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|  | Gusmer Enterprises, Inc. [®] | | Issue Date: 05/27/15 Version: 1.0 | |
| | SAFETY DATA SHEET FORM | | | |
| Product Identifier: | | Copper Sulfate 1% | | |
| Section 1 - PRODUCT and COMPANY IDENTIFICATION | | | | |
| <p>1.1 Product Identifier Product Name: Copper Sulfate 1% Product Code(s): CUSO4-1-1000ML, CUSO4-1-60ML Chemical Name: Mixture Synonyms: NA</p> <p>1.2 Relevant identified uses of the substance or mixture and uses advised against Intended Product Use: Treatment of wine.</p> <p>1.3 Details of the supplier of the safety data sheet Manufacturer/Distributor: Gusmer Enterprises, Inc. Postal Address: 640-D Airpark Road, Napa, CA 94558 USA Telephone Number: (01)(707) 224-7903 [USA] (product info) Hours of Operation: Monday - Friday 8:00am-5:00pm PST</p> <p>1.4 Emergency telephone number Medical Emergency: 911 Chemical Emergency: (800) 424-9300</p> | | | | |
| Section 2 - HAZARDS IDENTIFICATION | | | | |
| <p>2.1 Classification of the substance or mixture: GHS Classification in accordance with 29 CFR 1910 (OSHA HCS) Acute Toxicity, Oral (Category 4) Skin Irritation (Category 2) Eye Irritation (Category 2B) Acute Aquatic Toxicity (Category 1) Chronic Aquatic Toxicity (Category 1)</p> <p>2.2 Label Elements Hazard Pictogram(s):  Signal Word: Warning</p> <p>Hazard Statements: Harmful if swallowed. Causes skin irritation. Causes serious eye irritation. Very toxic to aquatic life with long lasting effects.</p> <p>Precautionary Statements: Avoid release to the environment Wear protective gloves/protective clothing/eye protection/face protection. If on skin: Wash with plenty of water. Wash skin thoroughly after handling. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. Do not eat, drink or smoke when using this product. If swallowed: Call a poison center or doctor/ physician if you feel unwell. Rinse mouth. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present. Continue rinsing. If eye irritation persists: Get medical advice/attention. Dispose of contents/ container to an approved waste disposal plant.</p> | | | | |
| Section 3 - COMPOSITION / INFORMATION on INGREDIENTS | | | | |
| Ingredient(s) | Common Name & Synonyms | Percentage | CAS No. | |
| Copper (II) Sulfate Pentahydrate | Blue vitriol, Copper sulfate pentahydrate | 1% | 7758-99-8 | |
| Water | NA | 99% | 7732-18-5 | |
| Section 4 - FIRST AID MEASURES | | | | |
| <p>4.1 Description of the first aid measures Eye Contact: After eye contact: rinse out with plenty of water. Call in ophthalmologist. Skin Contact: After skin contact: wash off with plenty of water. Remove contaminated clothing. Inhalation: After inhalation: fresh air. Ingestion: After swallowing: immediately make victim drink water (two glasses at most). Consult a physician. Never give anything by mouth to an unconscious person.</p> <p>4.2 Most important symptoms and effects, both acute and delayed Eye Contact: Risk of corneal clouding. Conjunctivitis. Causes serious eye irritation. Skin Contact: Causes skin irritation. Inhalation: No Data Available Ingestion: Gastric pain, Diarrhea, Vomiting, Collapse. Chronic Effects: No Data Available</p> <p>4.3 Indication of any immediate medical attention and special treatment needed Treatment: No special advice, treat symptomatically.</p> | | | | |

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| Product Identifier: | | Copper Sulfate 1% | | |
| Section 5 - FIREFIGHTING MEASURES | | | | |
| <p>5.1 Extinguishing Media Suitable Extinguishing Media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Unsuitable Extinguishing Media: For this substance/mixture no limitations of extinguishing agents are given.</p> <p>5.2 Special hazards arising from the substance or mixture Ambient fire may liberate hazardous vapors. Sulphur oxides, Copper oxides</p> <p>5.3 Advice for firefighters As in any fire, wear NIOSH-approved self contained breathing apparatus and appropriate protective clothing.</p> | | | | |
| Section 6 - ACCIDENTAL RELEASE MEASURES | | | | |
| <p>6.1 Personal precautions, protective equipment and emergency procedures Use personal protective equipment. Avoid substance contact. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas, observe emergency procedures, consult an expert.</p> <p>6.2 Environmental precautions Do not let product enter drains. Prevent further leakage or spillage if safe to do so. Notify authorities if liquid enters sewers or public waters.</p> <p>6.3 Methods and materials for containment and cleaning up Cover drains. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.</p> <p>See Section 8 for appropriate personal protective equipment.</p> | | | | |
| Section 7 - Handling and Storage | | | | |
| <p>7.1 Precautions for safe handling Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Wash contaminated clothing before reuse.</p> <p>7.2 Conditions for safe storage, including any incompatibilities Keep container closed when not in use. Incompatible products: Strong reducing agents. Strong bases. Strong acids. Incompatible materials: Sources of ignition. Direct sunlight.</p> <p>See Section 8 for OSHA permissible exposure limit(s)</p> | | | | |
| Section 8 - EXPOSURE CONTROL / PERSONAL PROTECTION | | | | |
| 8.1 Control parameters | | | | |
| | OSHA PEL | ACGIH | NIOSH REL | |
| Copper (II) Sulfate Pentahydrate: | NA | TLV-TWA 1 mg/m ³ Inhalation | REL-TWA 1 mg/m ³ Inhalation | |
| 8.2 Exposure controls | | | | |
| <p>Normal Handling Conditions Engineering Controls: Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure level.</p> <p>Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.</p> <p>Respiratory Protection: Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.</p> <p>Eye Protection: Wear chemical splash goggles when handling this product. Have an eye wash station available.</p> <p>Skin Protection: Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.</p> <p>General Hygiene: Maintain good housekeeping practices, wash hands after handling. Do not eat, drink or smoke during use.</p> | | | | |
| Section 9 - PHYSICAL and CHEMICAL PROPERTIES | | | | |
| 9.1 Information on basic physical and chemical properties | | | | |
| Physical State: Liquid Color: Blue Odor: Odorless Odor Threshold: No Data Available pH: No Data Available Melting / Freezing Point (Specify): No Data Available Initial Boiling Point & Boiling Range: No Data Available Flash Point: No Data Available Evaporation Rate: No Data Available Flammability (solid, gas): upper: No Data Available lower: No Data Available Explosive Limits: LEL: No Data Available UEL: No Data Available Kst: No Data Available Vapor Pressure: No Data Available Vapor Density: No Data Available Relative Density: No Data Available Solubility(ies): No Data Available Partition Coefficient (n-octanol/water): No Data Available Auto-ignition Temperature: No Data Available Decomposition: No Data Available Oxidizing Properties: No Data Available Viscosity: No Data Available | | | | |

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| Product Identifier: | Copper Sulfate 1% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Section 10 - STABILITY and REACTIVITY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>10.1 Reactivity Not generally reactive under normal conditions.</p> <p>10.2 Chemical stability Stable under recommended storage conditions.</p> <p>10.3 Possibility of hazardous reactions No Data Available</p> <p>10.4 Conditions to avoid Avoid contact with oxidizing agents.</p> <p>10.5 Incompatible materials Water-reactive materials, Hydroxylamine, Hypobromite, Strong reducing agents, Magnesium.</p> <p>10.6 Hazardous decomposition products Sulfur containing gases, Copper compounds.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Section 11 - TOXICOLOGY INFORMATION | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>11.1 Information on toxicological effects Toxicology Data: The product has not been fully tested. The statements have been derived in parts from products of a similar structure or composition.</p> <table border="1"> <thead> <tr> <th></th> <th>Toxicity Test</th> <th>Exposure Route</th> <th>Dose</th> <th>Observed Effect</th> </tr> </thead> <tbody> <tr> <td rowspan="3">Acute Toxicity: Copper (II) Sulfate Pentahydrate:</td> <td>LD₅₀ (Mouse)</td> <td>Oral</td> <td>43 mg/kg</td> <td>Not Available</td> </tr> <tr> <td>LD₅₀ (Rat)</td> <td>Dermal</td> <td>>2000 mg/kg</td> <td>Not Available</td> </tr> <tr> <td>LDLO (Human)</td> <td>Oral</td> <td>1,088 mg/kg</td> <td>Not Available</td> </tr> <tr> <td>Skin Corrosion/Irritation:</td> <td colspan="4">Irritant to skin.</td> </tr> <tr> <td>Serious Eye Damage/Eye Irritation:</td> <td colspan="4">Irritating effect. Risk of corneal clouding. Conjunctivitis.</td> </tr> <tr> <td>Respiratory or Skin Sensitization:</td> <td colspan="4">No Data Available</td> </tr> <tr> <td>STOT - Single Exposure:</td> <td colspan="4">No Data Available</td> </tr> <tr> <td>STOT - Repeated Exposure:</td> <td colspan="4">No Data Available</td> </tr> <tr> <td>Aspiration Hazard:</td> <td colspan="4">No Data Available</td> </tr> </tbody> </table> <p>11.2 Further Information Mutagenicity: No Data Available Reproductive Toxicity: No Data Available Carcinogenicity: Not classified as a carcinogen by OSHA, NTP, or IARC in their reviews. IARC: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by IARC. ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH. NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by NTP. OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.</p> | | | Toxicity Test | Exposure Route | Dose | Observed Effect | Acute Toxicity: Copper (II) Sulfate Pentahydrate: | LD ₅₀ (Mouse) | Oral | 43 mg/kg | Not Available | LD ₅₀ (Rat) | Dermal | >2000 mg/kg | Not Available | LDLO (Human) | Oral | 1,088 mg/kg | Not Available | Skin Corrosion/Irritation: | Irritant to skin. | | | | Serious Eye Damage/Eye Irritation: | Irritating effect. Risk of corneal clouding. Conjunctivitis. | | | | Respiratory or Skin Sensitization: | No Data Available | | | | STOT - Single Exposure: | No Data Available | | | | STOT - Repeated Exposure: | No Data Available | | | | Aspiration Hazard: | No Data Available | | | |
| | Toxicity Test | Exposure Route | Dose | Observed Effect | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Acute Toxicity: Copper (II) Sulfate Pentahydrate: | LD ₅₀ (Mouse) | Oral | 43 mg/kg | Not Available | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | LD ₅₀ (Rat) | Dermal | >2000 mg/kg | Not Available | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | LDLO (Human) | Oral | 1,088 mg/kg | Not Available | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Skin Corrosion/Irritation: | Irritant to skin. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Serious Eye Damage/Eye Irritation: | Irritating effect. Risk of corneal clouding. Conjunctivitis. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Respiratory or Skin Sensitization: | No Data Available | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| STOT - Single Exposure: | No Data Available | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| STOT - Repeated Exposure: | No Data Available | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aspiration Hazard: | No Data Available | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Section 12 - ECOLOGICAL INFORMATION | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>12.1 Toxicity Copper (II) Sulfate Pentahydrate: Toxicity to fish - LC50 - Oncorhynchus mykiss (rainbow trout): 0.11 mg/l; 96h (anhydrous substance) Toxicity to daphnia and other aquatic invertebrates - EC50 - Daphnia magna (Water Flea): 0.02 mg/l; 48h (anhydrous substance) (ECOTOX Database)</p> <p>12.2 Persistence and degradability No Data Available</p> <p>12.3 Bioaccumulative potential No Data Available</p> <p>12.4 Mobility in soil May be harmful to plant growth, blooming and fruit formation.</p> <p>12.5 Other adverse effects Avoid release to the environment. Fungicide</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Section 13 - DISPOSAL CONSIDERATIONS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Substance: Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Section 14 - TRANSPORTATION INFORMATION | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>UN Number: UN 3077 Class: 9 Proper Shipping Name: Environmentally Hazardous Substance, Solid, N.O.S. (Copper (II)-Sulphate) Packing Group: III Marine Pollutant: No data available Other Applicable Information: No data available</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Section 15 - REGULATORY INFORMATION | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture</p> <p>TSCA: Listed SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302. SARA 313: Copper (II) Sulphate Pentahydrate is subject to reporting levels established by SARA Title III, Section 313. SARA 311/312: Acute Health Hazard.</p> <p>California Prop. 65 Components: This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| Product Identifier: | Copper Sulfate 1% |
| Section 16 - OTHER INFORMATION | |
| <p>Product Number(s): CUSO4-1-1000ML, CUSO4-1-60ML</p> <p>Prepared By: Gusmer Enterprises, Inc. Name of Preparer: Eric Anderson</p> <p style="text-align: right;">Title: Safety, Compliance & GMP Manager Date: 5/27/2015</p> | |
| <p>DISCLAIMER: While the information in this document is based on data which, to the best of our knowledge, was accurate and reliable at the time of preparation, no responsibility can be accepted by us for errors or omissions. The provision of this information should not be construed as a recommendation to use any of our products in violation of any patent rights or in breach of any statute or regulation. Users are advised to make their own determination as to the suitability of this information in relation to their particular purposes and specific circumstances. Since the information contained in this document may be applied under conditions beyond our control, we can accept no responsibility for any loss or damage caused by any person acting or refraining from acting as a result of this information.</p> | |
| GHS Hazard Warning Label | |
| <div style="border: 1px solid black; padding: 10px; width: fit-content; margin: auto;"> <p style="text-align: center;">Copper Sulfate 1%</p> <div style="display: flex; align-items: center; gap: 20px;">   <div style="margin-left: 20px;"> <p>WARNING:</p> <p>Harmful if swallowed. Causes skin irritation. Causes serious eye irritation. Very toxic to aquatic life with long lasting effects.</p> </div> </div> <p>Avoid release to the environment. Wear protective gloves/ protective clothing/ eye and face protection. If on skin: Wash with plenty of water. Wash skin thoroughly after handling. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing & wash it before reuse. Do not eat, drink or smoke when using this product. If swallowed: Call a poison center or doctor/ physician if you feel unwell. Rinse mouth. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present. Continue rinsing. If eye irritation persists: Get medical advice/attention. Dispose of contents/ container to an approved waste disposal plant.</p> <p style="text-align: center;">Gusmer Enterprises Inc. 640-D Airpark Road, Napa, CA 94558 (707) 224-7903 CONSULT SDS FOR ADDITIONAL INFORMATION ON HAZARD V1.0</p> </div> | |