existing and New Chemical Substances**IECSC - China Inventory of Existing Chemical Substances**KECL - Korean Existing and Evaluated Chemical Substances**PICCS - Philippines Inventory of Chemicals and Chemical Substances***US Federal Regulations****CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355).

**SARA 311/312 Hazard Categories**

<b>Acute Health Hazard</b>	Yes
<b>Chronic Health Hazard</b>	Yes
<b>Fire Hazard</b>	No
<b>Sudden Release of Pressure Hazard</b>	No
<b>Reactive Hazard</b>	No

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	CAS No	Weight-%	SARA 313 - Threshold Values %
Manganese as derived from Manganese Citrate -		5 (Included in the above blend)	1.0

**CWA (Clean Water Act)**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

**US State Regulations**

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

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

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Manganese as derived from Manganese Citrate	X		X
Combined Sulfur	X	X	X

**16. OTHER INFORMATION**

<b>NFPA</b>	<b>Health Hazards</b>	<b>Flammability</b>	<b>Instability</b>	<b>Special Hazards</b>
	Not determined	Not determined	Not determined	Not determined
<b>HMIS</b>	<b>Health Hazards</b>	<b>Flammability</b>	<b>Physical Hazards</b>	<b>Personal Protection</b>
	Not determined	Not determined	Not determined	Not determined

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**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**