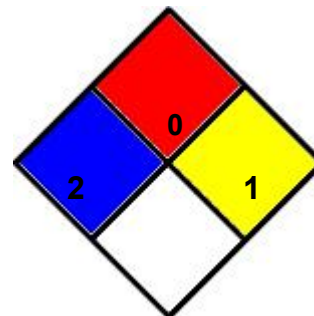


MATERIAL SAFETY DATA SHEET

Copper Sulfate

COMPANY IDENTIFICATION

MANUFACTURER: Chem-Tech
400 Ternes Dr.
Random Lake, WI 53075



INFORMATION PHONE: 920-994-2299
EMERGENCY: 1-800-255-3924

HMIS HEALTH: 2 FLAMMABILITY: 0 REACTIVITY: 1 PROTECTIVE: B

SECTION I - PRODUCT IDENTIFICATION

PRODUCT: Copper Sulfate

PREPARED BY: Jason Sprang

DATE PREPARED: 2/28/2003

LAST REVISION: 9/1/2010

HAZARD CLASS: 9

UN: 3077

PACKING: III

GUIDE:

SHIPPING NAME: ENVIRONMENTALLY HAZARDOUS
SUBSTANCE SOLID, N.O.S. (Cupric sulfate)

SECTION II - HAZARDOUS INGREDIENTS

<u>Chemical Name</u>	<u>%</u>	<u>CAS #</u>	<u>OSHA PEL</u>	<u>NIOSH</u>
COPPER SULFATE	100			

SECTION III - PHYSICAL CHARACTERISTICS

Appearance/General Info: blue crystals or powder (pentahydrate); metallic taste.

Physical State: Solid

Formula Weight: 159.60

Density: 3.6 g/cm³ (anhydrous), 2.284 g/cm³

Boiling Point: 392°F/200°C (slight decomposition); >1202°F/560°C (decomposition to cupric oxide)

Water Solubility: 14.3 g/100 cc at 32°F (0°C), 75.4g/100 cc at 212°F (100°C)

SECTION IV - FIRE/EXPLOSION

FLASH POINT: N/A

LEL: N/A

UEL: N/A

SPECIAL FIRE FIGHTING: Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece in positive pressure mode. Move containers from fire area if it can be done without risk. Use water to keep fire-exposed containers cool. Use media which is safe for surrounding fire.

SECTION V - REACTIVITY DATA

STABLE: Yes

Stability/Polymerization/Conditions to Avoid: Copper sulfate is stable at room temperature in closed containers under normal storage and handling conditions. Hazardous polymerization does not occur. Exposure to incompatibles.

Storage Incompatibilities: Hydroxylamine (*ignites*), magnesium (*evolves hydrogen gas*), ammonia (or other caustic) + acetylene (*explodes*), sodium hypobromite, or nitromethane. Strongly corrosive to iron or galvanized iron.

Hazardous Decomposition Products: Thermal oxidative decomposition of copper sulfate can produce carbon and sulfur oxide(s).

SECTION VI - HEALTH HAZARD DATA

ACUTE HEALTH EFFECTS

EYE CONTACT: Irritating to the eyes.

INHALATION: Irritating to the nose, throat, and respiratory tract.

INGESTION: May be fatal if swallowed.

SKIN CONTACT: Copper sulfate is highly irritating to the eyes, skin, and respiratory tract. Systemic effects include nausea and vomiting, and damage to blood and the kidneys.

AGGRAVATED MEDICAL CONDITIONS: N/A

SUPPLEMENTAL HEALTH INFORMATION: N/A

EMERGENCY FIRST AID PROCEDURES

EYE CONTACT: *Do not* allow victim to rub or keep eyes tightly shut. Gently lift eyelids and flush immediately and continuously with flooding amounts of water until transported to an emergency medical facility. Consult a physician.

INHALATION: Remove exposed person to fresh air and support breathing as needed.

INGESTION: Never give anything by mouth to an unconscious or convulsing person. Contact a poison control center. Unless the poison control center advises otherwise, have the *conscious and alert* person drink 1 to 2 glasses of water, then induce vomiting.

SKIN CONTACT: *Quickly* remove contaminated clothing. Rinse with flooding amounts of water for at least 15 min. Wash exposed area with soap and water. For reddened or blistered skin, consult a physician.

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS SPILLED OR RELEASED: Ventilate area of leak or spill. Clean-up personnel require protective clothing and respiratory protection from vapors. Only specially trained or qualified personnel should handle the emergency.

WASTE DISPOSAL METHOD: The preferred options for disposal are to send to licensed reclaimers, or to permitted incinerators. Any disposal practice must be in compliance with federal, state, and local regulations. Do not dump into sewers, ground, or any body of water.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Follow all MSDS/label precautions even after container is emptied because they may retain product residues.

SECTION VIII - CONTROL MEASURES

RESPIRATORY PROTECTION: A NIOSH approved dust mask is recommended.

VENTILATION: Provide exhaust ventilation sufficient to keep the airborne concentration of this product below its exposure limits.

EYE PROTECTION: Use unventilated goggles with this product.

OTHER PROTECTIVE CLOTHING: Where splashing is possible, full chemically resistant protective clothing (e.g., acid suit) and boots are required.

WORK / HYGENIC: Use good personal hygiene when handling this product. Wash hands after use, before smoking, or using the toilet.

PROTECTIVE GLOVES:

Glove Selection Index:

NATURAL RUBBER.....	A
NATURAL+NEOPRENE....	A
NEOPRENE.....	A
NEOPRENE/NATURAL....	A
NITRILE.....	A

A: Best selection

B: Satisfactory; may degrade after 4 hours continuous immersion

C: Poor to dangerous choice for other than short-term immersion