



**ALDON CORPORATION**

# MATERIAL SAFETY DATA SHEET

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MSDS No. CC 535  
Effective Date February 17, 1999

## SECTION V HEALTH HAZARD DATA

CC 535

**Threshold Limited Value** (Air) As copper metal (dust): 1.0 mg/m<sup>3</sup>.  
Copper (fume) TLV 0.2 mg/m<sup>3</sup>. Oral, rat: LD50 = 300 mg/kg.

**Effects of Overexposure** **TARGET ORGANS AFFECTED:** Eyes, skin, blood, respiratory system, liver, kidneys. **INGESTION:** Copper salts impart a metallic taste in mouth. May cause gastrointestinal irritation and vomiting. **EYES:** Causes conjunctivitis, swelling of the eyelids, ulceration and burns of the cornea. **SKIN:** Causes irritation. May cause allergic skin reaction. **INHALATION:** Causes upper respiratory irritation and congestion of the nasal and mucous membranes.

**Emergency and First Aid Procedures** **INHALATION:** Remove to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention. **EYES:** Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get medical attention. **SKIN:** Flush with water, then wash with mild soap and water. **INGESTION:** If swallowed, if conscious, give one or two glasses of water to drink, induce vomiting and call physician. Never give anything by mouth to an unconscious person.

## SECTION VI REACTIVITY DATA

<b>Stability</b>	<b>Unstable</b>		<b>Conditions to Avoid</b>	Excessive temperature and heat.
	<b>Stable</b>	X		

**Incompatibility (Materials to Avoid)** Incompatible with acetylene. Copper salts may react to form explosive acetylides. Copper sulfate can cause ignition upon contact with hydroxylamine due to the release of heat. Reducing agents react vigorously with copper salts.

**Hazardous Decomposition Products** Combustion may produce irritating copper fumes and toxic gaseous oxides (sulfur oxides).

<b>Hazardous Polymerization</b>		<b>Conditions to Avoid</b>	Not applicable.
<b>May Occur</b>	<b>Will Not Occur</b>		
	X		

## SECTION VII SPILL OR LEAK PROCEDURES

**Steps to be taken in case material is released or spilled** Ventilate the area. Sprinkle lime or soda ash on spill to form insoluble copper salt. Sweep up and place in a suitable container for disposal. Wash spill area with soap and water. Prevent material from entering sewers and waterways.

**Waste Disposal Method** Discharge, treatment, or disposal may be subject to Federal, State or Local laws. These disposal guidelines are intended for the disposal of catalog-size quantities only.

Dispose of in an approved chemical landfill or contract with a waste disposal agency.

## SECTION VIII SPECIAL PROTECTION INFORMATION

**Respiration Protection (Specify Type)** None should be required in normal laboratory use. If dusty conditions prevail, work in a ventilation hood or wear a NIOSH/MSHA-approved dust mask.

<b>Ventilation</b>	<b>Local Exhaust</b>	Recommended.	<b>Special</b>	No.
	<b>Mechanical (General)</b>	Recommended.	<b>Other</b>	No.

<b>Protective Gloves</b>	Rubber.	<b>Eye Protection</b>	Chemical safety goggles.
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**Other Protective Equipment** Safety glasses, smock, apron, vented hood, proper gloves, and eye wash station.

## SECTION IX SPECIAL PRECAUTIONS

**Precautions to be Taken in Handling & Storing** Store in a cool, dry place. Wash thoroughly after handling.  
Keep container tightly closed when not in use.

**Other Precautions** Read label on container before using. Do not wear contact lenses when working with chemicals.  
Avoid contact with skin, eyes and clothing. Avoid breathing dust. Use with adequate ventilation. Remove and wash contaminated clothing.

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

<b>Revision</b> No. 6	<b>Date</b> 2/17/99	<b>Approved</b> Michael Raszeja	<b>Chemical Safety Coordinator</b> MR
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The information contained herein is furnished without warranty of any kind. Employers should use this information 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 of these materials and the safety and health of employees. \* Hazardous Materials Industrial Standards. Printed on recycled paper.

## SECTION I NAME 24 HOUR EMERGENCY ASSISTANCE

<b>Product</b>	CUPRIC SULFATE, 5-HYDRATE	 <p>CHEMTREC 800-424-9300 Day 716-226-6177</p> <p>NFPA HAZARD RATING</p> <table border="1"> <tr> <td>LEAST</td> <td>SLIGHT</td> <td>MODERATE</td> <td>HIGH</td> <td>EXTREME</td> </tr> <tr> <td>0</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> </table> <p>HMIS *</p> <table border="1"> <tr> <td>Health</td> <td>2</td> </tr> <tr> <td>Fire</td> <td>0</td> </tr> <tr> <td>Reactivity</td> <td>0</td> </tr> </table>	LEAST	SLIGHT	MODERATE	HIGH	EXTREME	0	1	2	3	4	Health	2	Fire	0	Reactivity	0
LEAST	SLIGHT		MODERATE	HIGH	EXTREME													
0	1		2	3	4													
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<b>Chemical Synonyms</b>	Copper (II) Sulfate, pentahydrate																	
<b>Formula</b>	CuSO <sub>4</sub> •5H <sub>2</sub> O																	
<b>Unit Size</b>	up to 2.5 Kg.																	
<b>C.A.S. No.</b>	7758-99-8																	

## SECTION II INGREDIENTS OF MIXTURES

Principal Component(s)	%	TLV Units
Cupric Sulfate, pentahydrate	> 99 %	See Section V.

**WARNING! HARMFUL IF SWALLOWED OR INHALED.**

**IRRITANT TO SKIN, EYES AND MUCOUS MEMBRANES.**

## SECTION III PHYSICAL DATA

Melting Point (°F)	653°C (1207°F)	Specific Gravity (H <sub>2</sub> O = 1)	2.28
Boiling Point (°F)	N/A	Percent Volatile by Volume (%)	N/A
Vapor Pressure (mm Hg)	N/A	Evaporation Rate ( =1)	N/A
Vapor Density (Air=1)	N/A		
Solubility in Water	Appreciable (>10%).		
Appearance & Odor	Blue crystals or fine blue powder; no odor.		

## SECTION IV FIRE AND EXPLOSION HAZARD DATA

<b>Flash Point (Method Used)</b>	Non-flammable.	<b>Flammable Limits in Air % by Volume</b>	N/A	<b>Lower</b>	<b>Upper</b>
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**Extinguisher Media** Use any media suitable for extinguishing supporting fire.

### SPECIAL FIREFIGHTING PROCEDURES

In fire conditions, firefighters should wear protective clothing and a NIOSH/MSHA-approved self-contained breathing apparatus. Cupric Sulfate will not burn, nor will it support combustion. Care should be used to keep material out of streams or other water bodies.

(1996 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.7, GUIDE PAGE NO. 171)

### UNUSUAL FIRE AND EXPLOSION HAZARDS

Fire or excessive heat may produce hazardous decomposition products as dust or fume.

D.O.T. RQ, Environmentally hazardous substance, solid, n.o.s., (Cupric sulfate), 9, UN 3077, PG III

Approved by U.S. Department of Labor "essentially similar" to form OSHA-20