

S.T. Biologicals, Inc.

SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identity: ATTEST

Recommended use: Fertilizer

Restrictions on Use: Use only as directed on the product label.

Supplier: S.T. Biologicals, Inc.
P.O.Box 385370
Minneapolis, MN 55438
Telephone: +1 (952) 378-1157, 800-356-8733

Emergency Phone: For Chemical Emergency
Spill, Leak, Fire, or Accident
Call **CHEMTREC** Day or Night
Within USA and Canada: 1-800-424-9300
Outside USA and Canada: +1 703-527-3887 (collect calls accepted)

2. HAZARDS IDENTIFICATION

GHS Classification:

Physical:	Health:	Environmental
Not Hazardous	Eye Irritation Category 2A	Aquatic Toxicity Acute Category 1 Aquatic Toxicity Chronic Category 1

GHS Label Elements:
WARNING



Statements of Hazard

Causes serious eye irritation.
Very toxic to aquatic life with long lasting effects.

Prevention

Wash hands thoroughly after handling.
Avoid release to the environment.
Wear eye protection.

Disposal

Dispose of contents and container in accordance with local, regional, and national regulations.

Response

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 or attention.
Collect spillage.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No.	Amount
Copper (II) Sulfate pentahydrate	7758-99-8	21.27%
Other Ingredients	Mixture	Balance

4. FIRST AID MEASURES

Eye: First check victim for contact lenses and remove if present. Flush victim's eyes with large quantities of water for at least 15 minutes, holding the eyelids apart. Get medical attention if irritation persists.

Skin: Remove contaminated clothing. Wash skin thoroughly with soap and water. If irritation or symptoms develop, get medical attention. Launder clothing before re-use. (Discard contaminated shoes)

Ingestion: Do not induce vomiting unless directed by a medical professional. If conscious, rinse mouth with water. Never give anything by mouth to an unconscious or convulsing person. Get medical attention if symptoms occur or if the victim feels unwell.

Inhalation: Immediately remove victim to fresh air. Get medical attention if symptoms occur and persist.

Most important Symptoms: Causes eye irritation. May Cause skin irritation. Ingestion may cause headache, dizziness, nausea, vomiting, irregular heartbeat, respiratory difficulty, metallic taste, gastrointestinal bleeding, liver and kidney failure.

Indication of immediate medical attention/special treatment: Immediate medical attention is not generally required.

5. FIRE FIGHTING MEASURES

Suitable (and Unsuitable) Extinguishing Media: Use water spray, carbon dioxide, foam or dry chemical.

Specific hazards arising from the chemical: This product is not classified as flammable but may burn under fire conditions. Combustion may produce ammonia, copper fumes and oxides of carbon, sulfur and nitrogen.

Special Protective Equipment and Precautions for Fire-Fighters: Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing. Cool fire exposed containers with water spray. Do not allow run-off from fire fighting to enter drains or water courses.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures: Evacuate spill area and keep unprotected personnel away. Do not breathe vapors or mists. Avoid contact with the eyes, skin and clothing. Wear appropriate protective clothing.

Methods and Materials for Containment and Cleaning Up: Contain and collect using inert absorbent materials and place in appropriate containers for disposal. Do not flush to sewer! Report releases as required by local, state and federal authorities. Contact your local environmental control agency, or hazardous waste representative for advice.

7. HANDLING AND STORAGE

Precautions for Safe Handling: Avoid contact with the eyes, skin and clothing. Avoid breathing vapors or mists. Wear appropriate protective clothing and equipment. Use only with adequate ventilation. Wash thoroughly with soap and water after handling. Keep containers closed when not in use.

Do not cut, drill, grind or weld on or near containers, even empty containers. Do not reuse containers. Empty containers retain product residues which can be hazardous. Follow all SDS precautions when handling empty containers.

Conditions for Safe Storage, Including Any Incompatibilities: Do not contaminate water, food or feed by storage or disposal. Do not freeze or store below 45°F. Store in original container. Store away from oxidizers and other incompatible materials.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines:

Copper (II) Sulfate (as copper)	1 mg/m3 TWA OSHA PEL 1 mg/m3 TWA ACGIH TLV
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Engineering Controls: Use with adequate ventilation to maintain exposures below the occupational exposure limits.

Personal Protective Equipment:

Respiratory Protection: In operations where exposure levels are excessive, an approved respirator with dust/mist cartridges or supplied air respirator should be used. Respirator selection and use should be based on contaminant type, form and concentration. Follow applicable regulations and good Industrial Hygiene practice.

Skin Protection: Wear impervious gloves.

Eye Protection: Chemical safety goggles should be worn.

Other: Impervious coveralls, apron and boots is recommended to prevent skin contact and contamination of personal clothing. An eye wash should be available in the immediate work area.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor: Opaque brown-green liquid.

Physical State: Liquid	Odor Threshold: Not Determined
Vapor Density: Not Determined	Initial Boiling Point/Range: Not Determined
Solubility In Water: Soluble	Vapor Pressure: Not Determined
Relative Density: 1.23	Evaporation Rate: Not Determined
Melting/Freezing Point: Not Determined	pH: 4.49
VOC Content: Not Determined	Octanol/Water Coefficient: Not Determined
Viscosity: Not determined	Decomposition Temperature: Not determined
Flashpoint: >200.9°F (93.9°C)	Flammability (solid, gas): Not applicable
Flammable Limits: LEL: Not Determined UEL: Not Determined	Autoignition Temperature: Not Determined

10. STABILITY AND REACTIVITY

Reactivity: Not normally reactive

Chemical Stability: Stable under normal storage and handling conditions.

Possibility of Hazardous Reactions: Reaction with oxidizers may generate heat.

Conditions to Avoid: Avoid heat, flames and sources of ignition.

Incompatible Materials: Avoid oxidizing agents.

Hazardous Decomposition Products: Thermal decomposition yields ammonia and oxides of nitrogen, carbon, copper and sulfur.

11. TOXICOLOGICAL INFORMATION

HEALTH HAZARDS:

- Eye:** Contact may cause irritation with redness, tearing and stinging Moderate irritant in rabbit study.
- Skin:** May causes mild skin irritation. Repeated or prolonged contact may cause defatting of the skin and dermatitis. Slight irritant in rabbits. Low toxicity in rabbits.
- Ingestion:** Ingestion may cause headache, dizziness, nausea, vomiting, diarrhea, irregular heartbeat, respiratory difficulty, metallic taste, gastrointestinal bleeding, liver and kidney failure.
- Inhalation:** Inhalation of vapors or mists may cause mucous membrane and respiratory irritation and effects similar to ingestion.
- Chronic:** None known.
- Sensitization:** Negative in the guinea pig Buehler test.
- Carcinogenicity:** None of the components are listed as a carcinogen or suspected carcinogen by IARC, NTP, ACGIH, OSHA or the EU Substance Directive.
- Germ Cell Mutagenicity:** Components are not germ cell mutagens.
- Reproductive Toxicity:** Components are not reproductive toxins.

Numerical Measures of Toxicity:

Copper (II) Sulfate: Oral rat LD50 481 mg/kg

Product Test Data: Oral rat LD50 >5000 mg/kg; Dermal rabbit LD50 >5000 mg/kg; Inhalation rat LD50 >2.06 mg/L (no mortalities at highest attainable dose)

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Copper (II) Sulfate – LC50 Cyprinus carpio – 810 ug/L/96 hr; LC50 freshwater trout – 190-210 ug/L/96 hr;

This product is classified as highly toxic to the aquatic environment with long-term effects. Releases to the environment should be avoided.

Persistence and Degradability: Not expected to be readily biodegradable.

Bioaccumulative Potential: No data available.

Mobility in Soil: No data available.

Other Adverse Effects: No data available

13. DISPOSAL CONSIDERATIONS

Dispose in accordance with federal, state and local regulations. Thoroughly clean empty containers before disposal. Do not reuse containers.

14. TRANSPORT INFORMATION

DOT Hazardous Materials Description: This product is not regulated for transport in containers less than 46 lbs. For containers with more than 46 lbs, the following shipping information applies:

Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s. (Copper (II) Sulfate), RQ

UN Number: UN3082

Hazard Class/Packing Group: 9, III

Labels Required: Class 9, Marine Pollutant

IMDG Shipping Name: Environmentally hazardous substance, liquid, n.o.s. (Copper (II) Sulfate)

IMDG Hazard Class: 9, III

UN Number: UN3082

IMDG Hazard Labels Required: Class 9, Marine Pollutant

IATA Shipping Name: Environmentally hazardous substance, liquid, n.o.s. (Copper (II) Sulfate)

IATA Hazard Class: 9, PG III

UN Number: UN3082

IATA Hazard Labels Required: Class 9, EHS Mark

15. REGULATORY INFORMATION

CERCLA 103 Reportable Quantity: This product has a Reportable Quantity (RQ) of 46 lbs. (based on the RQ for Copper (II) Sulfate of 10 lbs present at 21.27%). Releases above the RQ must be reported to the National Response Center. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

Hazard Category for Section 311/312: See OSHA Hazard Classification in Section 2.

Section 313 Toxic Chemicals: This product contains the following chemicals subject to SARA Title III Section 313 Reporting requirements:

Copper (II) Sulfate	7758-98-7	21.27%
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Section 302 Extremely Hazardous Substances (TPQ): None

16. OTHER INFORMATION

SDS Date of Preparation: April 6, 2017

NOTICE

This above information is believed to be correct but does not propose to be all inclusive and shall be used only as a guide. S.T. Biologicals, Inc. shall not be held liable for any damage resulting from handling or from contact with the above product. This information relates only to the product designated herein and does not relate to its use in combination with any other material or process.