

MATERIAL SAFETY DATA SHEET

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

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MATERIAL NAME: **COPPER ETCHANT BTP**
REVISED: December 2009
CHEMICAL FAMILY: Copper Chloride Solution

SECTION 2. HEALTH HAZARD INFORMATION

GHS Classifications

Oxidizing liquids : Not classified
Corrosive to Metals: Not classified
Acute toxicity Oral : Category 4
Acute Toxicity Dermal: Category 5
Acute toxicity Inhalation : Category 5
Skin corrosion / Skin irritation : Category 2
Serious eye damage / Eye irritation : Category 2A
Respiratory or skin sensitization : Not classified
Special target organ systemic toxicity single exposure: Not classified
Special target organ systemic toxicity repeated exposure : Not classified
Acute aquatic environmental hazards : Category 2
Chronic aquatic environmental hazards: Category 2

Pictograms or Hazard symbols



Warning: Causes eye and skin irritation. Harmful if swallowed.
Warning: May be harmful if inhaled or in contact with skin.
Toxic to aquatic life with long lasting effects.

Precautionary Statement Prevention

Use only in a well-ventilated area. Do not eat, drink or smoke when using this product. Do not breathe fume/gas/mist/vapors/spray.
Wear protective gloves/protective clothing /eye protection/face protection.
Wash hands thoroughly after handling.
Avoid release to the environment

SECTION 3.COMPOSITION/INFORMATION ON INGREDIENTS

Material	CAS#	Wt %	Toxicity
Copper (II) Chloride	10125-13-0	< 10	

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Ammonium Hydroxide	CAS# 1336-21-6	< 5	50 ppm
Water	CAS# 7732-18-5	> 85	

SECTION 4. FIRST AID MEASURES

EFFECTS OF OVEREXPOSURE

FIRST AID:

Overexposure to mist can cause tissue damage, especially to eyes and lungs.

SECTION 5. FIRE FIGHTING MEASURES

Flash Point and Method	Autoignition Temp.	Flammability Limits In Air	<u>LOWER</u>	<u>UPPER</u>
non-flammable	NA		NA	NA

Extinguishing media: Water spray or fog, carbon dioxide and dry chemical.

Special fire fighting procedures: None

SECTION 6. ACCIDENTAL RELEASE MEASURES

SPILLS, LEAKS: Ventilate area of leak or spill. Dike and cover the contaminated areas with absorbent, non-combustible material such as earth, sand, or vermiculite.

SECTION 7. HANDLING AND STORAGE

Wash thoroughly after handling. Remove contaminated clothing and wash before re-use. Do not breathe mist or vapor. Do not expose eyes, skin, or clothing. Keep container closed tightly. Use with adequate ventilation or respiratory protection. Do not store near combustibles or in direct sunlight. Store in a cool, dry, well-ventilated area away from incompatible substances. Separate from strong acids.

SECTION 8. EXPOSURE CONTROL/PERSONAL PROTECTION

Respiratory protection: None required.

Ventilation: Where adequate ventilation is not available, use NIOSH approved vapor respirator with dust, fume and mist filters. Local ventilation through fume hoods or laminar flow stations is also preferred. Keep fumes away from strong bases.

Protective gloves: Skin contact should be minimized through use of rubber gloves.

Other protective equipment: Steel tipped shoes/eye wash station/chemical safety chemical retardant clothing.

Eye protection: Safety goggles / face shield

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Form :	Liquid
Appearance :	Deep blue-purple
Odor :	Mild ammonia
pH :	> 9
Melting point:	0 °C
Boiling point/Boiling range :	100 °C (water)
Flash point :	Non-flammable.
Ignition point :	Will not ignite.
Danger of explosion:	Product is not explosive

Vapor density (Air = 1) :	Not available
Volatiles, %:	> 80
Vapor pressure at 15° C, mm Hg:	Not available
Specific gravity :	1.02 g/cc
Solubility in / Miscibility:	Completely miscible in water
Evap. Rate (Water = 1):	> 1

SECTION 10. STABILITY AND REACTIVITY

Stability	Stable	X	Conditions to avoid: Excess heat , light, confined spaces
	Unstable		

Incompatible with:
Strong acids; oxidizers

Hazardous decomposition products: Carbon and carbon oxides; ammonia
 Hazardous polymerization: May occur Will not occur X Conditions to avoid: Excess heat, damp.

SECTION 11. TOXICOLOGICAL INFORMATION

ACUTE, Copper Chloride
LD₅₀ (oral, rat): 584 mg/kg

SECTION 12. ECOLOGICAL INFORMATION

Bioaccumulation : When released into the soil, this material is not expected to biodegrade. When released into the soil, this material may leach into groundwater. When released into water, this material is not expected to biodegrade. When released into water, this material is not expected to evaporate significantly. This material is expected to significantly bioaccumulate. Copper has an experimentally determined bioconcentration factor (BCF) of greater than 100.

Ecotoxicity : This material is expected to be toxic to aquatic life. The LC₅₀/96 hour values for fish are less than 10 mg/L. The IC₅₀/72 hour values for algae are less than 10 mg/L (toxicity data for copper).

SECTION 13. DISPOSAL CONSIDERATIONS

DISPOSAL: Dispose of in accordance with all federal state and local regulations. Send waste to an approved waste disposal facility.

SECTION 14. TRANSPORTATION INFORMATION

Ammonia Solution, UN2672, PGIII

SECTION 15. REGULATORY

Symbol: C, Corrosive
R-Phrase:
R21/22: Harmful in contact with skin and if swallowed.

S-Phrases:

S17: Keep away from combustible material.

SECTION 16. OTHER INFORMATION

NFPA Codes:

Health: 2

Flammability: 0

Reactivity: 0

All ingredients of this product are listed on the US TSCA inventory under their parent anhydrous compounds.