

SDS
SAFETY DATA SHEET

1. Identification

PRODUCT IDENTIFICATION

Product Name: Anti-Freeze Solution

Part Number: 049-012

Recommended Use: for use with Copper-Copper/Sulfate Reference electrodes, models 2-A, 3-A, 6-A, 6-B, 8-A and 8-B.

Not for use in any manner other than proscribed.

COMPANY IDENTIFICATION

Manufacturer/Supplier:

Tinker & Rasor, New Braunfels, TX 78130 USA

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2. Hazards identification

<u>Name</u>	<u>Chemical Formula</u>	<u>CAS</u>
Copper (II) Sulfate Pentahydrate	CuSO ₄	7758-99-8
Glycerol	C ₃ H ₈ O ₃	56-81-5
Water, Distilled	H ₂ O	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.

3. Composition/information on ingredients

Chemical name: NA, mixture

Common name and synonyms: Cupric Sulfate, Glycol

CAS number, other identifiers: See below

Other:

Component - (CAS No.)

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

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Hazard Communication Standard, 29 CFR 1910.1200)

Please note: Mixture is mainly Water, distilled.

4. First aid measures

Primary Entry Routes: Inhalation, eye and skin contact

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.

Response:

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.

Most important symptoms/effects, acute and delayed:

Ingestion can be harmful or fatal. Can cause gastrointestinal irritation with symptoms such as nausea, vomiting and diarrhea. Also headache.

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

5. Firefighting measures

Extinguishing Media: Dry chemical, carbon dioxide, water spray or regular foam.

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

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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.

Flash Point: No data available
Burning Rate: No data available
Autoignition Temperature: No data available
LEL: No data available
UEL: No data available
Flammability Classification: No data available

6. 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.

7. Handling and storage

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

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.

8. Exposure controls/personal protection

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

Administrative Controls: N/A

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

Other: Wear appropriate protective clothing and gloves to prevent repeated or prolonged skin contact exposure. Separate contaminated work clothing from street clothing. Launder prior to reuse. Remove from boots and clean personal protective equipment. Discard saturated leather shoes.

9. Physical and chemical properties

Appearance: Blue liquid with blue crystals (solids)
Physical State: Liquid with some solids
Vapor Pressure: No data available
Boiling Point: 100° C
Solubility (H₂O): Soluble
Softening Point: No data available
Molecular Weight: 70.814

Odor: Odorless
pH: 3.7 – 4.2
Vapor Density: No data available
Freezing/Melting Point: 100° C / ° C (prolonged)
Specific Gravity: 1.0
Particle Size: Various
Bulk Density: No data available
Chemical Formula: CuSO₄, C₃H₈O₃, H₂O

10. Stability and reactivity

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 product sulfur oxides and copper oxides.

Hazardous Polymerization: Will not occur.

11. Toxicological information

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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

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.

12. Ecological information

Ecotoxicity: No data available

Persistence and degradability: No data available

Bioaccumulative potential: No data available

Mobility in soil: No data available

Other: None

13. Disposal considerations

Description of waste residues, safe handling and disposal considerations:

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

14. Transport information

UN number: Not applicable

UN proper shipping name: Not applicable

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Transport hazard class(es): Not a DOT controlled material (United States).
Packing group:
Environmental hazards:
Transport in bulk (MARPOL, IBC):
Special precautions to be aware of:

15. Regulatory information

Safety, health and environmental regulations, if any:

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 Componentes – 40 CFR 355 Appendix A - No

Section 311/312 Hazard Class – 40 CFR 370.2 -

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

SARA 313 Componentes – 40 CFR 372.65 - No

International Regulations

Inventory Status - Not determined

State and Local Regulations –

California Proposition 65 – No

16. Other information

Date of preparation of this SDS: 05/26/2017

Revision: 105-267

Other:

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