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Material Safety Data Sheet

Cupric hydroxide

Section 1: Chemical Product and Company Identification

Product Name: Cupric Hydroxide

CAS#: 20427-59-2

RTECS: GL7600000

TSCA: TSCA 8(b) inventory: Cupric Hydroxide

CI#: Not applicable.

Synonym: Copper dihydroxide; Cupric hydroxide; Copper hydroxide

Chemical Name: Cupric Hydroxide

Chemical Formula: CU(OH)2

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Section 2: Composition and Information on Ingredients

Composition:

Name	CAS # %	By Weight
Cu(OH)2	20427-59-2	≥ 100.0%

Toxicological Data on Ingredients: Cupric Hydroxide: ORAL (LD50): Acute: 1000 mg/kg [Rat]. DERMAL (LD50): Acute:>3160 mg/kg [Rabbit].

Section 3: Hazards Identification

Potential Acute Health Effects:

Hazardous in case of eye contact (irritant), of ingestion. Slightly hazardous in case of skin contact (irritant, permeator), of inhalation.

Potential Chronic Health Effects:

CARCINOGENIC EFFECTS: Not available.

MUTAGENIC EFFECTS: Not available.
TERATOGENIC EFFECTS: Not available.
DEVELOPMENTAL TOXICITY: Not available.
Repeated or prolonged exposure is not known to aggravate medical condition.

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. WARM water MUST be used. Get medical attention.

Skin Contact: Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops.

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:

Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions: Not applicable.

Special Remarks on Fire Hazards: Not available.

Special Remarks on Explosion Hazards: Not available.

Section 6: Accidental Release Measures

Small Spill:

Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

Large Spill:

Use a shovel to put the material into a convenient waste disposal container. 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 dust. Avoid contact with eyes. Wear suitable protective clothing. If ingested, seek medical advice immediately and show the container or the label. Keep away from incompatibles such as acids.

Storage:

Hygroscopic. Air Sensitive. Keep container tightly closed. Keep container in a cool, well-ventilated area. Do not store above 35°C (95°F).

Section 8: Exposure Controls/Personal Protection

Engineering Controls:

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection:

Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Dust 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:

TWA: 1 (mg/m³) from ACGIH (TLV) [United States] - as copper dusts or mists. TWA: 1 (mg/m³) from OSHA (PEL) [United States] - as copper dusts or mists. Consult local authorities for acceptable exposure limits.

Section 9: Physical and Chemical Properties

Physical state and appearance: Solid. (Powdered solid.)

Odor: Odorless.

Taste: Characteristic copper odor

Molecular Weight: 97.56 g/mole

Color: Blue. (Light.)

pH (1% soln/water): 7.8 [Basic.]

Boiling Point: Not available.

Melting Point: 160°C (320°F)

Critical Temperature: Not available.

Specific Gravity: 3.37 (Water = 1)

Vapor Pressure: Not applicable.

Vapor Density: Not available.

Volatility: Not available.

Odor Threshold: Not available.

Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): Not available.

Dispersion Properties: Dispersed in cold water to form a suspension. Decomposes in hot water.

Solubility:

Insoluble in cold water. Soluble in acids, ammonium hydroxide, concentrated alkali (when freshly precipitated), potassium Cyanide.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability:

Excessive heat, incompatible materials. Stability is also dependant on method of preparation. May decompose to black copper oxide on standing a few days or on heating.

Incompatibility with various substances: Reactive with acids.

Corrosivity: Not available.

Special Remarks on Reactivity:

Hygroscopic. Air Sensitive. Many copper salts form dangerous acetylides. The copper acetylides formed in ammonical or caustic solutions with cupric salts and acetylene are more explosive than those derived from cuprous salts. Copper salts promote the decomposition of hydrazine. Cupric salts are not compatible with sodium hypobromite. Solutions of sodium hypobromite are decomposed by powerful catalytic action of cupric ions, even as impurities. Salts of copper are incompatible with nitromethane.

Special Remarks on Corrosivity: Not available.

Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Inhalation. Ingestion.

Toxicity to Animals:

Acute oral toxicity (LD50): 1000 mg/kg [Rat]. Acute dermal toxicity (LD50): >3160 mg/kg [Rabbit].

Chronic Effects on Humans: Not available.

Other Toxic Effects on Humans:

Hazardous in case of ingestion. Slightly hazardous in case of skin contact (irritant, permeator), of inhalation.

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Not available.

Special Remarks on other Toxic Effects on Humans:

Acute Potential Health Effects: Skin: Causes skin irritation or allergic contact dermatitis. Not considered to be a skin sensitizer. Slightly toxic by skin absorption. Eyes: Causes eye irritation. Eye irritation may occur from mechanical action. May be corrosive to eyes and damage eye tissue if not washed immediately Ingestion: May be harmful if swallowed. This material may produce toxicity if ingested in large quantities. May cause irritation of the gastrointestinal (digestive) tract. May cause nausea, vomiting, abdominal pain, central nervous system depression (if severe, may lead to death), gastrointestinal bleeding, hemolysis, anemia, seizures, coma. May affect the cardiovascular system (hypotension, shock), and rarely, methemoglobinemia. May affect liver and kidneys
Inhalation: Excessive exposure may cause respiratory tract irritation with coughing, mucous production, shortness of

breath, and reflecting metal fume fever, pulmonary edema, laryngitis, headache, nausea and vomiting. Chronic Potential Health Effects: Excessive repeated, prolonged exposure may lead to allergic contact dermatitis, perforation of the nasal septum.

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.

Special Remarks on the Products of Biodegradation: Not available.

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.

Section 15: Other Regulatory Information

Federal and State Regulations: TSCA 8(b) inventory: Cupric Hydroxide

Other Regulations: EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications:

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

DSCL (EEC):

R22- Harmful if swallowed. R36- Irritating to eyes. S2- Keep out of the reach of children. S46- If swallowed, seek medical advice immediately and show this container or label.

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 0

Reactivity: 0

Personal Protection: E

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

Health: 2

Flammability: 1

Reactivity: 0

Specific hazard:

Protective Equipment:

Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Splash goggles.

Section 16: Other Information

References: Not available.

Other Special Considerations: Not available.

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