

MATERIAL SAFETY DATA SHEET

BRASS

Updated 12/96

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: Brass General Use: To make brass photoengraving dies.
 Company: UEI™ Systems, A Division of Universal Engraving, Inc.
 9090 Nieman Road Overland Park, KS, USA 66214
 1-800-821-8864 or 913-599-0244

EMERGENCY CONTACT: 1-800-424-9300 United States and Canada
 703-527-3887 International

2. COMPOSITION/INFORMATION ON INGREDIENTS

	CAS #	%
Copper	7440-50-8	60-70%
Zinc	7440-66-6	30-40
Tin	7440-31-5	<1
Lead	7439-92-1	<4

3. HAZARDS IDENTIFICATION: Sheet of gold-colored metal. Dust from brass presents a lead contamination hazard.

4. FIRST AID MEASURES: In case of dust exposure:

Inhalation: In case of discomfort remove to a ventilated area. Consult a physician.

Skin Contact: Wash skin thoroughly with soap and water.

Eye Contact: Flush eyes thoroughly with water especially under the eyelids. If irritation persists consult a physician.

Ingestion: Not Applicable

5. FIRE FIGHTING MEASURES: The product in the solid state presents no fire or explosion hazard.

6. ACCIDENTAL RELEASE MEASURES: Not Applicable

7. HANDLING AND STORAGE: No special handling precautions. Store in a dry, ventilated area.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION: Use in a well-ventilated area and maintain exposure below suggested limits:

Exposure Limits:	OSHA PEL	ACGIH TLV
Copper Fumes	0.1 mg/m3	0.2 mg/m3
Copper Dust	1.0	1.0
Tin	2.0	2.0
Zinc Oxide Fumes	5.0	5.0
Zinc Oxide Dust	15	10
Lead Inorganic (Dust and fumes)	0.05	0.15

9. PHYSICAL AND CHEMICAL PROPERTIES

pH: NA	Relative Density (Water = 1): >8	Explosive properties: NA
Boiling Point: NA	Water Solubility: NA	Odor Threshold: NA
Melting Point: >1600 deg. C (brass)	Flashpoint: NA	Oxidizing Properties: NA
Vapor Pressure: NA	Auto-ignition: NA	Partition Coefficient (n-octanol/water): NA
Evaporation Rate: NA	Lower Flammable Limit: NA	
Relative Density (water = 1): >8	Higher Flammable Limit: NA	

10. STABILITY AND REACTIVITY: Product is stable. Avoid mercury, ammonia, acetylene, acids, bases, and oxidizing agents. Metallic dust or fumes may be produced during welding, burning, grinding, and machining.

11. TOXICOLOGICAL INFORMATION: **Route of Exposure:** Inhalation. **Acute Effects:** Irritation of respiratory tract. High concentrations of freshly-formed copper oxide and fumes can produce symptoms of metal fume fever. Symptoms are muscular aches, fever, chills, nausea, vomiting, and weakness. **Chronic Effects:** Product dust may contain lead. Lead compounds bioaccumulate. Most frequent chronic effects are anemia and kidney/central nervous damage. Medical surveillance should be undertaken to prevent high blood lead levels. Inhalation of lead oxide fumes can cause abdominal pains, constipation, headaches, weakness, muscle pain, loss of appetite, nausea, and vomiting. **Medical Conditions Aggravated** by product exposure are not determined. **Carcinogenicity/Mutagenicity/Reproductive Toxicity:** International Agency for Research on Cancer classifies lead compounds in group 2B: possible carcinogenic in humans (no evidence in humans but sufficient evidence in animals). Does not contain any other carcinogen or potential carcinogen.

12. DISPOSAL CONSIDERATIONS: Recycle if possible. Dispose of waste in accordance with federal, state, and local regulations.

13. REGULATORY INFORMATION: WHMIS Classification (Canada): D2 Material causing other toxic effects. EEC Classification (Europe): Not Classified.

USA Regulations: Section 313 Supplier Notification. Product may contain the following toxic chemical(s) subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (Title III of SARA) and of 40 CFR 372. (This information must be included in all MSDS's that are copied and distributed for this material.)

Chemical Name	CAS #
Copper	7440-50-8
Zinc	7440-66-6
Lead	7439-92-1

This product contains lead. Any process resulting in exposure to more than 0.5 mg/m3 of metal dust may result in a daily dose of lead of over 0.5 ug/day, the dose above which the "California Safe Drinking Water and Toxic Enforcement Act" of 1986 requires notification. Refer to the appropriate regulation notification wording guidelines.

14. OTHER INFORMATION

UEI™ Systems provides the information contained herein in good faith. It is believed to be correct. However it is not all inclusive and should be used only as a guide. Individuals receiving this information must exercise their independent judgement in determining its appropriateness for a particular purpose. UEI™ Systems shall not be held liable for any damage resulting from handling or from contact with this product.

Abbreviations: CAS #: Chemical Abstracts Service Registry Number
 NA: Not Applicable
 TLV: Threshold Limit Value
 PEL: Permissible Exposure Limit

EC: European Community
 ACGIH: American Conference of Governmental Industrial Hygienists
 OSHA: Occupational Safety and Health Administration
 C: Celsius