MATERIAL SAFETY DATA SHEET
PURPLE COPP 97N, RED COPP 97N

SECTION I
MANUFACTURER AMERICAN CHEMET CORPORATION
P.O. Box 1160
East Helena, MT 59635
EMERGENCY TELEPHONE (406) 227-5302
ATTN: Dan Brimhall

CHEMICAL NAME CUPROUS OXIDE
FORMULA Cu₂O
CAS NUMBER 1317-39-1
APPROX. WT. % 97

SECTION II
HAZARDOUS INGREDIENTS
COPPER
% TLV & PEL
86% (Min) 1 mg/m³

There is no ACGIH TLV or OSHA PEL for either 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 (29CFR1910) or ACGIH (Appendix A, Threshold Limit Values for Chemical Substances 1989-1990).

SECTION III
PHYSICAL DATA
Boiling Point (°F):
NA
Flash Point
NA

Vapor Density:
NA
Evaporation Rate:
NA
Specific Gravity:
H₂O=1 6.0
Solubility in Water:
Negligible
Melting Point:
2255 °F
Appearance and Odor:

SECTION IV
FIRE & EXPLOSION HAZARD DATA
Extinguishing Media: CO₂, ABC extinguisher, or water.

Unusual Fire Fighting Procedures: Spontaneous combustion may occur oxidizing product to CuO if exposed to moist air at temperatures above 100°C.

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 BOO 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: Temperatures above 100°C while in presence of moist air. Mass build up under reactive conditions. Under certain conditions cuprous oxide may react violently with strong reactants such as acids, bases, and metals, such as but not limited to, Al and Mg.

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

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.

SECTION VIII
SPECIAL PROTECTION INFORMATION
Respiratory Protection: Cartridge type filter or dust mask approved by MSHA or NIOSH. Refer to Respiratory Protective Devices approved by Bureau of Mines Circular IC 836.
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.
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.

Date: February 15, 1991 (Rev. 5)
## Specifications

<table>
<thead>
<tr>
<th>Component</th>
<th>Min/Max</th>
<th>Typical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cuprous Oxide - Cu₂O</td>
<td>95 % Min</td>
<td>96 %</td>
</tr>
<tr>
<td>Cuprous Oxide + Free Copper</td>
<td>97 % Min</td>
<td>98 %</td>
</tr>
<tr>
<td>Cupric Oxide - CuO</td>
<td>3 % Max</td>
<td>1.5 %</td>
</tr>
<tr>
<td>Metallic Copper</td>
<td>2 % Max</td>
<td>1 %</td>
</tr>
<tr>
<td>Total Copper</td>
<td>86 % Min</td>
<td>88 %</td>
</tr>
<tr>
<td>Metal's Other Than Copper</td>
<td>.5 % Max</td>
<td>.1 %</td>
</tr>
<tr>
<td>Acetone Soluble</td>
<td>.5 % Max</td>
<td>.3 %</td>
</tr>
<tr>
<td>Chlorides</td>
<td>.4 % Max</td>
<td>.2 %</td>
</tr>
<tr>
<td>Sulfates</td>
<td>.1 % Max</td>
<td>NIL</td>
</tr>
<tr>
<td>Moisture Content</td>
<td>.1 % Max</td>
<td>NIL</td>
</tr>
</tbody>
</table>

## Physical Properties

- **-325 Mesh**
  - 99.9
  - 99.99
- **Grind (Hegman) Chemet Test**
  - 4½-5
  - 5
- **Oil Demand Per 100 LBS. Pigment**
  - 11
- **Specific Gravity (gm/cc)**
  - 5.8496
- **Pounds Per U.S. Gallon**
  - 48.73
- **Bulking - U.S. Gallons Per Pound**
  - .02052
- **Bulking - Cubic Centimeters Per Gram**
  - .17095

**E.P.A. Registration Number 26883-5**

Available packaged in 50 lb. or 25 kg. bags, 60 bags per pallet. On request in steel containers of 5 gal., 100 lb.; 15 gal., 250 lb., or 30 gal., 500 lb. capacity or bulk bags 2,500 - 3,000 lbs.

This material meets the requirements of U.S. M Specification MIL-P-15169B.  CAS-1317-39-1