

Copper Sulfate Basic		Pricing >
Linear Formula	$\text{CuSO}_4 \cdot \text{Cu}(\text{OH})_2 \cdot \text{H}_2\text{O}$	
Pubchem CID	92043264	
MDL Number	N/A	
EC No.	215-708-7	
IUPAC Name	copper(1+); sulfate; dihydrate	
SMILES	O.O.[O-]S(=O)(=O)[O-].[Cu+].[Cu+]	
Inchl Identifier	InChI=1S/2Cu.H2O4S.2H2O/c;;1-5(2,3)4;;/h;;(H2,1,2,3,4);2*1H2/q2*+1;;;/p-2	
Inchl Key	HRMHTQYEURVAQC-UHFFFAOYSA-L	
Signal Word	Warning	
Hazard Statements	N/A	
Hazard Codes	Xi	
Risk Codes	N/A	
Safety Statements	N/A	
Transport Information	N/A	

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SAFETY DATA SHEET

Date Accessed: 05/12/2024

Date Revised: 01/15/2022

SECTION 1. IDENTIFICATION

Product Identifiers: All applicable American Elements product codes for CAS #1344-73-6

Relevant identified uses of the substance:
Scientific research and development

Supplier details:
American Elements
10884 Weyburn Ave.
Los Angeles, CA 90024
Tel: +1 310-208-0551
Fax: +1 310-208-0351

Emergency telephone number:
Domestic, North America +1 800-424-9300
International +1 703-527-3887

SECTION 2. HAZARDS IDENTIFICATION

KEEP OUT OF REACH OF CHILDREN – WARNING
- POISON – Hazardous if swallowed, inhaled, or absorbed through skin. Avoid contact with eyes, skin or clothing. May be severely irritating or corrosive to the eyes. May be mildly irritating to the skin and in rare cases may cause skin sensitization. May cause irritation to the respiratory tract. Large dose ingestion of copper salts may cause gastrointestinal disorders. Wash thoroughly with soap and water after handling, and before eating, drinking or smoking. Avoid breathing dust or spray mist. Primary routes of entry are Inhalation, eye contact and skin contact. This product is a fine, pale green-coloured powder with no appreciable odour.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Ingredients: Percentage by Weight: CAS
No. TLV (Units)
Basic Copper Sulfate 1344-73-6
(Metallic Copper equivalent) 53.00 1 mg/m³
Inert Ingredients 47.00

SECTION 4. FIRST AID MEASURES

If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control centre or doctor treatment advice.
If swallowed: Call a poison control centre or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow.
Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give anything by mouth to an unconscious person.
If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control centre or doctor for treatment advice.
If inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control centre or doctor for further treatment advice.
NOTE TO PHYSICIAN: Elevated urinary copper is an

indication of excess copper exposure. If swallowed, perform gastric lavage with water or 0.1% solution of potassium ferrocyanide. Mucosal damage may contraindicate gastric lavage. Many copper salts by skin contact cause itching, eczema and rarely, sensitization reactions.
FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT CALL: 1-800-561-8273. Have the product label or container with you when calling a poison control centre or doctor, or going for treatment.

SECTION 5. FIREFIGHTING MEASURES

FLASH POINT (°F/Test Method): Not established
FLAMMABLE LIMITS (LFL & UFL): Not established
EXTINGUISHING MEDIA: Foam, dry chemical, carbon dioxide, and water spray (fog).
HAZARDOUS COMBUSTION PRODUCTS: Thermal decomposition will release Hydrogen chloride, oxides of Hydrogen, and oxides of Copper, and other toxic and/or hazardous gases.
SPECIAL FIRE FIGHTING PROCEDURES: Remain upwind. Avoid breathing smoke. Wear self-contained breathing apparatus and full protective gear.
UNUSUAL FIRE AND EXPLOSION HAZARDS: If water is used to fight fire or cool containers, dike to prevent runoff and contamination of municipal sewers and waterways.

SECTION 6. ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:
Avoid breathing dusts. Sweep up spills and transfer to approved chemical containers for disposal or rework. Keep dusting to a minimum. Check local, provincial and national regulations for proper disposal. Check local or provincial regulations for proper disposal. Flush the area with water to remove any residue.
CAUTION: Keep spills and cleaning runoff out of municipal sewers and open bodies of water.

SECTION 7. HANDLING AND STORAGE

HANDLING: Wash hands before eating, drinking,

chewing gum, using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove PPE after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

STORAGE: Store in the original container in a dry, cool, well-ventilated place. Keep the container tightly closed. Keep away from food, drink and animal feed. When opening, closing or handling open packages, wear goggles to prevent getting dust in eyes. After partial use, fold and roll back bags, clamp and close tightly. Do not contaminate water, food or feed by storage or disposal.

Personal Protective Equipment: Applicators and other handlers must wear: long sleeved shirt and long pants, chemical-resistant gloves, such as polyethylene or PVC, shoes plus socks, protective eyewear, chemical-resistant headgear for overhead exposure, and a dust/mist filtering respirator (MSHA/NIOSH approval number prefix TC-21C). Follow manufacturer's instructions for cleaning and maintaining PPE. If no instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Local exhaust ventilation is recommended.

RESPIRATORY PROTECTION: Wear a MSHA/NIOSH approved dust/mist filtering respirator (approval number prefix TC-21C).

EYE PROTECTION: Chemical goggles or shielded safety glasses. Eyewash facility should be available in the work area.

SKIN PROTECTION: Wear protective clothing: long-sleeved shirts and pants, shoes with socks. Wear chemical-resistant gloves.

OSHA PEL 8 hr TWA ACGIH TLV-TWA
Copper* 1 mg/m³ 1 mg/m

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOUR: Fine, pale green-coloured powder with no appreciable odour.

SOLUBILITY: Dispersible
SPECIFIC GRAVITY (Water = 1): 0.64 g/ml BULK
DENSITY: 640 kg/m³ pH: 6.5 (1% solution)
Vapor PRESSURE: Not established BOILING POINT:
Decomposes at 120OC (248OF)
PERCENT VOLATILE (by volume): Not established
EVAPORATION RATE: Not established
Note: These physical data are typical values based on
material tested but may vary from sample to sample.
Typical values should not be construed as a
guaranteed analysis of any specific lot or as
specification items.

SECTION 10. STABILITY AND REACTIVITY

STABILITY: Stable
CONDITIONS TO AVOID: Temperatures above 51OC
(125OF). Avoid exposure to high moisture conditions
for prolonged periods.
INCOMPATIBILITY: Avoid acidic conditions and
ammonia. Copper is corrosive to aluminum and iron,
especially when in aqueous forms and at elevated
temperatures.
HAZARDOUS DECOMPOSITION PRODUCTS:
Thermal decomposition will release Hydrogen
chloride, oxides of Hydrogen, and oxides of Copper,
and
other toxic and/or hazardous gases.
HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute Oral LD50 (rat): 1000 mg/kg Acute Dermal
LD50 (rat) : > 2000 mg/kg
Eye Irritation (rabbit): Severely irritating Skin Irritation
(rabbit): Slight irritant
Inhalation LC50 (rabbit): >2.00 mg/L (4 hr) Skin
Sensitization (Guinea Pig): Not a sensitizer
Carcinogenic Potential: None listed.

SECTION 12. ECOLOGICAL INFORMATION

This product is toxic to fish and aquatic invertebrates.
Do not apply directly to water, or to areas where
surface water is present or to intertidal areas
below the mean high water mark. Do not contaminate
water when disposing of equipment wash waters or
rinsate.

SECTION 13. DISPOSAL CONSIDERATIONS

Do not reuse containers for any purpose. Completely empty bag by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application equipment. For disposal, empty container may be returned to the point of purchase (distributor/dealer). Follow provincial instructions for any required additional cleaning of container. Make the empty container unsuitable for further use. Dispose of the container in accordance with provincial requirements. For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Do not contaminate water, food, or feed by storage or disposal.

SECTION 14. TRANSPORT INFORMATION

DOT/TDG Shipping Description: NOT REGULATED
FOR SURFACE TRANSPORTATION
U.S. Surface Freight Classification: INSECTICIDES
OR FUNGICIDES, INSECT OR ANIMAL
REPELLENTS; NOI; OTHER THAN POISON (NMFC
102120; CLASS: 60)
IMDG Shipping Description: ENVIRONMENTALLY
HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(COPPER), 9, UN3077, III MARINE POLLUTANT
Consult appropriate ICAO/IATA regulations for
shipment requirements in the Air shipping mode.

SECTION 15. REGULATORY INFORMATION

NFPA & HMIS Hazard Ratings: NFPA HMIS
2 Health 0 Least 2 Health
1 Flammability 1 Slight 1 Flammability
0 Instability 2 Moderate 0 Reactivity
3 High I PPE
4 Severe
SARA Hazard Notification/Reporting
SARA Title III Hazard Category: Immediate __Y__
Fire __N__ Sudden Release of Pressure __N__
Delayed __N__ Reactive __N__
Reportable Quantity (RQ) under U.S. CERCLA:
Copper (CAS No. 7440-50-8) 5000 pounds
SARA, Title III, Section 313: Copper (CAS No.
7440-50-8) \pm 50% equivalent by weight in product
RCRA Waste Code: Not listed

16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. COPYRIGHT 1997-2022 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.
