

LTS RESEARCH LABORATORIES, INC.
MATERIAL SAFETY DATA SHEET
COPPER SULFIDE

GENERAL

MANUFACTURER/SUPPLIER: LTS RESEARCH LABORATORIES, INC.

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DATE MSDS PREPARED: 02/03/05
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1. PRODUCT IDENTIFICATION

PRODUCT NAME: COPPER (II) SULFIDE
SYNONYM: INORGANIC SULFIDE
FORMULA: Cu_2S_4
MOLECULAR WEIGHT: 255.3546
CAS #: NIL

2. PHYSICAL AND CHEMICAL CHARACTERISTICS

BOILING POINT: N/A
MELTING POINT: N/A
SPECIFIC GRAVITY ($H_2O=1$): N/A
VAPOR DENSITY: N/A
VAPOR PRESSURE: N/A
% VOLATILES: N/A
SOLUBILITY IN H_2O : INSOLUBLE
APPEARANCE AND ODOR: POWDER, ODORLESS

3. HAZARD IDENTIFICATION

HAZARDOUS COMPONENTS % 0-100
COPPER SULFIDE
OSHA/PEL .1mg/m³
ACGIH/TLV .05 mg/m³
SEC. 302 NO
SEC. 304 NO
SEC. 313 YES

HMIS RATINGS:
HEALTH: 1
FLAMMABILITY: 1
REACTIVITY: 1

PROTECTIVE EQUIPMENT:
RESPIRATORY PROTECTION: DUST MASK
PROTECTIVE GLOVES: RUBBER GLOVES.
EYE/FACE PROTECTION: GOGGLES

4. FIRE FIGHTING MEASURES

FLASH POINT (METHOD USED): N/A
AUTOIGNITION TEMPERATURE: N/A
FLAMMABLE LIMITS:
UPPER : N/A
LOWER: N/A

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.
UNUSUAL FIRE AND EXPLOSION HAZARDS:	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.

5. HEALTH HAZARD INFORMATION

EFFECTS OF EXPOSURE:	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,
ACUTE EFFECTS:	
INHALATION:	MAY CAUSE SHORTNESS OF BREATH, COUGHING, WEIGHT LOSS AND PULMONARY DAMAGE.
SKIN:	MAY CAUSE IRRITATION.
EYE:	MAY CAUSE IRRITATION
CHRONIC EFFECTS:	
INHALATION:	THEY MAY CAUSE METAL FUME FEVER, HEMOLYSIS OF THE RED BLOOD CELLS AND INJURY TO THE LIVER, LUNGS, KIDNEYS AND PANCREAS.EFFECTS OF SULFIDE INCLUDE CONJUNCTIVITIS, HEADACHE, NAUSEA, DIZZINESS, COUGHING, PULMONARY EDEMA AND DEATH
INGESTION:	MAY CAUSE VOMITING, GASTRIC PAIN, DIZZINESS, ANEMIA, CRAMPS, CONVULSIONS, SHOCKS, COMA AND DEATH.
SKIN:	MAY CAUSE ALLERGIC SENSITIZATION.
EYE:	IRRITANT TO THE EYE
PRIMARY ROUTES OF ENTRY:	INGESTION; INHALATION, EYES, SKIN.
CARCINOGENICITY:	
NTP:	NO
IARC:	NO
OSHA:	NO
TARGET ORGANS:	NONE
MEDICAL CONDITIONS POSSIBLY AGGRAVATED BY EXPOSURE:	SYMPTOMS INCLUDE VOMITING, GASTRIC PAIN AND DIZZINESS. IRRITANT TO EYE, SKIN AND RESPIRATORY TRACT.

6. STABILITY

STABILITY:	STABLE
CONDITION TO AVOID:	HEATING TO DECOMPOSITION EMITS TOXIC FUMES OF SO _x . 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, SULFUR DIOXIDE, METAL OXIDE FUMES

HAZARDOUS
POLYMERIZATION:

WILL NOT OCCUR.

7. EMERGENCY AND FIRST AID PROCEDURES:

INHALATION: SEEK IMMEDIATE MEDICAL ATTENTION
INGESTION: SEEK IMMEDIATE MEDICAL ATTENTION
SKIN: REMOVE CONTAMINATED CLOTHING, FLUSH WATER
OVER THE AFFECTED AREA FOR 15 MINS, IF SYMPTOMS
PERSISTS SEEK MEDICAL HELP.
EYE: FLUSH EYES WITH PLENTY OF WATER FOR ATLEST 15
MINUTES. IF IRRITATION CONTINUES, SEEK MEDICAL
HELP.

8. HANDLING AND STORAGE

HANDLING: STORE IN A TIGHTLY SEALED CONTAINER, IN A COOL, DRY,
WELL-VENTILATED AREA. WASH THOROUGHLY AFTER
HANDLING. AVOID CONTACT WITH SKIN AND EYES. AVOID
BREATHING DUST. USE ONLY WITH ADEQUATE
VENTILATION.

9. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN
CASE MATERIAL IS
RELEASED OR SPILLED: WEAR APPROPRIATE RESPIRATORY AND PROTECTIVE
EQUIPMENT SPECIFIED IN SECTION VIII. ELIMINATE ALL
SOURCES IF IGNITION, COVER SPILL WITH EVERMICULITE
OR SODIUM BICARBONATE, COLLECT INTO A PLASTIC
BAG OR WIDE MOUTH GLASS CONTAINER, CLOSE
TIGHTLY AND SUBMIT OR RETAIN FOR DISPOSAL

RESPIRATORY PROTECTION
(SPECIFY TYPE): NIOSH APPROVED DUST RESPIRATOR
VENTILATION: LOCAL EXHAUST VENTILATION MAY BE NECESSARY TO
CONTROL ANY AIR CONTAMINANTS TO WITHIN THE
RECOMMENDED PEL, TLV. MECHANICAL EXHAUST IS NOT
RECOMMENDED.

PROTECTIVE GLOVES: RUBBER GLOVES
EYE PROTECTION: SAFETY GLASSES.
OTHER CLOTHING AND EQUIPMENT: PROTECTIVE GEAR SUITABLE TO PREVENT
CONTAMINATION.

WASTE DISPOSAL METHOD: DISPOSE OF IN ACCORDANCE WITH LOCAL, STATE AND
FEDERAL REGULATIONS. MAY BE SOLD AS SCRAP FOR
RECLAIM OR RETURNED TO THE PRODUCER.

10. TOXICITY DATA

LD50 ORAL RAT: 6171 MG/KG
EPIDEMIOLOGY: N/A
TERATOGENICITY: N/A
REPRODUCTIVE EFFECTS: N/A
NEUROTOXICITY: N/A
MUTAGENICITY: N/A

11. TRANSPORTATION DATA

UN NUMBER: NONE
HAZARD CLASS:
ADR//RID CLASS: NONE
IMDG CLASS: NONE
AIR TRAN. ICAO/IATA CLASS: NONE
MARITIME TRAN. IMDG CLASS: NONE

12. OTHER INFORMATION

THIS SAFETY DATA SHEET SHOULD BE USED IN CONJUNCTION WITH TECHNICAL SHEETS. IT DOES NOT REPLACE THEM. THE INFORMATION GIVEN IS BASED ON OUR KNOWLEDGE OF THIS PRODUCT, AT THE TIME OF PUBLICATION. IT IS GIVEN IN GOOD FAITH. THE ATTENTION OF THE USER IS DRAWN TO THE POSSIBLE RISKS INCURRED BY USING THE PRODUCT FOR ANY OTHER PURPOSE OTHER THAN THAT FOR WHICH IT WAS INTENDED. THIS DOES NOT IN ANY WAY EXCUSE THE USER FROM KNOWING AND APPLYING ALL THE REGULATIONS GOVERNING HIS ACTIVITY. IT IS THE SOLE RESPONSIBILITY OF THE USER TO TAKE ALL PRECAUTIONS REQUIRED IN HANDLING THE PRODUCT. THE AIM OF THE MANDATORY REGULATIONS MENTIONED IS TO HELP THE USER TO FULFILL HIS OBLIGATIONS REGARDING THE USE OF HAZARDOUS PRODUCTS.

