SAFETY DATA SHEET
FOR
THORN SMITH LABORATORIES

SECTION 1 - IDENTIFICATION

Trade Name: BRASS A, B, C, D for Cu, Zn, Sn, Pb
Catalog Number: 80-1070, 80-1080, 80-1085, 80-1090
Product Description: Analyzed Quantitative Unknowns
Manufacturer: Auric Enterprises, Inc.
d/b/a Thorn Smith Laboratories
Address: 7755 Narrow Gauge Road
Beulah, MI 49617
Phone Number: 231-882-4672
SDS Number: TSL-011

SECTION 2 – HAZARDS IDENTIFICATION

General:
Brass alloys in their usual form and under normal conditions do not present inhalation, ingestion, or contact health hazard or fire or explosion hazard.

Routes of Entry:
None in its natural solid state.
High concentrations of dusts or fumes may cause irritation to the eyes. Inhalation of metal fumes or dusts generated during heating may cause irritations to the respiratory tract. Flu-like symptoms such as fever and chills may occur a few hours after excessive exposure. Dusts or fumes can cause irritation to the skin with itching, dermatitis may occur.

Target Organs:
Respiratory system, kidney, liver, central nervous system, eyes and skin.

Effects of Acute Exposure to Material:
COPPER & ZINC: (as Oxide): Inhalation overexposure to copper or zinc oxide may cause metal fume fever characterized by fever and chills (i.e. flu-like symptoms) which appear 4-6 hours after exposure with no long-term affects.

Effects of Chronic Exposure to Material:
LEAD: Chronic exposures may cause lead poisoning that can affect the digestive system, nervous system, reproductive systems, muscles and joints. IARC lists lead and its inorganic compounds under its Group 2B category – “possibly carcinogenic to humans”.
TIN: Inhalation overexposures may cause a benign pneumoconiosis (stannosis) with few or no symptoms, which is reported not to be disabling.
SECTION 3 – COMPOSITION AND INFORMATION ON INGREDIENTS

Copper
Formula: Cu
CAS No.: 7440-50-8
OSHA PEL: 1 mg/m$^3$
ACGIH TLV: 0.2 mg/m$^3$
% by Weight: 55-95%

Zinc
Formula: Zn
CAS No.: 7440-66-6
OSHA PEL: N/E
ACGIH TLV: 2 mg/m$^3$ (as Zinc Oxide – Respirable)
% by Weight: 1-45%

Tin
Formula: Sn
CAS No.: 7440-31-5
OSHA PEL: 2 mg/m$^3$
ACGIH TLV: 2 mg/m$^3$ (Metal or Oxide)
% by Weight: 3-17%

Lead
Formula: Pb
CAS No.: 7439-92-1
OSHA PEL: .05 mg/m$^3$ (Elemental & Inorganic Compounds as Lead)
ACGIH TLV: .15 mg/m$^3$
% by Weight: 0-11%

SECTION 4 – FIRST AID MEASURES

Eye Contact: Do not rub eye(s). Flush with plenty of water for at least 15 minutes, lifting upper and lower eyelids occasionally. If irritation persists, seek medical attention.

Skin Contact: Maintain good personal hygiene. 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.

Inhalation: If a person breathes in large amounts, move the exposed person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Consult a physician immediately.

Ingestion: Dust may irritate mouth and gastrointestinal tract. If ingested, seek medical attention promptly.

SECTION 5 – FIRE FIGHTING MEASURES

Flammability: Non-Flammable
Flash Points: Not Applicable
Auto-Ignition: Not Applicable
Flammable Limits: N/A
Extinguishing Media: Use extinguishing media appropriate to the surrounding fire.
Fire Fighting Procedure: Firefighters should wear self-contained breathing apparatus and protective clothing to prevent inhalation or contact with skin and eyes.

Hazardous Combustion Products: At temperatures above the melting point, fumes containing metal oxides and other alloying elements may be liberated.

Unusual Fire Hazards: Finely divided particles or dusts may present an explosion hazard, and should be treated as a Class D combustible metal fire – use a Class D fire extinguisher (dry powder or sand) for fires involving powders or dusts.

Special Fire Fighting: Do not use water on molten metal.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Spill or Leak Procedures: Not applicable to brass alloys in solid state. Utilize suitable protective clothing and equipment. Carefully sweep up and remove. Dispose in accordance to all applicable local, state and federal environmental regulations.

SECTION 7 – HANDLING AND STORAGE

Storage Temperatures: Store at ambient temperatures.
Storage: Store away from oxidizers, acids and other incompatible materials.
Shelf Life: Unlimited in tightly closed container. Suitable for any general chemical storage area.
Special Sensitivity: No information available.
Precautions to be taken in handling and storage: Store in accordance with all local, state, and federal environmental regulations.

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

Respiratory Protection (Specify Type): None where adequate ventilation conditions exist. If airborne concentration is high, use an appropriate respirator or dust mask.
Protective Gloves: Wear protective gloves.
Eye Protection: Wear chemical safety glasses.
Ventilation To Be Used: Use adequate general or local exhaust ventilation to keep fume or dust levels as low as possible.
   ___X___ Local Exhaust       ___X___ Mechanical (General)       ____ Special
   ____ Other (Specify)
Other Protective Clothing and Equipment: Wear clean body-covering clothing. Emergency showers and eye wash stations should be available.
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 9 – PHYSICAL AND CHEMICAL PROPERTIES

Physical Form: Solid
Color: Yellow-brown, metallic.
Odor: Odorless
Molecular Weight: N/A
Boiling Point: N/A
Melting Point: 930ºC (1706ºF)
Solubility in Water: Insoluble
Water Reactive: No
Vapor Density (Air-1): 8.4 – 8.8
Evaporation Rate (-1): N/A
SECTION 10 – STABILITY AND REACTIVITY

STABILITY:  __X__ Stable  _____ Unstable
Conditions to Avoid:  Humidity.  Stable under ordinary conditions of use and storage.
Incompatibility (Materials to avoid):  Oxidizers, acids, acetylene, some halogenated compounds.
Conditions of Reactivity:  Contact with oxidizers and/or strong acids will release flammable hydrogen gas.
Hazardous Decomposition Products:  Hydrogen chloride.
HAZARDOUS POLYMERIZATION:  ______ May Occur  __X__ Will Not Occur

SECTION 11 – TOXICOLOGICAL INFORMATION

Brass alloys in their usual form and under normal conditions do not present inhalation, ingestion, or contact health hazard.

Toxicity Data:  N/A
Chronic Toxic Effects:  Chronic exposures to LEAD may cause lead poisoning that can affect the digestive system, nervous system, reproductive systems, muscles and joints.  IARC lists lead and its inorganic compounds under its Group 2B category – “possibly carcinogenic to humans”.
Acute Toxic Effects:  Inhalation overexposure to copper or zinc oxide may cause metal fume fever characterized by fever and chills (i.e. flu-like symptoms) which appear 4-6 hours after exposure with no long-term effects.
Extremely Hazardous Substance:  No
CERCLA Hazardous Substance:  No
SARA 313 Toxic Chemicals:  No
TSCA Inventory:  No

SECTION 12 – ECOLOGICAL INFORMATION

Not Known

SECTION 13 – DISPOSAL CONSIDERATIONS

Dispose of in accordance with all applicable local, state and federal environmental regulations.

SECTION 14 – TRANSPORTATION INFORMATION

Domestic (D.O.T.)
Proper Shipping Name:  Chemicals, n.o.s.

International (T.M.O.)
Proper Shipping Name:  Chemicals, n.o.s.

Air (I.C.A.O.)
Proper Shipping Name:  Chemicals, n.o.s.
SECTION 15 – REGULATORY INFORMATION

Additional Canadian Regulations
WHMIS Classification: This product is considered to be a manufactured material, potentially hazardous airborne particulates and fumes may be generated during heating and therefore subject to WHMIS requirements.

Domestic Substances List: The components of this material are on the federal DSL Inventory.

Other Canadian Regulations: N/A

Additional U.S. Regulations:
SARA: The components of this material are subject to the reporting requirements of Sections 302, 304 and 313 of the Title III of the Superfund Amendments and Reauthorization Act (SARA – Oct. 2006) as follows:
- Copper: 302, No 304, No 313, Yes CERCLA: 5000lbs.
- Lead: 302, No 304, No 313, Yes CERCLA: 10lbs.
- Zinc: 302, No 304, No 313, No CERCLA: 1000lbs.

SARA Threshold Planning Quantity: There are no specific Threshold Planning Quantities for components of this material.

TSCA Inventory Status: The components of this material are listed on the Toxic Substances Control Act Inventory.

CERCLA Reportable Quantity: RQ’s for Hazardous Substances in the Comprehensive Environmental Response, Compensation, and Liability Act are: Copper = 5000lbs.; Zinc = 1000lbs; Lead = 10lbs.

California (Proposition 65): The lead component of this material is known in the State of California to cause cancer, and/or birth defects (or other reproductive harm).

Other U.S. Federal Regulations: Lead is regulated under 29 CFR 1910.1025

Additional European Union Regulations:

Lead (Pb): brass Alloys may have a lead content of <2.0%, which is above the EU Directive limit of 0.1%.

Hazard Label Rating Systems:
NFPA Code: H=0 F=0 R=0
HMIS Code: H=1* F=0 R=0 PPE: See Section 8
*Denotes possible chronic hazard if airborne dusts or fumes are generated.

SECTION 16 – OTHER INFORMATION

Date Prepared: October 11, 1989
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