

**MATERIAL SAFETY DATA SHEET  
FOR  
THORN SMITH LABORATORIES  
ANALYZED QUANTITATIVE UNKNOWNNS**

---

Brass "A", "B", "C", and "D"  
Catalog Number 80-1070, 80-1080, 80-1085, 80-1090

---

Manufacturer: Auric Enterprises, Inc.  
d/b/a Thorn Smith Laboratories  
Address: 7755 Narrow Gauge Road  
Beulah, MI 49617  
Phone Number: 231-882-4672  
MSDS Number: TSL-011  
Date Prepared: October 11, 1989  
Date Updated: June 23, 2009

---

**SECTION 1 - MATERIAL IDENTIFICATION AND INFORMATION**

---

COMPONENTS - Chemical Name & Common Name  
(Hazardous Components 1% or greater; Carcinogens 0.1% or greater)

Copper

Formula: Cu  
CAS No.: 7440-50-8  
OSHA PEL: 1 mg/m<sup>3</sup>  
ACGIH TLV: 1 mg/m<sup>3</sup>  
OTHER LIMITS: N/A

Zinc

Formula: Zn  
CAS No.: 7440-66-6  
OSHA PEL: N/E  
ACGIH TLV: 5 mg/m<sup>3</sup>  
OTHER LIMITS: N/A

Tin

Formula: Sn  
CAS No.: 7440-31-5  
OSHA PEL: 2 mg/m<sup>3</sup>  
ACGIH TLV: 2 mg/m<sup>3</sup>  
OTHER LIMITS: N/A

Lead

Formula: Pb  
CAS No.: 7439-92-1  
OSHA PEL: .05 mg/m<sup>3</sup>  
ACGIH TLV: .15 mg/m<sup>3</sup>

---

## SECTION 2 - PHYSICAL/CHEMICAL CHARACTERISTICS

---

Boiling Point: N/A  
Specific Gravity (H<sub>2</sub>O=1): >8  
Vapor Pressure (mm Hg and Temperature): N/A  
Melting Point: >871° C (>1600° F)  
Vapor Density (Air-1): N/A  
Evaporation Rate ( -1): N/A  
Solubility in Water: Negligible (<0.1%)  
Water Reactive: No  
Appearance and Odor: Gold/yellow. Odorless.

---

## SECTION 3 - FIRE AND EXPLOSION HAZARD DATA

---

Flash Point and Method Used: N/A  
Auto-Ignition Temperature: N/A  
Flammability Limits in Air (% by Volume): N/A  
LEL: N/A UEL: N/A  
Extinguisher Media: Use extinguishing media appropriate for surrounding fire.  
Special Fire Fighting Procedures: Steel products in the solid state present no fire or explosion hazard.  
Unusual Fire and Explosion Hazards: Dust hazard exists under conditions favoring small particle size.  
Dispersion in air and strong ignition source may result in an explosion. Toxic gases, aerosols, and vapors may be released in a fire involving copper alloys if fumes of other compounds or other contacting materials are involved.

---

## SECTION 4 - REACTIVITY HAZARD DATA

---

STABILITY:  Stable  Unstable  
Conditions to Avoid: Exposure during storage to strong acids, bases, or oxidizing agents.  
Incompatibility (Materials to Avoid): Mercury, ammonia, acetylene, acids.  
Hazardous Decomposition Products: Toxic gases, aerosols, and vapors may be released in a fire involving copper alloys if fumes of other compounds or other contacting materials are involved.  
HAZARDOUS POLYMERIZATION:  May Occur  Will Not Occur

---

## SECTION 5 - HEALTH HAZARD DATA

---

PRIMARY ROUTES OF ENTRY:  
 Inhalation  Ingestion  Skin Contact  Eye Contact  Not Hazardous  
CARCINOGEN LISTED IN:  
 NTP  OSHA  IARC Monograph  Not Listed

TOXICITY: No information found.

**HEALTH HAZARDS - Acute:**

Inhalation: May cause irritation to upper respiratory tract. Inhalation of high concentrations of freshly formed oxide fumes of copper, zinc, and lead may cause metal fume fever characterized by a metallic taste in the mouth, dryness and irritation of the throat, and influenza-like symptoms. Inhalation of lead particles may result in lead-induced systemic toxicity. Symptoms of lead poisoning include abdominal cramps, anemia, muscle weakness, and headache.

Ingestion: Ingestion of lead particles may result in lead-induced systemic toxicity. Symptoms of lead poisoning include abdominal cramps, anemia, muscle weakness, and headache.

Skin Contact: May cause irritation.

Eye Contact: May cause irritation.

**HEALTH HAZARDS - Chronic:**

Inhalation or Ingestion of lead particles may result in lead-induced systemic toxicity. Prolonged exposure can cause behavioral changes, kidney damage, CNS damage, and reproductive effects.

Signs and Symptoms of Exposure: No information found.

Medical Conditions Generally Aggravated by Exposure: None identified.

**EMERGENCY FIRST AID PROCEDURES - Seek medical assistance for further treatment, observation, and support if necessary.**

Inhalation: If a person breathes in large amounts, move the exposed person to fresh air. Get medical attention.

Ingestion: Get medical attention.

Skin Contact: Remove any contaminated clothing. Wipe off excess from skin. Immediately wash skin with soap and water for at least 15 minutes. Get medical attention if irritation develops or persists.

Eye Contact: Immediately flush with plenty of water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get medical attention immediately.

**SARA/TITLE III HAZARD CATEGORIES & LISTS**

Acute: Yes    Chronic: Yes    Flammability: No    Pressure: No    Reactivity: No

Extremely Hazardous Substance: No

CERCLA Hazardous Substance: Yes (Cu, Pb, Zn)

SARA 313 Toxic Chemicals: Yes (Cu, Zn, Pb)

TSCA Inventory: No

---

**SECTION 6 - CONTROL AND PROTECTIVE MEASURES**

---

Respiratory Protection (Specify Type):      NIOSH/MSHA approved dust/fume respirator should be used to avoid excessive inhalation of particulates when exposure exceeds TLV's.

Protective Gloves: Wear protective gloves.

Eye Protection: Wear chemical safety goggles.

VENTILATION TO BE USED:      Local exhaust ventilation should be utilized when exposure exceeds TLV's.

Local Exhaust       Mechanical (General)       Special

Other (Specify)

Other Protective Clothing and Equipment: Wear clean body-covering clothing.

Hygienic Work Practices: Avoid contact with eyes, skin, and clothing. Avoid breathing dust. Keep container closed when not in use. Use with adequate ventilation. Wash thoroughly after handling.

---

## SECTION 7 - PRECAUTIONS FOR SAFE HANDLING & USE/LEAK PROCEDURES

---

Steps to be taken if material is spilled or released: Wear suitable protective clothing. Carefully sweep up and remove.

Waste Disposal Methods: Dispose in accordance with all applicable local, state, and federal environmental regulations.

Precautions to be taken in handling and storage: Keep in a tightly closed container. Suitable for any general chemical storage area. Store in accordance with all applicable local, state, and federal environmental regulations.

Other precautions and/or special hazards: No information available.

NFPA Rating: Health: **0** Flammability: **0** Reactivity: **0**.

HMIS Rating: No information available.

---

## SECTION 8 - TRANSPORTATION DATA AND ADDITIONAL INFORMATION

---

### Domestic (D.O.T.)

Proper Shipping Name: Chemicals, n.o.s. (Non-regulated)

### International (T.M.O.)

Proper Shipping Name: Chemicals, n.o.s. (Non-regulated)

### AIR (I.C.A.O.)

Proper Shipping Name: Chemicals, n.o.s. (Non-regulated)

The information published in this Material Safety Data Sheet has been compiled from our experience and data presented in various technical publications. It is the user's responsibility to determine the suitability of this information for the adoption of necessary safety precautions. We make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and assume no liability resulting from its use. We reserve the right to revise Material Safety Data Sheets periodically as more information becomes available.