

Cupric Sulfate, Pentahydrate, Crystals, Technical

Material Safety Data Sheet

Section 1. Product and Company Identification

Product Name	Cupric Sulfate, Pentahydrate, Crystals, Technical	Product Code	CX2200
Manufacturer	EMD Chemicals Inc. P.O. Box 70 480 Democrat Road Gibbstown, NJ 08027 Prior to January 1, 2003 EMD Chemicals Inc. was EM Industries, Inc. or EM Science, Division of EM Industries, Inc.	Effective Date	3/3/2003
For More Information Call	856-423-6300 Technical Service Monday-Friday: 8:00 AM – 5:00 PM	In Case of Emergency Call	800-424-9300 CHEMTREC (USA) 613-996-6666 CANUTEC (Canada) 24 Hours/Day: 7 Days/Week
Synonym	COPPER (II) SULFATE; BLUE VITRIOL		
Material Uses	Analytical reagent.		
Chemical Family	Inorganic salt.		

Section 2. Composition and Information on Ingredients

Component	CAS #	% by Weight
CUPRIC SULFATE	7758-99-8	100

Section 3. Hazards Identification

Physical State and Appearance	Solid. (Crystalline solid. Powdered solid.)
Emergency Overview	WARNING! HARMFUL IF INHALED OR SWALLOWED. MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION.
Routes of Entry	Absorbed through skin. Eye contact. Inhalation. Ingestion.
Potential Acute Health Effects	Eyes May be hazardous in case of eye contact (irritant). Skin May be hazardous in case of skin contact (irritant). Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering. Inhalation Hazardous in case of inhalation. May be hazardous in case of inhalation (lung irritant). Ingestion Hazardous in case of ingestion.
Potential Chronic Health Effects	Carcinogenic This material is not known to cause cancer in animals or humans.
Effects	Additional information See Toxicological Information (section 11)
Medical Conditions Aggravated by Overexposure:	Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

Section 4. First Aid Measures

Eye Contact	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention.
Skin Contact	In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
Ingestion	If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Section 5. Fire Fighting Measures

Flammability of the Product	Non-flammable.
Auto-ignition Temperature	Not applicable.
Flash Points	Not applicable.
Flammable Limits	Not applicable.
Products of Combustion	Not available.
Fire Hazards in Presence of Various Substances	Not applicable.
Explosion Hazards in Presence of Various Substances	Risks of explosion of the product in presence of static discharge: No.
	Risks of explosion of the product in presence of mechanical impact: No.
Fire Fighting Media and Instructions	Not applicable.
Protective Clothing (Fire)	Not applicable.
Special Remarks on Fire Hazards	Not available.
Special Remarks on Explosion Hazards	Not available.

Section 6. Accidental Release Measures

Small Spill and Leak	Use appropriate tools to put the spilled solid in a convenient waste disposal container.
Large Spill and Leak	Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system. Be careful that the product is not present at a concentration level above TLV. Check TLV on

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the MSDS and with local authorities.

Spill Kit Information

No specific spill kit required for this product.

Section 7. Handling and Storage

Handling

Avoid contact with eyes, skin and clothing. Do not ingest. Do not breathe dust.

Storage

Keep container tightly closed. Keep container in a cool, well-ventilated area.

Section 8. Exposure Controls/Personal Protection

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 limit.

Personal Protection

Eyes Splash goggles.

Body Lab coat.

Respiratory Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.

Hands Gloves.

Feet Not applicable.

Protective Clothing (Pictograms)

Personal Protection in Case of a Large Spill Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Product Name

CUPRIC SULFATE

Exposure Limits

BAUA (Germany, 1997).

PEAK: 4 mg/m³

MAK: 1 mg/m³

Tyterveyslaitos (Finland, 1998).

TWA: 1 mg/m³

AFS (Sweden, 1996).

NGV: 1 mg/m³

Section 9. Physical and Chemical Properties

Odor

Odorless.

Color

Blue.

Physical State and Appearance

Solid. (Crystalline solid. Powdered solid.)

Molecular Weight

249.7 g/mole

Molecular Formula

O₄-S.Cu.5H₂O

pH

Not available.

Boiling/Condensation Point

Not available.

Melting/Freezing Point

Decomposes.

Specific Gravity

Not available.

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Vapor Pressure	Not available.
Vapor Density	Not available.
Odor Threshold	Not available.
Evaporation Rate	Not available.
LogKow	Not available.
Solubility	Soluble in water.

Section 10. Stability and Reactivity

Stability and Reactivity	The product is stable.
Conditions of Instability	Not available.
Incompatibility with Various Substances	Not available.
Rem/Incompatibility	Not available.
Hazardous Decomposition Products	sulfur oxides (SO ₂ , SO ₃ ...) Copper fumes
Hazardous Polymerization	Will not occur.

Section 11. Toxicological Information

RTECS Number:	Cupric Sulfate, Pentahydrate, Fine Crystals, GR	GL8900000
Toxicity	Acute oral toxicity (LD ₅₀): 300 mg/kg [Rat].	
Chronic Effects on Humans	Not available.	
Acute Effects on Humans	May be hazardous in case of eye contact (irritant). May be hazardous in case of skin contact (irritant). Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering. Hazardous in case of inhalation. May be hazardous in case of inhalation (lung irritant). Hazardous in case of ingestion.	
Synergetic Products (Toxicologically)	Not available.	
Irritancy	Draize Test: Not available.	
Sensitization	Not available.	
Carcinogenic Effects	This material is not known to cause cancer in animals or humans.	
Toxicity to Reproductive System	Not available.	
Teratogenic Effects	Not available.	
Mutagenic Effects	Not available.	

Section 12. Ecological Information

Ecotoxicity	Not available.
BOD5 and COD	Not available.
Toxicity of the Products of	The products of degradation are less toxic than the product itself.

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Biodegradation

Section 13. Disposal Considerations

EPA Waste Number	Not available.
Treatment	Material does not have an EPA Waste Number and is not a listed waste, however consultation with a permitted waste disposal site (TSD) should be accomplished. Always contact a permitted waste disposal (TSD) to assure compliance with all current local, state, and Federal Regulations.

Section 14. Transport Information

DOT Classification	Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CUPRIC SULFATE) Hazard Class: 9 UN number: UN3077 Packing Group: III RQ: 10 lbs. (4.536 kg)
TDG Classification	Not available.
IMO/IMDG Classification	Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CUPRIC SULPHATE) Hazard Class: 9 UN number: UN3077 Packing Group: III RQ: 10
ICAO/IATA Classification	Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CUPRIC SULFATE) Hazard Class: 9 UN number: UN3077 Packing Group: III RQ: 10

Section 15. Regulatory Information

U.S. Federal Regulations	TSCA 8(b) inventory: CUPRIC SULFATE SARA 302/304/311/312 extremely hazardous substances: No products were found. SARA 302/304 emergency planning and notification: No products were found. SARA 302/304/311/312 hazardous chemicals: CUPRIC SULFATE SARA 311/312 MSDS distribution – chemical inventory – hazard identification: CUPRIC SULFATE: Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard SARA 313 toxic chemical notification and release reporting: No products were found.
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Clean Water Act (CWA) 307: No products were found.

Clean Water Act (CWA) 311: No products were found.

Clean air act (CAA) 112 accidental release prevention: No products were found.

Clean air act (CAA) 112 regulated flammable substances: No products were found.

Clean air act (CAA) 112 regulated toxic substances: No products were found.

WHMIS (Canada) Class D-1B: Material causing immediate and serious toxic effects (TOXIC).

No products were found.

This product has been classified in accordance with the hazard criteria of the Controlled Product Regulations and the MSDS contains all required information.

International Regulations

EINECS Not available.

DSCL (EEC) R22- Harmful if swallowed.

R36/37/38- Irritating to eyes, respiratory system and skin.

International Lists Australia (NICNAS): CUPRIC SULFATE

Japan (MITI): CUPRIC SULFATE

Philippines (RA6969): CUPRIC SULFATE

China: No products were found.

State Regulations No products were found.

California prop. 65: No products were found.

Section 16. Other Information

National Fire Protection Association (U.S.A.)	0	Fire Hazard
	20	Health
		Reactivity
		Specific Hazard

Changed Since Last Revision +

Notice to Reader

The statements contained herein are based upon technical data that EMD Chemicals Inc. believes to be reliable, are offered for information purposes only and as a guide to the appropriate precautionary and emergency handling of the material by a properly trained person having the necessary technical skills. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use, storage and disposal of these materials and the safety and health of employees and customers and the protection of the environment. EMD CHEMICALS INC. MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE, WITH RESPECT TO THE INFORMATION HEREIN OR THE PRODUCT TO WHICH THE INFORMATION REFERS.

