Safety Data Sheet

Issue Date: 01-Apr-2007 **Revision Date:** 11-Sep-2015 **Version** 1

1. IDENTIFICATION

Product Identifier

Product Name Mandate Extra

Other means of identification

SDS # CNI-038

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 Clear amber liquid **Physical State** Liquid **Odor** Moderate Ammonia

Classification

Hazards Not Otherwise Classified (HNOC)
Causes mild skin irritation

Other Hazards
Very toxic to aquatic life with long lasting effects

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%
A proprietary blend of Micronutrients and Chelating agents in an aqueous solution	Proprietary	100
Urea Nitrogen	Proprietary	6 (Included in the above blend)
Chelated and Water Soluble Zinc	Proprietary	3 (Each included in the above blend)
Combined Sulfur	Proprietary	3 (Included in the above blend)
Chelated and Water Soluble Manganese	Proprietary	3 (Each included in the above blend)
Chelated and Water Soluble Copper	Proprietary	0.25 (Each included in the above blend)
Boron (as derived from sodium borate)	Proprietary	0.25 (Included in the above blend)

If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. FIRST-AID MEASURES

First Aid Measures

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Seek immediate medical attention/advice.

Skin Contact Remove contaminated clothing. Wash skin with soap and water. Wash clothing before reuse. Get medical attention if irritation develops or persists.

Inhalation Remove to fresh air. Seek medical attention if irritation develops or persists.

Ingestion If victim is conscious and alert, give 2-4 cupfuls of milk or water. If prompt medical attention is not available, call your local Poison Control Center.

Most important symptoms and effects

Symptoms Direct contact with eyes may cause irritation or damage. Causes mild skin irritation. May cause irritation to the mucous membranes and upper respiratory tract. Ingestion may cause irritation of the gastrointestinal tract, cramps, vomiting or diarrhea.

Indication of any immediate medical attention and special treatment needed

Notes to Physician 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.

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 oxides. Nitrogen oxides (NOx). Sulfur oxides. Ammonia. Volatile organic compounds.

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

Personal Precautions Use personal protective equipment as required.

For Emergency Responders Follow applicable OSHA regulations (29 CFR 1910.120).

Environmental Precautions Prevent runoff to sewers, streams, and other bodies of water. See Section 12 for additional Ecological Information. See Section 13: DISPOSAL CONSIDERATIONS.

Methods and material for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so. For large spills, dike far ahead of spill for later disposal.

Methods for Clean-Up For small spills, absorb with sand, clay, or other inert absorbent. For large spills contained material may be salvaged for use if uncontaminated. Clean up in accordance with all applicable regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on Safe Handling Handle in accordance with good industrial hygiene and safety practice. Use personal protection recommended in Section 8. Use in accordance with product label instructions. Avoid contact with skin, eyes or clothing. Avoid evaporation to dryness.

Conditions for safe storage, including any incompatibilities

Storage Conditions 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. Keep away from incompatible materials, extreme heat or open flame.

Packaging Materials Do not reuse container. Empty containers should be triple rinsed and use the rinsate in product tank.

Incompatible Materials Strong oxidizers. Metal halides.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Chelated and Water Soluble Manganese	TWA: 0.02 mg/m^3 Mn TWA: 0.1 mg/m^3 Mn	(vacated) TWA: 1 mg/m^3 fume (vacated) STEL: 3 mg/m^3 fume (vacated) Ceiling: 5 mg/m^3 Ceiling: 5 mg/m^3 Mn	IDLH: 500 mg/m^3 Mn TWA: 1 mg/m^3 Mn STEL: 3 mg/m^3 Mn
Chelated and Water Soluble Copper	TWA: 1 mg/m^3 Cu dust and mist	TWA: 0.1 mg/m^3 fume TWA: 1 mg/m^3 dust and mist (vacated) TWA: 0.1 mg/m^3 Cu dust, fume, mist	IDLH: 100 mg/m^3 Cu dust and mist TWA: 1 mg/m^3 Cu dust and mist

Appropriate engineering controls

Engineering Controls Apply technical measures to comply with the occupational exposure limits. Eyewash stations. Showers.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Chemical anti-splash safety goggles. Refer to 29 CFR 1910.133 for eye and face protection regulations.

Skin and Body Protection 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. Refer to 29 CFR 1910.138 for appropriate skin and body protection.

Respiratory Protection 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. WARNING!: 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

Physical State	Liquid		
Appearance	Clear amber liquid	**Odor**	Moderate Ammonia
Color	Clear amber	**Odor Threshold**	Not determined

Property	**Values**	**Remarks • Method**
pH	Not determined	
Melting Point/Freezing Point	~ 0 °C / ~32 °F	
Boiling Point/Boiling Range	Not determined	
Flash Point	Not available	
Evaporation Rate	Not determined	
Flammability (Solid, Gas)	Liquid-not applicable	
Upper Flammability Limits	Not available	
Lower Flammability Limit	Not available	
Vapor Pressure	Not available	
Vapor Density	Not available	
Specific Gravity	1.255-1.265	(Water = 1)
Water Solubility	Completely soluble	
Solubility in other solvents	Not determined	
Partition Coefficient	Not determined	
Auto-ignition Temperature	Not determined	
Decomposition Temperature	Not determined	
Kinematic Viscosity	Not determined	
Dynamic Viscosity	Not determined	
Explosive Properties	Not determined	
Oxidizing Properties	Not determined	
VOC Content (%)	<0.5	

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. See Sec. 7 Handling & Storage.

Incompatible Materials
Strong oxidizers. Metal halides.

Hazardous Decomposition Products
Metal oxides. Sulfur oxides. Nitrogen oxides (NOx). Ammonia. Volatile organic compounds.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Eye Contact Avoid contact with eyes.

Skin Contact Causes mild skin irritation.

Inhalation Avoid breathing vapors or mists.

Ingestion Do not taste or swallow.

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Chelated and Water Soluble Manganese	= 9 g/kg (Rat)	-	-
Chelated and Water Soluble Zinc	> 8,437 mg/kg (rat)	-	-
Combined Sulfur	> 3000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 9.23 mg/L (Rat) 4 h
Boron (as derived from sodium borate)	= 650 mg/kg (Rat)	-	-

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 Based on the information provided, 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
Very toxic to aquatic life with long lasting effects.

Component Information

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Chelated and Water Soluble Zinc	0.11 - 0.271: 96 h Pseudokirchneriella subcapitata mg/L EC50 static 0.09 - 0.125: 72 h Pseudokirchneriella subcapitata mg/L EC50 static	2.16 - 3.05: 96 h Pimephales promelas mg/L LC50 flow-through 0.211 - 0.269: 96 h Pimephales promelas mg/L LC50 semi-static 2.66: 96 h Pimephales promelas mg/L LC50 static 30: 96 h Cyprinus carpio mg/L LC50 0.45: 96 h Cyprinus carpio mg/L LC50 semi-static 7.8: 96 h Cyprinus carpio mg/L LC50 static 3.5: 96 h Lepomis macrochirus mg/L LC50 static 0.24: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 0.59: 96 h Oncorhynchus mykiss mg/L LC50 semi-static 0.41: 96 h Oncorhynchus mykiss mg/L LC50 static		0.139 - 0.908: 48 h Daphnia magna mg/L EC50 Static
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		
Chelated and Water Soluble Copper	0.0426 - 0.0535: 72 h Pseudokirchneriella subcapitata mg/L EC50 static 0.031 - 0.054: 96 h Pseudokirchneriella subcapitata mg/L EC50 static	0.0068 - 0.0156: 96 h Pimephales promelas mg/L LC50 0.3: 96 h Pimephales promelas mg/L LC50 static 0.2: 96 h Pimephales promelas mg/L LC50 flow-through 0.052: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 1.25: 96 h Lepomis macrochirus mg/L LC50 static 0.3: 96 h Cyprinus carpio mg/L LC50 semi-static 0.8: 96 h Cyprinus carpio mg/L LC50 static 0.112: 96 h Poecilia reticulata mg/L LC50 flow-through		0.03: 48 h Daphnia magna mg/L EC50 Static

Persistence/Degradability
Not determined.

Bioaccumulation
Not determined.

Mobility
Not determined

Other Adverse Effects
Not determined

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods

Disposal of Wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging Disposal should be in accordance with applicable regional, national and local laws and regulations. Triple rinse empty container, then offer for recycling, reuse, or reconditioning.

California Hazardous Waste Status

Chemical Name	California Hazardous Waste Status
Chelated and Water Soluble Manganese	Ignitable powder
Chelated and Water Soluble Zinc	Toxic
Chelated and Water Soluble Copper	Toxic

14. TRANSPORT INFORMATION

Note Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

DOT Not regulated

IATA Not regulated

IMDG
Marine Pollutant This material may meet the definition of a marine pollutant

15. REGULATORY INFORMATION

International Inventories

Chemical Name	TSCA	DSL	NDSL	EINECS	ELINCS	ENCS	IECSC	KECL	PICCS	AICS
A proprietary blend of Micronutrients and Chelating agents in an aqueous solution	Present	X		Present			X	Present	X	X
Urea Nitrogen	Present	X		Present			X	Present	X	X
Chelated and Water Soluble Zinc	Present	X		Present			X	Present	X	X

Combined Sulfur	Present	X		Present			X	Present	X	X
Chelated and Water Soluble Manganese	Present	X		Present			X	Present	X	X
Chelated and Water Soluble Copper	Present	X		Present			X	Present	X	X
Boron (as derived from sodium borate)	Present	X		Present			X	Present	X	X

Legend:

TSCA *- United States Toxic Substances Control Act Section 8(b) Inventory*

DSL/NDSL *- 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*

AICS *- Australian Inventory of Chemical Substances*

US Federal Regulations

CERCLA

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Chelated and Water Soluble Zinc	1000 lb		RQ 454 kg final RQ RQ 1000 lb final RQ
Chelated and Water Soluble Copper	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	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 %
Chelated and Water Soluble Manganese -		3	1.0
Chelated and Water Soluble Zinc -		3	1.0

CWA (Clean Water Act)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Chelated and Water Soluble Zinc		X	X	
Chelated and Water Soluble Copper		X	X	

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
Urea Nitrogen	X	X	X
Chelated and Water Soluble Manganese	X	X	X
Chelated and Water Soluble Zinc	X	X	X
Combined Sulfur	X	X	X
Boron (as derived from sodium borate)	X		
Chelated and Water Soluble Copper	X	X	X

16. OTHER INFORMATION

NFPA	**Health Hazards**	**Flammability**	**Instability**	**Special Hazards**
	Not determined	Not determined	Not determined	Not determined
HMIS	**Health Hazards**	**Flammability**	**Physical Hazards**	**Personal Protection**
	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