

# MATERIAL SAFETY DATA SHEET

## **I PRODUCT IDENTIFICATION**

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**Trade Name:** Copper Sulfide  
**Synonym:** Inorganic Sulfide

**CAS #:** 1317-40-4  
**Molecular Formula:** CuS

## **II HAZARDOUS INGREDIENTS**

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**TLV (Units):** Not established

**Material %:** Copper Sulfide 97 %

## **III PHYSICAL DATA**

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**Boiling Point:** Decomposes @ 220 °C  
**Vapor Density (air=1):** >1  
**Solubility in H<sub>2</sub>O:** Insoluble  
**Freeze Point:** Transition @ 103 °C  
**Percent Volatile:** N/A

**Specific Gravity:** 4.6  
**Vapor Pressure (20 °C):** No data  
**Appearance and Odor:** Black powder  
**Ionic Nature:** No

## **IV FIRE AND EXPLOSION HAZARDS DATA**

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**Flash Point (Method used):** N/E

**Autoignition Temperature:** No Data

**Extinguishing Media:** DO NOT USE WATER. Use dry chemical extinguishing agents, dry sand, dry ground dolomite, carbon dioxide.

**Special Fire Fighting:** Wear NIOSH/MSHA approved self-contained breathing apparatus, flame and chemical resistant protective clothing, hat, gloves and boots. If without risk move material out of fire area.

**Unusual Fire & Explosion:** Fire hazard when exposed to flame or by spontaneous chemical reaction. Reacts with water, steam or acids to produce toxic and flammable vapors of hydrogen sulfide.

## **V HEALTH HAZARD INFORMATION**

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**Effects of Overexposure:** Toxic by ingestion via the liberation of hydrogen sulfide, symptoms include vomiting, gastric pain and dizziness. Can cause skin and eye irritation. Inhalation can cause irritation to the respiratory tract.

**EMERGENCY AND FIRST AID PROCEDURES:** Remove from exposure.

**EYES:** Immediately flush with copious amounts of water for 15 minutes then seek prompt, competent medical attention.

**SKIN:** Brush material off exposed area, remove any contaminated clothing, flush area with running water for 15 minutes. If skin is burned seek prompt, competent medical attention.

**INHALATION/INGESTION:** Seek prompt, competent medical attention immediately.

## VI REACTIVITY DATA

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**Stability:** Stable

**Conditions to Avoid:** Heating to decomposition emits toxic fumes of SO<sub>x</sub>. Avoid contact with water, steam or acids which will cause the production of toxic and flammable vapors of hydrogen sulfide.

**Incompatibility (Material to Avoid):** Cadmium chlorate, chlorates, chloric acid, hydrogen peroxide, magnesium, ammonium nitrate, potassium chlorate and water, zinc chlorate, powerful oxidizers.

**Hazardous Decomposition Products:** Hydrogen sulfide, copper I sulfate

**Hazardous Polymerization:** Will not occur.

**Conditions to Avoid:** N/A

## VII SPILL OR LEAK PROCEDURES

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**Steps to Be Taken in Case Material Is Released or Spilled:** Wearing respiratory protection and protective clothing (see Section VIII), eliminate all sources of ignition, cover spill with vermiculite or sodium bicarbonate, collect into a plastic bag or wide mouthed glass container, close tightly and submit or retain for disposal.

**Waste Disposal Method:** In accordance with Local, State and Federal Regulations for proper disposal of inorganic sulfides.

## VIII SPECIAL PROTECTION INFORMATION

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**Respiratory Protection (Specify Type):** NIOSH/MSHA approved high efficiency particulate respirator for ordinary use, self-contained breathing apparatus for emergency use.

**Ventilation: Local Exhaust:** Fumehood

**Mechanical:** Not adequate

**Special:** Glove bag or box with dry inert atmosphere.

**Protective Gloves:** Rubber

**Eye Protection:** Chemical safety goggles

**Other Protective Equipment:** Laboratory coat and apron, eye wash fountain capable of sustained flushing, safety drench shower, hygienic facilities for washing.

## IX SPECIAL PRECAUTIONS

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**Precautionary Labeling:** DANGER! TOXIC! Do not ingest. WARNING! IRRITANT! Do not inhale. Avoid contact with skin, eyes and clothing. FLAMMABLE! Keep away from heat, sparks and open flame.

**Other Handling and Storage Conditions:** Store in cool dry place away from sources of moisture and powerful oxidizers. Wash thoroughly after handling. Keep container tightly closed. Use adequate ventilation.

Issued By: S. Dierks

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