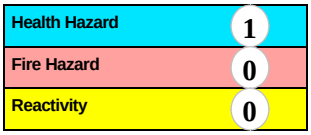
GARDENA, CA
NEW BRUNSWICK, NJ

Material Safety Data Sheet

NFPA	HMIS	Personal Protective Equipment
		
		See Section 15.

Section 1. Chemical Product and Company Identification

Common Name/ Trade Name	**Cupric Citrate TS, Alkaline**
Manufacturer	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248
Commercial Name(s)	Not available.
Synonym	Not available.
Chemical Name	Not applicable.
Chemical Family	Sulfate salt. [SO4](-2) (Salt.)
Chemical Formula	Not applicable.
Supplier	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248

Catalog Number(s).	C-307
CAS#	Mixture.
RTECS	Not applicable.
TSCA	TSCA 8(b) inventory: Water
CI#	Not applicable.

IN CASE OF EMERGENCY
CHEMTREC (24hr) 800-424-9300

CALL (310) 516-8000

Section 2.Composition and Information on Ingredients

		Exposure Limits			
Name	**CAS #**	**TWA (mg/m^3)**	**STEL (mg/m^3)**	**CEIL (mg/m^3)**	**% by Weight**
1) Sodium citrate dihydrate	6132-04-3				17.3
2) Sodium carbonate monohydrate	5968-11-6				11.7
3) Copper sulfate pentahydrate	7758-99-8	1			1.73
4) Water	7732-18-5				69.3

Toxicological Data on Ingredients

Sodium carbonate monohydrate:
DUST (LC50): Acute: 468 mg/m^3 4 hours [Guinea pig].
Copper sulfate pentahydrate:
ORAL (LD50): Acute: 300 mg/kg [Rat.].
DERMAL (LD50): Acute: >2000 mg/kg [Rat].

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Section 3. Hazards Identification

Potential Acute Health Effects	Slightly hazardous in case of skin contact (irritant, permeator), of eye contact (irritant), of ingestion.
Potential Chronic Health Effects	**CARCINOGENIC EFFECTS**: Not available. **MUTAGENIC EFFECTS**: Mutagenic for mammalian somatic cells. [Copper sulfate pentahydrate]. **TERATOGENIC EFFECTS**: Not available. **DEVELOPMENTAL TOXICITY**: Not available. The substance is toxic to lungs, mucous membranes. The substance may be toxic to kidneys, liver, upper respiratory tract, skin, eyes. Repeated or prolonged exposure to the substance can produce target organs damage.

Section 4. First Aid Measures

Eye Contact	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention if irritation occurs.
Skin Contact	Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops. Cold water may be used.
Serious Skin Contact	Not available.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
Serious Inhalation	Not available.
Ingestion	Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.
Serious Ingestion	Not available.

Section 5. Fire and Explosion Data

Flammability of the Product	Non-flammable.
Auto-Ignition Temperature	Not applicable.
Flash Points	Not applicable.
Flammable Limits	Not applicable.
Products of Combustion	Not available.
Fire Hazards in Presence of Various Substances	Not applicable.
Explosion Hazards in Presence of Various Substances	Non-explosive in presence of open flames and sparks, of shocks, of heat.
Fire Fighting Media and Instructions	Not applicable.
Special Remarks on Fire Hazards	Not available.
Special Remarks on Explosion Hazards	Not available

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Section 6. Accidental Release Measures

Small Spill	Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. If necessary: **Neutralize the residue with a dilute solution of acetic acid.** Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.
Large Spill	Absorb with an inert material and put the spilled material in an appropriate waste disposal. **Neutralize the residue with a dilute solution of acetic acid.** Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7. Handling and Storage

Precautions	Do not ingest. Do not breathe gas/fumes/ vapor/spray. Wear suitable protective clothing. If ingested, seek medical advice immediately and show the container or the label.
Storage	Keep container tightly closed. Keep container in a cool, well-ventilated area.

Section 8. Exposure Controls/Personal Protection

Engineering Controls	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.
Personal Protection	Safety glasses. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.
Personal Protection in Case of a Large Spill	Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
Exposure Limits	**Copper sulfate pentahydrate** TWA: 1 (mg/m^3) from ACGIH (TLV) [United States] Inhalation TWA: 0.1 (mg/m^3) from OSHA (PEL) [United States] Inhalation TWA: 1 (mg/m^3) from NIOSH Inhalation Consult local authorities for acceptable exposure limits.

Section 9. Physical and Chemical Properties

Physical state and appearance	Liquid.	**Odor**	Not available.
Molecular Weight	Not applicable.	**Taste**	Not available.
pH (1% soln/water)	Not available	**Color**	Clear Blue.

Boiling Point	The lowest known value is 100°C (212°F) (Water).
Melting Point	Not available.
Critical Temperature	Not available.
Specific Gravity	Weighted average: 1.1 (Water = 1)
Vapor Pressure	The highest known value is 2.3 kPa (@ 20°C) (Water).
Vapor Density	The highest known value is 0.62 (Air = 1) (Water).
Volatility	Not available.
Odor Threshold	Not available.
Water/Oil Dist. Coeff.	Not available.
Ionicity (in Water)	Not available.
Dispersion Properties	See solubility in water, methanol.

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Solubility	Easily soluble in cold water, hot water. Partially soluble in methanol.

Section 10. Stability and Reactivity Data

Stability	The product is stable.
Instability Temperature	Not available.
Conditions of Instability	Incompatible materials
Incompatibility with various substances	Slightly reactive to reactive with oxidizing agents, metals, acids, alkalis.
Corrosivity	Non-corrosive in presence of glass.
Special Remarks on Reactivity	Not available
Special Remarks on Corrosivity	Not available.
Polymerization	Will not occur.

Section 11. Toxicological Information

Routes of Entry	Absorbed through skin. Eye contact.
Toxicity to Animals	Acute oral toxicity (LD50): 300 mg/kg [Rat.]. (Copper sulfate pentahydrate). Acute dermal toxicity (LD50): >2000 mg/kg [Rat]. (Copper sulfate pentahydrate).
Chronic Effects on Humans	**MUTAGENIC EFFECTS**: Mutagenic for mammalian somatic cells. [Copper sulfate pentahydrate]. Contains material which may cause damage to the following organs: kidneys, liver, upper respiratory tract, skin, eyes.
Other Toxic Effects on Humans	Slightly hazardous in case of skin contact (irritant, permeator), of ingestion, of inhalation.
Special Remarks on Toxicity to Animals	Lowest Published Lethal Dose: LDL [Human] - Route: Oral; Dose: 1088 mg/kg (Copper sulfate pentahydrate)
Special Remarks on Chronic Effects on Humans	May cause adverse reproductive effects based on animal test data (Sodium carbonate monohydrate)
Special Remarks on other Toxic Effects on Humans	Potential Health Effects: Skin: Possible irritation on prolonged contact with moist or sensitive areas of the skin. Eyes: No adverse effects expected, but dust may casue mechanical irritation. Inhalation: Inhalation of large amounts of dust may cause irritation to the respiratory tract. Low hazard for usual industrial handling. Ingestion: Ingestion of large amounts may cause gastrointestinal tract irritation/disturbances. May affect behavior (convulsions), respiration (cyanosis). (Sodium citrate dihydrate)

Section 12. Ecological Information

Ecotoxicity	Not available.
BOD5 and COD	Not available.
Products of Biodegradation	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
Toxicity of the Products of Biodegradation	The products of degradation are less toxic than the product itself.

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Special Remarks on the Products of Biodegradation	If released to soil, copper sulfate may leach to groundwater, be partly oxidized, or bind to humic materials, clay, or hydrous of iron and manganese. In water, it will bind to carbonates as well as humic materials, clay and hydrous oxides of iron and manganese. Copper is accumulated by plants and animals, but it does not appear to biomagnify from plants to animals. This lack of biomagnification appears common with heavy metals. In air, copper aerosols (in general) have a residence time of 2 to 10 days in an unpolluted atmosphere and 0.1 to >4 in a polluted, urban areas. (Copper sulfate pentahydrate)

Section 13. Disposal Considerations

Waste Disposal Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14. Transport Information

DOT Classification	Not a DOT controlled material (United States).
Identification	Not applicable.
Special Provisions for Transport	Not applicable.
DOT (Pictograms)	

Section 15. Other Regulatory Information and Pictograms

Federal and State Regulations TSCA 8(b) inventory: Water

California Proposition 65 Warnings

Other Regulations OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

Other Classifications

WHMIS (Canada) Not controlled under WHMIS (Canada).

DSCL (EEC) This product is not classified according to the EU regulations. S24/25- Avoid contact with skin and eyes.

HMIS (U.S.A.)

Health Hazard	1
Fire Hazard	0
Reactivity	0
Personal Protection	g

National Fire Protection Association (U.S.A.)

WHMIS (Canada) (Pictograms)

DSCL (Europe) (Pictograms)

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TDG (Canada) (Pictograms)

ADR (Europe) (Pictograms)

Protective Equipment

Gloves.

Lab coat.

Vapor respirator. Be sure to use an approved/certified respirator or equivalent.

Safety glasses.

Section 16. Other Information

MSDS Code **C307S**

References Not available.

Other Special Considerations Not available.

Validated by Sonia Owen on 8/11/2006.

Verified by Sonia Owen.

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CALL (310) 516-8000

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