

Science Kit
& Boreal
Laboratories

777 East Park Drive
Toronto, Ont. M1H 4Z7
(718) 674-6000

Boreal Laboratories Ltd.
1920 Midland Avenue
Mississauga, Ontario L4X 1K6

MATERIAL SAFETY DATA SHEET

C8800, C8808
81550-04
MSDS No. 51788
Effective Date

24 HOUR EMERGENCY ASSISTANCE

SECTION I	NAME	HEALTH	FLAMMABILITY	REACTIVITY
Product	Cupric Sulfate, Pentahydrate	2	0	0
Chemical Synonyms	Copper Sulfate, Blue Vitriol			
Formula	CuSO ₄ ·5H ₂ O			
RTECS #	GL8900000			
C.A.S. No.	7759-99-8			

HAZARD RATING

HAZARD RATING	LEAST	SLIGHT	MODERATE	HIGH	EXTREME
0	1	2	3	4	

SECTION II HAZARDOUS INGREDIENTS OF MIXTURES

Principal Hazardous Component(s)	%	TLV Units
NA = Not Applicable		
NE = None Established		

SECTION III PHYSICAL DATA

Melting Point (°F)	110°C (less water)	Specific Gravity (H ₂ O = 1)	2.28
Boiling Point (°F)	>400°C (decomposes)	Percent Volatile by Volume (%)	NA
Vapor Pressure (mm Hg)	NA	Evaporation Rate	NA
Vapor Density (Air = 1)	NA		
Solubility in Water	24.3% @ 30°C		
Appearance and Odor	Blue crystals/powder, no odor.		

SECTION IV FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used)	NA	Flammable Limits in Air % by Volume	Lower	Upper
Extinguisher Media	Use any medium suitable for extinguishing supporting fire.			

SPECIAL FIREFIGHTING PROCEDURES

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

UNUSUAL FIRE AND EXPLOSION HAZARDS

Not considered to be a fire/explosion hazard.

D.O.T.	Cupric Sulfate	CRM-E	NA3109
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SECTION V HEALTH HAZARD DATA

Threshold Limited Value 1 mg/m³ (as Cu) TWA

Effects of Overexposure

Toxic: Acute: Irritation and pain to skin, eyes, lungs, mucous membranes, and GI tract. Coughing, itching, headache, chills. Chronic: Dermatitis, systemic metal poisoning hazard, nasal damage.

Emergency and First Aid Procedures

Skin: Remove any contaminated clothing. Wash skin with soap or mild detergent and water for at least 15 minutes. Get medical attention if irritation develops or persists. Eyes: Wash eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately. Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician. Ingestion: If swallowed, induce vomiting immediately by giving two glasses of water and sticking finger down throat. Never give anything by mouth to an unconscious person. Call physician immediately.

SECTION VI REACTIVITY DATA

Stability	Unstable	Stable	Conditions to Avoid	None
		X		

Incompatibility (Materials to avoid)

Hydroxylamine, Magnesium.

Hazardous Decomposition Products

Cupric oxide, Sulfur oxides.

Hazardous Polymerization

Will Not Occur X

SECTION VII SPILL OR LEAK PROCEDURES

Steps to be taken in case material is released or spilled. Ventilate area of leak or spill. Clean-up personnel may require protective clothing and respiratory protection from dust. Sweep up and contain for reclamation or disposal. Avoid dust dispersal.

Waste Disposal Method

Whatever cannot be saved for reclamation may be disposed of in a RCRA approved hazardous waste facility. Do not flush to the sewer. Toxic to aquatic life.

Discharge, treatment, or disposal may be subject to federal, state, or local laws.

SECTION VIII SPECIAL PROTECTION INFORMATION

Respiratory Protection (Specify Type)	Dust	Local Exhaust	General	Special	Other
		X	X		
Protective Gloves	Poly or Rubber	Eye Protection	Goggles		
Other Protective Equipment	Lab Coat				

SECTION IX SPECIAL PRECAUTIONS

Precautions to be Taken in Handling and Storing. Store in a cool dry location.

Other Precautions

Read label on container before using. Conditions Aggravated/Target Organs: Persons with preexisting skin, heart, respiratory, or kidney/liver disorders or Wilson's disease may be more susceptible.

For laboratory use only. Not for drug, food or household use. Keep out of reach of children.

Rev. No.	4	Date	5/17/88	Approved	K. Kuchel	Chemical Safety Coordinator	RAC
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