

MATERIAL SAFETY DATA SHEET**13600 SERIES CUPRIC OXIDE - Black**

NFPA HMR'S HAZARD RATING	
Health	1
Flammability	0
Reactivity	0
Maximum Personal Protection	E

SECTION I MANUFACTURER
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CHEMICAL NAME	CAS NUMBER	APPROX. WT. %
CUPRIC OXIDE	1317-38-0	98%
CUPROUS OXIDE	1317-39-1	1.5%
METALLIC COPPER	7440-50-8	0.5%

SECTION II HAZARDOUS INGREDIENTS
 TLV & PEL

COPPER 78% Min 1 mg/m³

There is no ACGIH TLV or OSHA PEL for cuprous oxide or cupric oxide. Exposure is governed by the 8 hour TWA established for finely divided copper in dusts or mists. Cuprous oxide, cupric oxide and copper are not carcinogenic materials as listed by OSHA (29 CFR 1910) or ACGIH (Appendix A, Threshold Limit Values for Chemical Substances 1995-1996).

SECTION III PHYSICAL DATA

Boiling Point:	NA
Specific Gravity: H ₂ O=1	6.0
Vapor Pressure:	NA
Percent Volatile by volume:	0%
Vapor Density:	NA
Evaporation Rate:	NA
Solubility in Water:	Negligible

Melting Point: Cupric oxide decomposes at 1847°F to cuprous oxide and oxygen. Cuprous oxide melts at 2255°F.

Appearance and Odor: Black
 Fine Powder. No Odor

SECTION IV FIRE & EXPLOSION HAZARD DATA

Flash Point:	NA
Flammable Limits	LEL: NA UEL: NA

Extinguishing Media: Will not burn
 Special Fire Fighting Procedures: None
 Unusual Fire Fighting Procedures: See Section VI

Date: February 28, 1999 (Rev 8)
 Reviewed 2/21/2001

SECTION V HEALTH HAZARD DATA

Threshold Limit Value: See Section II
 Signs, Symptoms, and Effects of Overexposure: Nausea, chills, diarrhea. May cause respiratory irritation, skin irritation (oxide pox); fever, eye irritation with redness, pain and conjunctivitis; preexisting lung diseases may be aggravated by exposure. Could result in respiratory disease if over exposed on a chronic basis.
 Primary Routes of Entry: Inhalation and/or ingestion
 Emergency and First Aid Procedure: Remove to fresh air. Lay patient down. Cover with blanket. If irritated, flush eyes and skin with large volumes of fresh water for 15 minutes. Refer to physician.

SECTION VI REACTIVITY DATA

Stable X Unstable
 Conditions and Materials to Avoid: Cupric oxide may react violently with strong reductants, e.g., organic compounds, such as but not limited to hydrazine and acetylene, carbide compounds, acids, bases, and metals such as but not limited to Al, Mg, B, K, Ni, Ti & Zr.

Hazardous Decomposition Products: Copper fumes will be released if cuprous oxide is heated above its melting point (2255°F).

Hazardous Polymerization: Will not occur.

SECTION VII SPILL OR LEAK PROCEDURES

Steps to be taken in case material is released or spilled: Clean up with vacuum or conventional tools. Avoid dusting.
 Waste Disposal: Approved land fill if allowed by local, state and federal authorities.

SECTION VIII SPECIAL PROTECTION INFORMATION

Respiratory Protection: Cartridge type particulate filter respirator or dust mask approved by NIOSH.
 Refer to Respiratory Protective Devices approved by NIOSH under 42 CFR 84.

Ventilation: To keep below listed TLV in Section II, use general dilution type ventilation.

Protective Gloves: Wear if skin contact is probable and skin is sensitive.

Eye Protection: Safety glasses or goggles
 Other Protective Equipment: Long sleeve shirts if contact is probable and skin is sensitive.

SECTION IX SPECIAL PRECAUTIONS

Precautions to be taken in handling and storing: Keep lids tightly sealed. Store in cool, dry place.
 Other Precautions: Do not take internally. Avoid prolonged contact with skin. Wash with soap and water after contact.

SECTION X SARA TITLE III

This product contains copper compounds and is subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.
 U.S. EPA Reportable Quantity, 5,000 lbs. (2,270 Kg)