

**AERCHEM INC.**  
**320 North Walnut**  
**Bloomington, IN 47408**

Telephone: 812.334.9996

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**SECTION 1: IDENTIFICATION**

**Effective Date:** 08/28/96  
**Product Name:** Cupric Sulfate Anhydrous  
**Common Name:** Copper Sulfate

**Chemical Formula:** CUSO4.H2O  
**CAS No.:** 7758-98-7

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**SECTION 2: HAZARDOUS INGREDIENTS:**

None

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**SECTION 3: PHYSICAL DATA**

<b>Appearance and Odor:</b>	White, slightly bluish powder. No odor, but irritating to breathe.
<b>Boiling point:(760 mm Hg)</b>	-H2O at150°C
<b>Vapor Pressure (mmHg):</b>	N/A
<b>Specific Gravity (Water=1):</b>	N/A
<b>Solubility in water:(by weight)</b>	22.2 at 0°C 143 at 100°C
<b>Melting Point:</b>	N/A
<b>Volatility:</b>	N/A
<b>Vapor Density:</b>	N/A

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**SECTION 4: FIRE AND EXPLOSION DATA**

**Fire and Explosion Information:**

<b>Flash point:</b>	N/A
<b>Flammable limit:</b>	N/A
<b>Extinguishing Media:</b>	Copper Sulfate does not burn, nor will it support combustion. If storedwith other combustable products, use water,CO2 or dry chemical.
<b>Fire Fighting Procedures:</b>	If dry heated above 65°C, SO2 is evolved. If water is used, it will solubize the CuSO4- H2O, and care should be used to keep such water out of streams or other water bodies. Product easily hydrates on wetting, releasing heat. Avoid contact especially on wet skin surface
<b>Unusual Fire and Explosion Hazards:</b>	None

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**SECTION 5: REACTIVITY DATA****Reactivity Data:**Stable   X   Unstable \_\_\_\_\_

<b>Conditions to Avoid:</b>	None. Product is highly soluble in water, but does not react with the water.
<b>Incompatibilities:</b>	None when product remains dry. Product is hygroscopic and exothermic. Product dissolves readily in water. Solutions are corrosive to mild steel. Store solutions in plastic.
<b>Hazardous Decomposition or byproducts:</b>	None at normal process temperatures and pressures. If dry heated above 1100° F (600°C) sulfur dioxide (SO <sub>2</sub> ) may be released.
<b>Hazardous Polymerization:</b>	None

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**SECTION 6: HEALTH HAZARD DATA**

<b>Health Hazard Data</b>	<b>Hazard Classification</b>	<b>Basis for Classification</b>	<b>Source</b>
<b>Inhalation:</b>	Not toxic by inhalation in accordance with FHSLA regulations. TWA= 1 mg/m <sup>3</sup> for all copper dusts and mists.	Acute inhalation LD50: In excess of 1.48mg/1 air.	Estimated based on laboratory tests with CuSO <sub>4</sub> -5H <sub>2</sub> O.
<b>Skin Contact</b>	CuSO <sub>4</sub> -5H <sub>2</sub> O has no effect on skin. CuSO <sub>4</sub> -5H <sub>2</sub> O is hygroscopic and this may be irritating, especially on wet skin.		Not measured, but estimated based on product characteristics.
<b>Skin Absorption</b>	CuSO <sub>4</sub> -5H <sub>2</sub> O is not toxic dermally. However, as CuSO <sub>4</sub> -5H <sub>2</sub> O is hygroscopic it may cause irritation or burns. Particularly on wet skin.		Estimated based on laboratory tests with CuSO <sub>4</sub> -5H <sub>2</sub> O.
<b>Ingestion</b>	Toxic orally in accordance with FHSLD regulations.	Acute oral LD50 (male rats) estimated to be 330mg/kg.	Estimated based on laboratory tests with CuSO <sub>4</sub> -5H <sub>2</sub> O.

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**SECTION 7: SPILLAGE AND DISPOSAL PROCEDURES**

**Acute Overexposure:** Copper sulfate is emetic and has seldom been fatal. The heat of hydration of copper sulfate monohydrate on ingestion may cause burns and irritation.

**Chronic Inhalation:** Prolonged ingestion over a period of time might increase liver copper content.

**First Aid:**

**Eyes:** Irrigate eyes with large amounts of water for at least fifteen minutes. Hold eyelids part during irrigation. Send patient to a physician immediately. Heat of hydration may cause burns.

**Skin:** Wash or shower thoroughly with water. Remove and wash contaminated clothes before reuse. Heat of hydration may cause burns

**Inhalation:** Remove worker from exposure and seek medical aid. Heat of hydration may cause burns.

**Ingestion:** Drink a large quantity of water or milk. Seek medical aid. Heat of hydration may cause burns.

**Spillage:**

- 1) Contact appropriate local, state, or federal pollution control officials if warranted and especially if spilled into public waters
- 2) If spill is confined to the use site, neutralize with lime or soda ash, and use absorbent and remove to approved landfill.

**Disposal:** Sweep up product and dispose in an approved landfill. If product is in confined solution, introduce lime or soda ash to form insoluble copper salts and then dispose in an approved landfill

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**SECTION 8: PRECAUTION TO BE TAKEN IN HANDLING AND STORING**

**Other Precautions:** Store product in a dry place. Reseal product drums if opened and keep product dry.

Product is hygroscopic and product will cake.

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**SECTION 9: SPECIAL PROTECTION INFORMATION**

**Ventilation:** TWA1= 1mg/m<sup>3</sup> for all copper dusts and mists. IF TWA exceeds this limit in workplace, appropriate ventilation should be provided, or respiratory protective equipment must be provided.

**Eye Protection:** Chemical goggles should be worn when handling product.

**Protective Gloves:** Rubber gloves may be worn

**Respiratory Protection:** Respiratory equipment must be provided in accordance with paragraph 1910.134 of Title 29, Code of Federal Regulations.

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