

MATERIAL SAFETY DATA SHEET

SECTION 1: PRODUCT IDENTIFICATION

Product: CUPRIC SULFATE, 5-HYDRATE

Chemical Synonyms: COPPER(II) SULFATE PENTAHYDRATE

Formula: CuSO₄ · 5H₂O

UNITEC Size: 2.5 lb.

C.A.S. No.: 7750-99-8

SECTION 2: HAZARD IDENTIFICATION

Principal Hazardous Component(s): Cupric Sulfate, 5-hydrate

HAZARD RATING: 0

HEALTH: 2

FIRE: 0

REACTIVITY: 0

TLV Units: See Section 5

SECTION 3: PHYSICAL AND CHEMICAL PROPERTIES

Melting Point (°F): -4120 at 302°F (150°C)

Boiling Point (°F): -5 H₂O @ 150°C

Vapor Pressure (mm Hg): Negligible as solid

Vapor Density (Air = 1): 0.64

Solubility in Water: 24.3 grams per 100 ml water at 30°C.

Appearance and Odor: Blue crystals or fine blue powder; no odor.

Flash Point (Method Used): Non-flammable

Extinguisher Media: Use any media suitable for extinguishing supporting fire.

SECTION 4: FIRE AND EXPLOSION HAZARDS

UNUSUAL FIRE AND EXPLOSION HAZARDS: None

SECTION 5: SPECIAL FIRE FIGHTING PROCEDURES

Use any media suitable for extinguishing supporting fire.

In fire conditions, wear a NIOSH-approved self-contained breathing apparatus.

Cupric Sulfate will not burn, nor will it support combustion. If dry heated above 600°C, SO₂ is evolved. If water is used, it will solubilize the CuSO₄ · 5H₂O, and care should be used to keep such water out of streams or other water bodies.

Fire or excessive heat may produce decomposition products.

SECTION 6: UNUSUAL FIRE AND EXPLOSION HAZARDS

Fire or excessive heat may produce decomposition products.

SECTION 7: OTHER REGULATED MATERIALS

D.O.T.: OTHER REGULATED MATERIAL-E

SECTION 8: FREY SCIENTIFIC

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SECTION 9: HEALTH HAZARD DATA

Threshold Limited Value: (air) As copper metal: 1.0 mg/m³ for 8 hr. working day. Copper (free) 0.2 mg/m³.

Effects of Overexposure: gastric pain, and hemorrhagic gastritis. Irritation. Although a strong irritant, ingestion can cause copper poisoning and/or death. Irritation, nausea, vomiting, diarrhea, etc.

First Aid Procedures: EMERGENCY: Move to fresh air. Get medical attention. Immediately flush eyes and water orifices thoroughly with water for 15 minutes. Get medical attention. Flush with water. EMERGENCY: If inhaled, give one or two glasses of water. Induce vomiting and call a physician.

SECTION 10: REACTIVITY DATA

Stability: Unstable

Conditions to Avoid: Excessive temperatures and heat.

Incompatibility (Materials to avoid): None known when product remains dry. Solutions are corrosive to mild steel, nitric acid.

Hazardous Decomposition Products: None at normal process temperatures and pressures. If dry heated above 1000°F (500°C) sulfur dioxide (SO₂) may be released.

Hazardous Polymerization: Will Not Occur

Conditions to Avoid: None

SECTION 11: WASTE DISPOSAL METHOD

Discharge, treatment, or disposal may be subject to federal, state, or local laws. chemical waste disposal agency.

Disposal: Dispose of in an approved chemical landfill or contact a licensed chemical waste disposal agency.

SECTION 12: PROTECTIVE GLOVES

Protective Gloves: Rubber

Eye Protection: Chemical safety glass

Other Precautions: Store in a cool, dry place. Wash thoroughly after handling. Read label on container before using.

SECTION 13: REGULATED MATERIALS

Approved: 1/12/87

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Approved: Alfred A. Saccid

Chemical Safety Coordinator