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CUPRIC SULFATE MATERIAL SAFETY DATA SHEET

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SECTION I – PRODUCT IDENTIFICATION

PRODUCT NAME: Copper (II) Sulfate Pentahydrate
CAS NO: 7758-99-8

SECTION II – PRECAUTIONARY MEASURES

Warning: Harmful if swallowed. Causes irritation. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling
Appearance: Blue liquid. **Odor:** Odorless

SECTION III – Fire & Explosive Hazard Data

Fire: Not considered to be a fire hazard
Explosion: Not considered to be an explosion hazard. Sealed container may rupture during fire conditions from pressure water vapor release.
Fire Extinguishing: Use any means suitable for extinguishing surrounding fire. Water spray may be used to keep fire exposed containers cool
Special Information: In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated mode. When heated above 110 °C (230 °F) material will melt. Avoid using a direct water stream on molten material as it may cause splattering

SECTION IV – REACTIVITY DATA

Stability: Stable under ordinary conditions of use and storage
Hazardous Decomposition Products: When heated to decomposition cupric oxide and sulfur oxide may form
Hazardous Polymerization: Will not occur
Incompatibilities: At temperatures greater than 250 °C (482 °F) the anhydrous salt will ignite hydroxylamine. Solutions are acidic and can react with magnesium to evolve flammable hydrogen gas

SECTION V – LEAK/SPILL DISPOSAL INFORMATION

Ventilation: Ventilate area of leak or spill. Clean-up personnel require protective clothing and respiratory protection from dust.
Spills: Pick up and place in suitable container for reclamation or disposal in a method that does not generate dust
Disposal: Whatever cannot be saved for reclamation may be disposed in a RCRA approved hazardous waste facility

Ensure compliance with local, state and federal regulations

SECTION VI – EXPOSURE/HEALTH EFFECTS

Inhalation: May cause irritation to the upper respiratory tract; symptoms may include coughing, sore throat and shortness of breath. May also cause symptoms similar to the common cold; including chills and stuffiness of the head

Ingestion: Toxic! May cause burning pain in the mouth, esophagus and stomach. Hemorrhagic gastritis, nausea vomiting, abdominal pain, metallic taste and diarrhea may occur. If vomiting does not occur immediately systemic copper poisoning may occur. Symptoms may include capillary damage, headache, cold sweat, weak pulse, kidney and liver damage, central nervous excitation followed by depression, jaundice, convulsions, paralysis and coma. Death may occur from shock or renal failure.

Skin Contact: May cause irritation and itching

Eye Contact: Dust may cause irritation. Contact may cause conjunctivitis, ulceration or clouding of cornea

Chronic Exposures: Prolonged or repeated skin exposure may cause dermatitis. Prolonged or repeated exposure to dusts of copper salts may cause discoloration of skin or hair, ulceration and perforation of the nasal septum, runny nose, metallic taste, and atrophic changes and irritation of the mucous membranes.

Aggravation of Pre-existing Conditions: Persons with pre-existing skin disorders or impaired liver, kidney or pulmonary function or pre-existing Wilson's disease may be more susceptible to the effects of this material.

SECTION VII – FIRST AID

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen, call a physician.

Ingestion: If swallowed, induce vomiting immediately by giving two glasses of water or milk if available and sticking finger down throat. Call a physician immediately. Never give anything by mouth to an unconscious person.

Sulfate Skin Exposure: Remove any contaminated clothing. Wash skin with plenty of water for at least 15 minutes. If irritation develops, get medical attention.

Eye Exposure: Wash eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

SECTION VIII – OCCUPATIONAL CONTROL MEASURES

Airborne Exposure Limits: OSHA Permissible Exposure Limit (PEL): 1 mg/m³ (TWA) for copper dusts and mists as Cu-ACGIH

Threshold Limit Value (TLV) : 1 mg/m³ (TWA) for copper dust and mists as Cu.

Ventilation System: A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into general work area. Please refer to the ACGIH document, "Industrial Ventilation, A Manual of Recommended Practices", most recent edition, for details.

Personal Respirators (NIOSH Approved): If the TLV is exceeded, a dust/mist respirator with chemical goggles may be worn, in general, up to ten times the TLV. Consult respirator supplier for limitations. Alternatively, a supplied air full facepiece respirator or airlined hood may be used.

Skin Protection: Wear protective gloves and clean body-covering clothing

Eye Protection: Use chemical safety goggles. Contact lenses should not be worn when working with this material. Maintain eye wash fountain and quick-drench facilities in work area.

SECTION IX – STORAGE AND SPECIAL INFORMATION

Keep in a tight closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from incompatible substances. Solutions are corrosive to mild steel.

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