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DIAMOND B

MATERIAL SAFETY DATA SHEET

DATE: 1/7/86

REV. DATE:

REVISION NO.: _____

SECTION I

MANUFACTURER'S NAME: Elkhart Products Corporation
ADDRESS: 1255 Oak Street-P.O. Box 1008, Elkhart, IN
EMERGENCY PHONE NO.: 219-264-3181
CHEMICAL NAME AND SYNONYMS: COPPER, CAS #7440-50-8; ZINC, CAS#7440-66-6
TRADE NAME AND SYNONYMS: Gilding, commercial bronze, red brass, low brass, cartridge brass, yellow brass. CDA Alloy 210, 220, 226, 230, 240, 260, 268
CHEMICAL FAMILY: COPPER AND ZINC

SECTION II - HAZARDOUS INGREDIENTS

| INGREDIENT | PERCENT | PPM | TLV | Mg/M ³ |
|------------|--------------|-----|-----|-------------------|
| Copper | 96.0 to 65.0 | | | See Section V |
| Zinc | 4.0 to 35.0 | | | |

HAZARDOUS MIXTURES OF OTHERS LIQUIDS, SOLIDS, OR GASES:

If exposure to copper and zinc dust/fume are kept below TLV's, all trace elements should not pose any health risk.

SECTION III - PHYSICAL DATA

| ALLOY | 210 | 220 | 226 | 230 | 240 | 260 | 268 |
|---|------------|------|------|------|------|------|------|
| MELTING | 1920 | 1870 | 1840 | 1810 | 1770 | 1680 | 1660 |
| Vapor Pressure (mm Hg.) | | | | | | | |
| Solubility in Water | negligible | | | | | | |
| Specific Gravity (H ² O = 1) | 8.86 | 8.80 | 8.78 | 8.75 | 8.67 | 8.53 | 8.47 |

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

| | |
|------------------------------------|----------------|
| Flash Point (Method Used) | Not applicable |
| Extinguishing Media | Not applicable |
| Special Fire Fighting Procedures | Not applicable |
| Unusual Fire and Explosion Hazards | Not applicable |

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: Copper, Dust 1Mg/M³ Fume 0.1 Mg/M³ Zinc, Fume 5 Mg/M³

EFFECT OF OVERDOSE: Fume and dust - sneezing, cough, congestion, nausea, Metallic tastes, chills, fever, muscular pain, marked thirst. Not known to be carcinogenic.

EMERGENCY AND FIRST AID PROCEDURES:

Skin / flush thoroughly with water. Eyes / flush with water, call physician.
Ingestion - drink water induce vomiting, call Physician. Inhalation -
remove victim to fresh air, call Physician.

SECTION VI - REACTIVITY DATA

STABILITY - Stable

INCOMPATABILITY (material to avoid): (Dust & Fume) acetylene, chlorine

HAZARDOUS DECOMPOSITION PRODUCTS : Copper Fume/Zinc Fume

HAZARDOUS POLYMERIZATION - Will Not Occur

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Dust or Fume - wear respirator follow OSHA use instructions, shovel up, or vacuum and place in approved DOT container and seal. Wash contaminated clothing.

WASTE DISPOSAL METHOD:

Dispose of contaminated product and materials used in cleaning up spills or leaks in a manner approved for this material. Follow federal, state and local regulations for disposal.

SECTION VIII - SPECIAL PROTECTION INFORMATION

**RESPIRATORY PROTECTION (Specify Type) : dust or fume - NIOSH/MSHA approved
dust/fume respirator**

VENTILATION - Local Exhaust: dust/fume - if TLV values exceeded

EYE PROTECTION: (dust) goggles

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Avoid breathing dust or fumes. Do not take internally.
Preclude from exposure to fume and dust those individuals with pulmonary and cardiac diseases.



Material Safety Data Sheet

| | | | |
|---|---|--|--|
| Common Name COPPER | Phone No. 219-264-3181 | Date 1/7/86 | Revised |
| Hazardous Material (as Defined in 29 CFR 1910.1200) | | | |
| <input type="checkbox"/> Flammable | <input type="checkbox"/> Explosive | <input type="checkbox"/> Organic Peroxide | <input type="checkbox"/> Irritant |
| <input type="checkbox"/> Combustible | <input type="checkbox"/> Reactive | <input type="checkbox"/> Pyrophoric | <input type="checkbox"/> Sensitizer |
| <input type="checkbox"/> Oxidizer | <input type="checkbox"/> Water Reactive | <input type="checkbox"/> Compressed Gas | <input type="checkbox"/> Corrosive |
| | | Acute Toxicity | <input type="checkbox"/> Ingestion |
| | | <input checked="" type="checkbox"/> Inhalation | <input type="checkbox"/> Other Health Hazard (See Sec. VI) |
| | | <input type="checkbox"/> Absorption | <input type="checkbox"/> OSHA or ACGIH Limit |

SECTION I. Material Description

Chemical Name & Formula: **COPPER - Cu**Other Designation: **UNS-C12200 - DEOXIDIZED HIGH PHOSPHORUS COPPER**CAS No.: **N/A**Manufacturer: **Elkhart Products Corporation**

SECTION II. Ingredients

COPPER

Occupational Exposure Limits

DUST - 1.0 mg/m³FUME - 0.1 mg/m³(1984-85 OSHA
8 hr TWA)

SECTION III. Physical Data

Physical Form: **SOLID**Boiling Temperature: **N/A**Freeze-Melt Temperature: **1982°F**Vapor Pressure: **N/A**Evaporation Rate: **N/A**Specific Gravity: **N/A**Density: **8.91**Water Solubility: **N/A**pH: **N/A**Color: **RED**Odor: **N/A**

SECTION IV. Fire and Explosion Data

| | | | | |
|------------------------|---------------------------------|--|----------|----------|
| Flashpoint: N/A | Auto-Ignition Temp.: N/A | Flammability Limits in Air: N/A | Lower: - | Upper: - |
|------------------------|---------------------------------|--|----------|----------|

In the solid form, there are no fire or explosion hazards with this alloy. Fine chips or dust may ignite and should be stored in a well-ventilated area. In case of fire, use extinguishing agents appropriate for the surroundings or materials. Dry chemicals or sand should be used to extinguish fires. Fire fighters should wear full protective clothing and where conditions warrant NIOSH-approved self-contained breathing apparatus, see Sections VI and VII.

SECTION V. Reactivity Data

Copper and Copper alloys are stable under normal conditions of transport, use and storage.

Section VI. Health Hazard Information

TLV: See Section II.

Primary Routes of Entry: Inhalation of dust or fumes.

Copper: Under normal handling and use, exposure to the solid form of copper or copper alloys presents few health hazards. Thermal cutting, melting, machining/grinding may produce fumes or dust containing the component elements, and breathing these fumes or dust may present potentially significant health hazards. The exposure levels in Section II are relevant to fumes and dust. Fumes of copper may cause metal fume fever with flu-like symptoms, and copper may cause skin and hair discoloration.

Section VII. Spill, Leak & Disposal Procedures

No special precautions are necessary for spills of bulk material. If large quantities of dust are spilled, remove by vacuuming or wet-sweeping to prevent heavy concentrations of airborne dust. Cleanup personnel should wear respirators and protective clothing. Scrap metal can be reclaimed for reuse. Follow Federal, State, and Local regulations regarding disposal.

Section VIII. Special Protection Information

Use general and local exhaust ventilation to keep airborne concentrations of dust and fumes below the TLV. When required, employees should wear MSHA- or NIOSH-approved respirators for protection against airborne dust or fumes. Approved safety glasses and/or goggles should be worn during any machining, grinding, cutting, or other operation from which airborne particles may be emitted. Food or drink should not be consumed in the work area.

Section IX. Special Precautions & Comments

Use good housekeeping practices to prevent accumulations of dust and to keep airborne dust concentrations at a minimum. Avoid breathing dust or fumes. Store dust away from source of ignition.

Information herein is given in good faith as authoritative and valid; however, no warranty, express or implied, can be made.
