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Note: The CHEMTREC phone number is only for emergencies involving spills, leaks, fire, exposure or accident. Please direct all other inquiries to our customer service phone number.

Section I - Product Identification

A solution of copper sulfate, PVA, acetic acid and glycerin in alcohol and water.

Section II - Hazards Identification

Danger: Highly flammable liquid and vapor. Keep away from heat, sparks, open flames and hot surfaces. No smoking. Keep container tightly closed. Use only non-sparking tools. Take precautions against static discharge. Wear protective clothes and eye protection. In case of skin contact immediately remove all contaminated clothing. Rinse with water or shower. In case of fire, use fire extinguishers approved for alcohol fires.

Safety Ratings

Health: Hazardous *Flammability:* Highly flammable liquid and vapor *Reactivity:* Slight *Contact:* Slight
Recommended safety equipment: safety goggles, lab coat and proper gloves

Storage: Keep cool, away from sources of ignition in a well ventilated area.

NFPA Ratings

Health = 2 Flammability = 3 Reactivity = 1



Potential Health Effects

Copper sulfate is moderately toxic. It is presumed that the toxicity of this item is similar to that of other copper compounds.

Inhalation: Alcohols are absorbed through the mucous membranes and will produce irritation as well as the same effects as ingestion.

Ingestion: Inhalation will produce CNS disturbance, dizziness, photophobia, headache, stupor, coma and death.

Skin contact: Alcohols are absorbed through the skin. Repeated contact with alcohols causes defatting of the skin with resultant irritation and flaking. Repeated contact with copper sulfate can cause systemic poisoning.

Eye contact: Irritating and corrosive.

Chronic Exposure: Unknown,

Aggravation of preexisting conditions: Impaired kidney and liver function may be aggravated by exposure to alcohols and/or copper sulfate. Preexisting eye, skin, and respiratory conditions may also be aggravated. Methanol has shown genetic toxicity in some animals.

Section III - Composition/Information on Hazardous Components

Ingredients	CAS#	OSHA PeI	ACGIH TLV	Other Limits	%
Ethanol	64-17-5	1000 ppm (TWA)	1000 ppm (TWA)		27% v/v
Acetic acid	64-19-7	25 mg/m ³ (TWA)	25 mg/m ³ (TWA)		4.5% v/v
Glycerine	59-81-5	10 mg/m ³ (mist)	10 mg/m ³ (mist)		1.9% w/v
Isopropanol	67-63-0	400 ppm (TWA)	400 ppm (STEL)		1.5% v/v
Copper sulfate	7758-98-7	1 mg/m ³ (TWA)	1 mg/m ³ (TWA)		1.5% w/v
Methyl alcohol	67-56-1	200 ppm (TWA)	200 ppm (TWA)		1.5% v/v

Section IV - First Aid Measures

Inhalation: Remove from source of exposure and get immediate medical attention. Be prepared to assist breathing.

Ingestion: Do not induce vomiting if patient is unconscious or extremely drowsy. Otherwise, administer 2 glasses of water and induce vomiting. Get immediate medical attention even if symptoms improve.

Skin Contact: In case of skin contact, remove contaminated clothing and flush with water. Wash affected area with soap and water. Get medical advice if irritation persists.

Eye Contact: In case of eye contact, flush with water for at least 15 minutes and get immediate medical attention.

Section V - Fire Fighting Measures

Flash point: 29°C (84°F) TCC

Flammable Limits (for ethanol): LEL 3% UEL 19%

Fire: Water is ineffective against alcohol fires but may be used to cool adjacent containers.

Fire Extinguishing Media: Alcohol foam, carbon dioxide or dry chemical.

Special information: Pyrolysis will release copper compounds.

Section VI - Accidental Release Measures

Remove all sources of ignition, absorb with a suitable absorbent and store for disposal or recycling.

Section VII - Handling and Storage

Store in a cool, well ventilated place. Store in a closed container, away from open flames or other sources of ignition.

Section VIII - Exposure Control/Personal Protection

Airborne Exposure Limits: See section III.

Ventilation System: Usually not required. When required, Refer to the ACGIH document, "Industrial Ventilation, a Manual of Recommended Practices" for details about ventilation.

Personal Respirator: Usually not required. In case of emergency, or when exposure levels are unknown, use a positive pressure, full face piece, air supplied respirator.

Skin protection: Protective gloves are required.

Eye Protection: Laboratory safety goggles or similar products are required.

Section IX - Physical and Chemical Properties

Boiling Point: 88°C (190°F)

Vapor pressure (mm Hg): Unknown

Vapor Density (air = 1): 1.6

Appearance and Odor: A clear (or slightly hazy), colorless liquid with the characteristic odor of alcohol.

Density: 1.02 g/ml

Evaporation Rate (Water = 1): 1

Solubility: Infinitely miscible with water

Section X - Stability and Reactivity

Stability: Freezes at low temperature.

Hazardous Decomposition Products: Copper compounds.

Hazardous polymerization: Will not occur.

Incompatibilities: Oxidizers.

Conditions to avoid: heat, flame and sources of ignition.

Section XI - Toxicological Information

Chronic consumption of ethanol is believed to be linked to liver disease, cancer and birth defects.

Cancer lists

<u>Ingredient</u>	<u>Known Carcinogenicity? NTP?</u>	<u>Anticipated?</u>	<u>IARC Category</u>
Ethanol	no	no	none
Methanol	no	no	none
Isopropanol	no	no	3
Copper Sulfate	no	no	none
Acetic Acid	no	no	none
Glycerine	no	no	none

Section XII - Ecological Information

Environmental Fate: Not biodegradable.

Environmental Toxicity: Toxic to aquatic organisms.

Ethanol evaporates quickly and is not expected to bioaccumulate. The material is removed from the air by dry and liquid adsorption. The half-life for ethanol in the atmosphere is one to ten days. Copper sulfate will bioaccumulate.

Section XIII - Disposal Considerations

Many localities restrict the amount of copper compounds that may be flushed down the drain. Dispose of contents and container in accord with all applicable regulations.

Section XIV - Transportation Information

DOT/IATA Shipping name: Ethanol Solution

Hazard Class: 3

Packaging Group III

Hazard Label: Flammable liquid

UN Identification Number: UN1170

Bottles smaller than 32 Fl. Oz. are eligible to be shipped under ORM-D or limited quantity exemptions [49 CFR section 173.150(b)(2), 173.150(C) and IATA Y341].

Section XV - Regulatory Information

Chemical Inventory Status

<u>Ingredient</u>	<u>TSCA</u>	<u>EC</u>
Acetic Acid	Yes	Yes
Copper Sulfate	Yes	Yes
Ethanol	Yes	Yes
Glycerine	Yes	Yes
Isopropanol	Yes	Yes
Methanol	Yes	Yes

Federal, State and International Regulations

<u>Ingredient</u>	<u>SARA 302</u>		<u>SARA 313</u>		<u>RCRA</u>	<u>TSCA</u>	
	<u>RQ</u>	<u>TPQ</u>	<u>List</u>	<u>Category</u>	<u>261.33</u>	<u>8(D)</u>	<u>Ca. Prop. 65</u>
Acetic Acid	No	No	No	No	No	No	No
Copper Sulfate	No	No	No	Copper Cmpd	No	No	No
Ethanol	No	No	No	No	No	No	No
Glycerine	No	No	No	No	No	No	No
Isopropanol	No	No	Yes	No	No	No	No
Methanol	No	No	Yes	No	U154	No	Yes

Chemical Weapons Convention: No TSCA 12(b): No CDTA: Yes

SARA 311/312: Acute: Yes, Chronic: Yes, Flammable: Yes

Section XVI - Other Information

This information is believed to be correct but is not warranted as such, nor does it purport to be all inclusive.

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