



MATERIAL SAFETY DATA SHEET

SECTION I. PRODUCT INFORMATION

Product Name: Cupric Sulphate Pentahydrate
Chemical Name: Copper Sulphate Pentahydrate
Formula: $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$
Product Use: Animal Feed Ingredient
Emergency Telephone: (613)996-6666 (Canutec) Call Collect 24 Hours

SECTION II. PREPARATION INFORMATION

Distributor: Pestell Minerals & Ingredients
141 Hamilton Road
New Hamburg, Ontario N0B 2G0

Prepared: March 1995
Revised: December 1999

SECTION III. TOXICOLOGICAL PROPERTIES

Inhalation: Inhalation of dust may cause irritation to upper respiration tract
Ingestion: Toxic orally in accordance with FHSLA Regulations. Acute oral LD50 472 mg/kg (rats)
Skin: Non-toxic. Skin irritation index is zero in accordance with FHSLA regulations
Eyes: Corrosive in accordance with FHSLA regulations. Eye irritation score: 24HRS=41.61, 48 HRS=Corrosive
Acute Toxicity: Copper Sulphate is emetic.
Chronic Toxicity: Prolonged ingestion might increase liver copper content.
Exposure Limited: Not identified
Biological Exposure Indices (BEI): Not Available

SECTION IV. PHYSICAL DATA

Material Is At Normal Conditions: Solid
Appearance and Colour: Blue Crystals or Powder
Odor Threshold: Odourless
Boiling Point: -5 H₂O @ 150°C (302°F) (760 mmHg)

Freezing Point: Not Available
Melting Point: -4 H₂O @ 110°C (230°F)
Solubility in Water: 30°C=24.3 g/100g
100°C=203.3 g/100g
Evaporation Rate: (Ether=1.0) Not Available
Specific Gravity: 2.284 (Water=1)
Vapor Density: (Air=1) Not Available
Vapor Pressure: (mm Hg @20°C) Not Available
Molecular Weight: 249.69
Coefficient of Water/Oil Distribution: Not Available
pH: 3.0 to 4.5
% Volatiles by Volume (at 20°C): Not Available

SECTION V. REACTIVITY DATA

Stability: Stable
Conditions To Avoid: Product is highly soluble but does not react with water
Incompatibility (Materials to Avoid): Contact with Magnesium metal may generate dangerous levels of hydrogen gas. None when product remains dry
Hazardous Decomposition Products: None at normal process temperatures. Above 600°C, toxic sulfur may be evolved
Hazardous Polymerization: Will not occur
Other Precautions: None available

SECTION VI. FIRE OR EXPLOSION HAZARD

Conditions of Flammability: Not flammable
Hazardous Combustion Products: Sulfur Dioxide and Cupric Oxide
Flash Point: Not Applicable
Explosion Hazards: Not Applicable
Upper Flammable Limit: Not Applicable
Lower Flammable Limit: Not Applicable
Auto Ignition Temperature: Not Available
Sensitivity to Mechanical Impact: Not Available

Sensitivity to Static Discharge: Not Applicable

Fire Extinguishing Procedures: Use extinguisher media for surrounding fire – CO₂, dry chemical or water. Avoid direct water stream on molten material (splattering occurs). Do not scatter spilled material with high-pressure water streams. Dike fire control water for later disposal.

SECTION VII. HAZARDOUS INGREDIENTS (MIXTURES ONLY)

Material or Component: Not Applicable

Concentration: Not Applicable

Hazard Data: Not Applicable

SECTION VIII. PREVENTIVE MEASURES

Personal Protective Equipment:

Respiratory Protective Equipment: Wear a NIOSH approved respirator for toxic dusts and mist.

Eyes and Face: Chemical splash goggles or face shield where splashing is possible. Contact lenses should not be worn when working with this material.

Hands, Arms and Body: Gloves and long sleeved cover-alls.

Storage: Store in closed containers in a cool, dry, well ventilated area away from heat sources and reducing agents.

Normal Handling: Avoid contact with eyes, skin and clothing. Avoid breathing dust. Use good personal hygiene and housekeeping.

Engineering Controls

For ventilation provide general and/or local exhaust ventilation to maintain dust or fume levels below exposure limit.

Environmental

Degradability: Not Available

Aquatic Toxicity: Public water system, follow local regulations. Toxic to fish and plants. Fish toxicity critical concentration is 235 mg/1 and plant toxicity is 25 mg/1.

Spill or Leak: Always wear personal protective equipment. Sweep up crystals or powder, vacuum is preferred. If spilled solution is in a confined area, introduce lime or soda ash to form insoluble copper salts and dispose of by an approved method. Prevent accidental entry of solution into streams and other water bodies.

Waste Disposal: Contact appropriate local, provincial and federal officials. If accidentally spilled into public water, consult regulations.

Shipping Information (As Per UN Recommendations)

TGD Class: 9

PIN Shipping Name: Environmentally Hazardous Substances solid N.O.S. (Cupric Sulfate) UN 3077 PG III

SECTION IX. FIRST AID MEASURES

Inhalation: Remove the person from exposure and bring to fresh air. If breathing is difficult give oxygen and contact a physician.

Ingestion: May cause severe gastrointestinal tract irritation. Give conscious victim 2 to 3 glasses of milk or water to drink. Induce vomiting in conscious person by sticking fingers down throat. Lean head forward to avoid breathing in vomit. Do not induce vomiting or give liquid to an unconscious person.

Contact a physician.

Skin: Flush with large amounts of water for at least 5 minutes. Remove contaminated clothing.

Eyes: Check for and remove contact lenses. Flush with large amounts of water for at least 15 minutes. Hold eyelids open during irrigation. Consult a physician.

SECTION X. HAZARDS IDENTIFICATION

Potential Acute Health Effects:

Slightly dangerous in case of skin contact (corrosive) and eye contact (corrosive and irritant). Inhalation may cause an irritation of the respiratory tract characterized by coughing, shortness of breath and even choking.

Ingestion may cause repeated vomiting, metallic taste, heartburn and even death in severe cases.

Potential Chronic Health Effects:

Carcinogenic Effects: Not Available

Mutagenic Effects: Not Available

Teratogenic Effects: Not Available

Reproductive Toxicity: Not Available

Repeated exposure to a toxic material may cause general deterioration of health by an accumulation in one or many organs.

Cupric Sulphate Pentahydrate 07/18/01

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