



TINKER & RASOR

CORROSION MITIGATION INSTRUMENTATION

P. O. BOX 6890 SAN BERNARDINO, CA 92412

TEL: (909) 890-0700

FAX: (909) 890-0736

MSDS

MATERIAL SAFETY DATA SHEET

CHEMICAL IDENTITY

MATERIAL IDENTITY: CUPRIC SULFATE "ANTI-FREEZE" - LIQUID

PRODUCT NAME: ANTI-FREEZE SOLUTION

PART NUMBER: 049-012

SECTION I

COMPANY IDENTIFICATION

Tinker & Rasor, Inc.
P.O. BOX 6890
San Bernardino, CA 92412-6890

Telephone: (909) 890-0700
Facsimile: (909) 890-0736

SECTION II

HAZARDOUS INGREDIENT AND IDENTITY INFORMATION

Name	Chemical Formula	CAS
Copper (II) Sulfate Pentahydrate	CuSO4	7758-99-8
Glycerol	C3H8O3	56-81-5
Water, Distilled	H2O	7732-18-5

(Percentages of materials undisclosed under "Trade Secret" conditions, as defined in Appendix D to the Hazard Communication Standard, 29 CFR 1910.1200)

Please note: Mixture is mainly Water, distilled.

SECTION III

PHYSICAL AND CHEMICAL CHARACTERISTICS

Appearance:	Blue liquid with blue crystals (solids)	Odor:	Odorless
Physical State:	Liquid with some solids	pH:	3.7 - 4.2
Vapor Pressure:	UNK	Vapor Density:	UNK
Boiling Point:	100° C	Freezing/Melting Point:	100° C / ° C (prolonged)
Solubility (H2O):	Soluble	Specific Gravity:	>1
Softening Point:	N/A	Particle Size:	Various
Molecular Weight:	70.814	Bulk Density:	UNK
		Chemical Formula:	CuSO4, C3H8O3, H2O



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FIRE AND EXPLOSION HAZARD DATA

Flash Point: N/A

Burning Rate: N/A

Autoignition Temperature: N/A

LEL: N/A

UEL: N/A

Flammability Classification: N/A

Extinguishing Media: N/A

General Fire Hazards/Hazardous Combustion Products: Carbon oxides, Sulfur oxides and copper fumes may develop from decomposition of chemical components in heat of fire.

Fire-Fighting Instructions: Firefighters should wear full protective clothing including self-contained breathing apparatus. Do not release runoff from fire control methods to sewers or waterways.

SECTION V

REACTIVITY INFORMATION

Chemical Stability

Stable at room temperature in closed containers under normal storage and handling conditions.

Chemical Stability: Conditions to avoid

Do not expose to extreme temperatures or pressures.

Incompatibility:

Components of this mixture have incompatibilities with: Phosphorous triiodide, sodium hydride, sodium tetrahydroborate, hydroxylamine, magnesium and reducing agents. Components of this mixture should be kept away from strong oxidizers such as potassium permanganate or chromium trioxide.

Hazardous Decomposition:

Thermal oxidative decomposition of glycerol can produce carbon oxides. Decomposition of copper sulfate can produce sulfur oxides and copper oxides.

Hazardous Polymerization:

Will not occur.

SECTION VI

HEALTH HAZARD INFORMATION

EMERGENCY OVERVIEW

Blue odorless liquid, with some solid matter (copper sulfate crystals). Irritating to skin/eyes/respiratory tract. Other Acute Effects: ingestion can be harmful or fatal. Can cause gastrointestinal irritation with symptoms such as nausea, vomiting and diarrhea. Also headache.



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Target Organs: Eyes, skin, respiratory tract, kidneys, central nervous system.

Primary Entry Routes: Inhalation, eye and skin contact.

Acute Effects

Inhalation: Inhalation of mists can cause respiratory tract irritation.

Eye: Irritation with stinging and dilation of the conjunctival vessels. These symptoms generally disappear within 90 of exposure. Eye contact with any solids may cause redness and pain. Wash eyes immediately.

Skin: Irritation with possible pain, itching and redness.

Ingestion: Gastrointestinal tract irritation to harmful to fatal.

HMIS Ratings:

Health: 2* **Fire:** 0 **Reactivity:** 1 **Personal Protective Equipment:** 1

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard

FIRST AID

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

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 for at least 15 minutes. Consult a physician if pain or irritation persist.

Skin Contact: Remove contaminated clothing. Rinse with flooding amounts of water followed by a thorough soap and water wash. For reddened or blistered skin, consult a physician.

Ingestion: Do Not Induce Vomiting. Have victim rinse mouth thoroughly with water, if conscious. Never give anything by mouth to a victim who is unconscious or having convulsions. Contact a physician or poison control center immediately.

Note to Physician: Provide general supportive measures and treat symptomatically.

SECTION VII

PRECAUTIONS FOR SAFE HANDLING AND USE

Handling Procedures: Use this product only with adequate ventilation. Practice good personal hygiene after handling, especially before eating, drinking, smoking, using the toilet or applying cosmetics.

Recommended Storage Methods: Keep in provided plastic containers with cap tightened by hand. Do not over-tighten cap. Store in cool, dry location, away from direct sunlight, away from heat, ignition sources, oxidizers and other incompatibles. (See SECTION V).

Regulatory Requirements: Follow applicable OSHA regulations.

ACCIDENTAL RELEASE MEASURES

Spill/Leak Procedures: Stop the flow of material, if possible without risk. Contain the discharged material. Notify safety personnel, deny entry, ventilate area and keep upwind. Cleanup personnel should protect against inhalation and skin/eye contact.

Small Spills: Take up with absorbent, non-combustible material and place in suitable container.

Large Spills: Flush with water to containment area for later reclamation or disposal. Do not release into sewers or waterways. Damp mop any residue.

Regulatory Requirements: Follow applicable OSHA regulations (20 CFR 1910.120)



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CONTROL MEASURES

Engineering Controls: Provide general or local exhaust ventilation systems to maintain airborne concentrations as low as possible, as applicable.

Administrative Controls: N/A

Personal Protective Equipment: Consider having an eyewash station and/or safety shower available in work area. Wear protective eyeglasses or chemical safety goggles, per OSHA eye- and face-protection regulations. (20 CFR 1910.133)

Other: Separate contaminated work clothing from street clothing. Launder prior to reuse. Remove from boots and clean personal protective equipment. Discard saturated leather shoes.

SECTION IX

TRANSPORT INFORMATION

DOT Hazardous Materials Table Data (49 CFR 172.101):

Shipping Name and Description: Not listed.

Components of this product (Copper Sulfate Crystals) are reportable in 10 lbs quantities when shipped separately. (Hazard Class 9)

SECTION X

REGULATORY INFORMATION

TSCA (Toxic Substances Control Act) Status

TSCA (USA) An intentional ingredient(s) of this product are listed.

CERCLA RQ – 40 CFR 302.4(a)

Not listed

CERCLA RQ – 40 CFR 302.4(b)

Materials without a “listed” RQ may be reportable as an “unlisted hazardous substance”.
See 40 CFR 302.5(b).

SARA 302 Component – 40 CFR 355 Appendix A

None

Section 311/312 Hazard Class – 40 CFR 370.2

Immediate (X) Delayed () Fire () Reactive () Sudden Release of Pressure ()

SARA 313 Component – 40 CFR 372.65

None

International Regulations

Inventory Status

Not determined

State and Local Regulations

California Proposition 65

None

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MISCELLANEOUS INFORMATION

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