

**FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT, CALL CHEMTREC - DAY OR NIGHT 1-800-424-9300**

**1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER**

- 1.1 **PRODUCT IDENTIFIER:** CHELATED MICRONUTRIENT  
**TRADE NAME:** CITRAPLEX® 20% COPPER
- 1.2 **RECOMMENDED USE:** WATER SOLUBLE MICRONUTRIENT
- 1.3 **SUPPLIER DETAILS:**  
LOVELAND PRODUCTS, INC.  
P.O. Box 1286 • Greeley, CO 80632-1286
- 1.4 **24-Hour Emergency Phone:** 1-800-424-9300 - **Medical Emergencies:** 1-866-944-8565 - **Product Information:** 1-888-574-2878 (LPI-CUST)  
**U.S. Coast Guard National Response Center:** 1-800-424-8802

**2. HAZARDS IDENTIFICATION**

**2.1 Classification of the substance or mixture**

**Classification according to 29 CFR 1910.1200**

Skin Corrosion/Irritation	Category 2	H315
Aspiration Hazard	Category 1	H305
Eye Damage/Irritation	Category 2B	H320

**2.2 Label elements**



Signal word: **DANGER**  
 Hazard Statements: H315 – Causes skin irritation.  
 H305 – May be fatal if swallowed and enters airways.  
 H320 – Causes eye irritation.

Precautionary Statement: P264 – Wash hands thoroughly after handling.  
 (Prevention): P280 – Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary Statement: P302+P352: IF ON SKIN: Wash with plenty of soap and water.  
 (Response): P321 – Specific treatment (see First Aid on the product label).  
 P332+P313 – If skin irritation occurs: Get medical advice/attention.  
 P362 – Take off contaminate clothing and wash it before reuse.  
 P301+P310: IF SWALLOWED: Immediately call a poison center or doctor/physician  
 P331 – Do NOT induce vomiting.  
 P305+P351+P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P337+P313 – If eye irritation persists: Get medical advice/attention.

Precautionary Statement: P405 – Store locked up.  
 (Storage):

Precautionary Statement: P501 – Dispose of contents / container in accordance with local / national regulations.  
 (Disposal):

**2.3 Other hazards**  
None known



# SAFETY DATA SHEET

SDS NUMBER: 1000595580-17-LPI

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### 3. COMPOSITION, INFORMATION ON INGREDIENTS

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#### 3.1 Substances

#### 3.2 Mixtures

Chemical Name:	CAS No.	Concentration [%]
Copper Sulfate	7758-99-8	80
Citric Acid	77-92-9	20

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### 4. FIRST AID MEASURES

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#### 4.1 Description of First Aid Measures

General Advice: Get medical attention if symptoms occur.

- Eye contact:** Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
- Skin contact:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
- Ingestion:** Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.
- Inhalation:** Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferable by mouth-to-mouth, if possible. Call a poison control center or doctor for treatment advice.

#### 4.2 Most Important Symptoms and Effects, Acute and Delayed

Symptoms: Causes skin irritation. May be harmful if swallowed and enters airways. Causes eye irritation.

#### 4.3 Immediate Medical Attention and Special Treatment

Treatment: Treat symptomatically. Symptoms may be delayed.

**FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT CALL: 1-866-944-8565**

Take container, label or product name with you when seeking medical attention.

**NOTES TO PHYSICIAN:** No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

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### 5. FIRE FIGHTING MEASURES

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#### 5.1 EXTINGUISHING MEDIA:

Suitable Extinguishing Media: Water fog, water spray, carbon dioxide (CO<sub>2</sub>), foam. Do not use water jet as this will spread the fire.

#### 5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE:

Specific Hazards During Firefighting: During a fire, irritating, corrosive and/or toxic gases may be produced.

#### 5.3 SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIREFIGHTERS

Special Protective Equipment for Firefighters: Self-contained breathing apparatus and full protective gear should be worn in fighting large fires involving chemicals. Use water spray to keep fire exposed containers cool. Keep people away. Isolate fire and deny unnecessary entry.



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**6. ACCIDENTAL RELEASE MEASURES**

**6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES**

Personal Precautions: Avoid inhalation of vapors and spray mist and contact with skin and eyes. Ensure adequate ventilation. Wear suitable protective clothing.

**6.2 ENVIRONMENTAL PRECAUTIONS**

Environmental Precautions: Prevent further leakage or spillage if safe to do so. Do not contaminate water. Do not allow to enter drains, sewers, or watercourses.

**6.3 METHODS AND MATERIALS FOR CONTAINMENT AND CLEAN-UP**

Methods for Clean-Up: Pick up any spills mechanically. Never return spilled material to original containers for re-use.

**7. HANDLING AND STORAGE**

**7.1 PRECAUTIONS FOR SAFE HANDLING:**

Advice on Safe Handling: Avoid inhalation of vapors / spray and contact with eyes, skin and clothing. Do not breathe mist or vapor. Wear personal protective equipment. Do not use in areas without adequate ventilation. Avoid prolonged exposure. Wash thoroughly after handling. Do not empty into drains. Handle and open container with care. Use care in handling/storage. Wash before eating, drinking and/or smoking.

**7.2 CONDITIONS FOR SAFE STORAGE:**

Requirements for Storage Areas and Containers: Do not reuse empty bag. Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food or feed by storage or disposal.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

**8.1 CONTROL PARAMETERS:**

**OCCUPATIONAL EXPOSURE LIMITS**

**U.S. Workplace Exposure Level (OSHA) PELS**

Components	Type	Value
Copper compounds	TWA	1 mg/m <sup>3</sup>
Particulates, not elsewhere classified		15 mg/m <sup>3</sup>

**Biological limit values**

**ACGIH Biological Exposure Indices**

Components	Value	Specimen
No listing.		

**8.2 EXPOSURE CONTROLS:**

**Engineering Measures**

Provide adequate general and local exhaust ventilation. Observe Occupational Exposure Limits and minimize the risk of inhalation of vapors and spray mists. Provide eyewash station and safety shower.

**Individual Protection Measures:**

Eye / Face Protection: Chemical goggles are recommended.

Skin Protection: Chemical resistant clothing is recommended. Routinely wash work clothing and protective equipment to remove contaminants. The use of neoprene gloves is recommended. Be aware that the liquid may penetrate the gloves. Frequent change is advisable.

Respiratory Protection: In case of inadequate ventilation or risk of inhalation of vapors, use suitable respiratory equipment. Wear respiratory protection during operations where spraying or misting occurs. Wear air supplied respiratory protection. In the U.S.A., if respirators are used, a program should be in place to assure compliance with 29 CFR 1910.134, the OSHA Respiratory Protection standard. Wear air supplied respiratory protection if exposure concentrations are unknown.



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### 9. PHYSICAL AND CHEMICAL PROPERTIES

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9.1 APPEARANCE:	Powder
ODOR:	Negligible.
ODOR THRESHOLD:	No data available.
COLOR:	Blue.
pH:	2.9 (1% solution).
MELTING POINT / FREEZING POINT:	No data available
BOILING POINT:	No data available
FLASH POINT:	Does not flash.
FLAMMABILITY (solid, gas):	No data available.
UPPER / LOWER FLAMMABILITY OR EXPLOSIVE LIMITS:	Not applicable.
VAPOR PRESSURE:	No data available.
SOLUBILITY:	Soluble
PARTITION CO-EFFICIENT, n-OCTANOL / WATER:	No data available.
AUTO-IGNITION TEMPERATURE:	No data available.
DECOMPOSITION TEMPERATURE:	Not determined
VISCOSITY:	Not determined
SPECIFIC GRAVITY (Water = 1):	1.28 g/ml
BULK DENSITY:	80 lbs/ft <sup>3</sup> / 1281 kg/m <sup>3</sup>

Note: These physical data are typical values based on material tested but may vary from sample to sample.  
Typical values should not be construed as a guaranteed analysis of any specific lot or as specification items.

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### 10. STABILITY AND REACTIVITY

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#### 10.1 REACTIVITY

Stable

#### 10.2 CHEMICAL STABILITY

Stable under normal temperature conditions

#### 10.3 POSSIBILITY OF HAZARDOUS REACTIONS

No reactions known under normal use conditions. Will not polymerize.

#### 10.4 CONDITIONS TO AVOID

None known.

#### 10.5 INCOMPATIBLE MATERIALS

None known.

#### 10.6 HAZARDOUS DECOMPOSITION PRODUCTS

None known.

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### 11. TOXICOLOGICAL INFORMATION

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#### 11.1 LIKELY ROUTES OF EXPOSURE

Skin contact. Eye contact.

**LC<sub>50</sub> (rat):** No data available.

**LD<sub>50</sub> Oral (rat):** 472 mg/kg (Copper Sulfate); 6730 mg/kg (Citric Acid)

**LD<sub>50</sub> Dermal (rat):** No data available.

**Acute Toxicity Estimates:** No data available

**Skin Irritation (rabbit):** Causes skin irritation

**Eye Irritation (rabbit):** Causes eye irritation.

**Specific Target Organ Toxicity:** No data available.

**Aspiration:** May be harmful if swallowed and enters airways.

**Skin Sensitization (guinea pig):** Not a sensitizer

**Carcinogenicity:** No data available

**Germ Cell Mutagenicity:** No data available

**Interactive Effects:** None known



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## 12. ECOLOGICAL INFORMATION

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### 12.1 ECOTOXICITY

Copper Sulfate is harmful to aquatic life at very low concentrations. Toxic to fish and marine organisms when applied to streams, rivers, ponds, or lakes.

#### Ecotoxicological Data

Components	Species	Test Results
Copper Sulfate	Rainbow trout	0.17 mg/l – LC <sub>50</sub>
	Blue gill	884 mg/l – LC <sub>50</sub>
	Daphnia magna	0.182 mg/l – LC <sub>50</sub>

Drift or runoff may adversely affect non-target plants.  
Do not apply directly to water.  
Do not contaminate water when disposing of equipment wash water.  
Do not apply when weather conditions favor drift from target area.

### 12.2 PERSISTENCE AND DEGRADABILITY

Biodegradability: The product is not readily biodegradable

### 12.3 BIOACCUMULATIVE POTENTIAL

Bioaccumulation: No data available.

### 12.4 MOBILITY IN SOIL

This product is water soluble and may disperse in soil.

### 12.5 OTHER ADVERSE EFFECTS

Assessment: No data available.

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## 13. DISPOSAL CONSIDERATIONS

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### 13.1 WASTE TREATMENT METHODS

Do not reuse product containers. Paper or plastic containers: Completely empty container into application equipment. Then dispose of empty container in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food or feed by storage or disposal.

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## 14. TRANSPORT INFORMATION

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### 14.1 LAND TRANSPORT

DOT Shipping Description: NOT REGULATED

U.S. Surface Freight Classification: FERTILIZING COMPOUNDS (MANUFACTURED FERTILIZERS), NOI; DRY (NMFC 68140, SUB 5; CLASS 50)



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**15. REGULATORY INFORMATION**

**15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS**

**NFPA & HMIS Hazard Ratings:**

NFPA

HMIS

1 Health	0 Least
0 Flammability	1 Slight
0 Instability	2 Moderate
	3 High
	4 Severe

1 Health
0 Flammability
0 Reactivity
B PPE

**SARA Hazard Notification/Reporting**

<b>SARA Title III Hazard Category:</b>	Immediate <u>Y</u>	Fire <u>N</u>	Sudden Release of Pressure <u>N</u>
	Delayed <u>Y</u>	Reactive <u>N</u>	

**Reportable Quantity (RQ) under U.S. CERCLA:** Not listed.

**SARA, Title III, Section 313:** Not listed.

**RCRA Waste Code:** Not listed

**CA Proposition 65: WARNING:** This product contains chemicals known to the State of California to cause cancer or birth defects or other reproductive harm.

**16. OTHER INFORMATION**

**SDS STATUS:** Section 2 revised

**PREPARED BY:** Registrations and Regulatory Affairs

**REVIEWED BY:** Environmental Health and Safety

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