

Safety Data Sheet

Section 1: Identification

- **Product Name:** Phosphorus Bronze A
- **Manufacturer:** Inweld Corporation
- **Address:** 3962 Portland St, Coplay, PA 18037, UNITED STATES
- **Phone Number:** 1-800-346-5368
- **Emergency Phone Number:** (800) 424-9300 (CHEMTREC)
- **Recommended Use:** Alloys for industrial applications such as bearings, electrical connectors, and springs.
- **Restrictions on Use:** Not for food, drug, or cosmetic use.

Section 2: Hazard(s) Identification

- **GHS Classification:**
 - **Health Hazard:**
 - Carcinogenicity (Category 1A)
 - Specific target organ toxicity (Single exposure) (Category 1)
 - Respiratory Sensitization (Category 1)
 - **Environmental Hazards:**
 - Aquatic Toxicity (Category 1)
- **Label Elements:**
 - **Signal Word:** Danger
 - **Hazard Pictograms:**

 - **Hazard Statements:**

- Causes cancer.
- Causes damage to lungs through prolonged or repeated exposure.
- May cause allergic respiratory reaction.
- Very toxic to aquatic life with long-lasting effects.
- **Precautionary Statements:**
 - **Prevention:**
 - Obtain special instructions before use.
 - Do not handle until all safety precautions have been read and understood.
 - Wear protective gloves, protective clothing, eye protection, and face protection.
 - **Response:**
 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 - IF exposed or concerned: Get medical advice/attention.
 - If skin irritation occurs: Get medical advice/attention.
 - **Storage:**
 - Store in a well-ventilated place. Keep container tightly closed.
 - **Disposal:**
 - Dispose of contents/container in accordance with local/regional/national/international regulations.

Section 3: Composition/Information on Ingredients

Component	CAS Number	Concentration	Classification
Copper (Cu)	7440-50-8	90-95%	-

Component	CAS Number	Concentration	Classification
Tin (Sn)	7440-31-5	4-7%	-
Phosphorus (P)	7723-14-0	0.02-0.5%	-
Other Trace Elements -		< 5%	-

Section 4: First-Aid Measures

- **Inhalation:**
Move to fresh air immediately. Seek medical attention if symptoms persist.
- **Skin Contact:**
Wash with soap and water. If irritation occurs, seek medical attention.
- **Eye Contact:**
Rinse eyes immediately with plenty of water for at least 15 minutes. Seek medical attention if irritation persists.
- **Ingestion:**
Rinse mouth with water. Seek medical attention immediately if large quantities are ingested.

Section 5: Fire-Fighting Measures

- **Suitable Extinguishing Media:**
Water spray, foam, dry chemical powder, carbon dioxide (CO₂).
- **Unsuitable Extinguishing Media:**
Do not use water jet.
- **Special Hazards Arising from the Chemical:**
Can emit toxic fumes (e.g., phosphorus oxides) during combustion.
- **Protective Equipment for Firefighters:**
Wear self-contained breathing apparatus (SCBA) and full protective gear.

Section 6: Accidental Release Measures

- **Personal Precautions:**
Wear protective equipment. Avoid dust formation and breathing dust. Ensure adequate ventilation.
- **Environmental Precautions:**
Avoid release into the environment. If released into water, inform the appropriate authorities.
- **Cleanup Methods:**
Collect the material in a container for disposal. Avoid inhalation or direct contact with skin.

Section 7: Handling and Storage

- **Handling:**
Handle in accordance with good industrial hygiene and safety practices. Avoid contact with skin, eyes, and inhalation of fumes or dust.
- **Storage:**
Store in a cool, dry, well-ventilated area, away from incompatible materials. Keep containers tightly closed when not in use.

Section 8: Exposure Controls/Personal Protection

- **Exposure Limits:**
 - **Copper:** OSHA PEL: 1 mg/m³ TWA
 - **Phosphorus:** OSHA PEL: 0.1 mg/m³ TWA
- **Engineering Controls:**
Provide adequate ventilation to minimize exposure to dust or fumes. Use local exhaust ventilation where necessary.
- **Personal Protective Equipment (PPE):**
 - **Respiratory Protection:** NIOSH-approved respirator if dust or fumes are present.
 - **Hand Protection:** Protective gloves.

- **Eye Protection:** Safety goggles or face shield.
- **Skin Protection:** Wear protective clothing to prevent skin contact.

Section 9: Physical and Chemical Properties

- **Appearance:** Solid metal alloy
- **Color:** Yellowish to reddish brown
- **Odor:** Odorless
- **Melting Point:** 900-1000°C (1652-1832°F)
- **Density:** 8.9 g/cm³
- **Solubility in Water:** Insoluble
- **Flash Point:** Not applicable (solid metal)

Section 10: Stability and Reactivity

- **Reactivity:**
No significant reactivity hazards under normal conditions.
- **Chemical Stability:**
Stable under normal handling and storage conditions.
- **Conditions to Avoid:**
Exposure to heat, sparks, open flame.
- **Incompatible Materials:**
Strong acids, strong bases, halogens.
- **Hazardous Decomposition Products:**
Phosphorus oxides, copper oxide fumes.

Section 11: Toxicological Information

- **Acute Toxicity:**
 - **Copper:** Inhalation may cause respiratory irritation and metal fume fever.

- **Phosphorus:** Can cause severe burns, and inhalation of phosphorus fumes can be fatal.
- **Chronic Effects:**
Prolonged exposure to copper dust can lead to copper poisoning. Phosphorus exposure can result in chronic lung conditions.

Section 12: Ecological Information

- **Toxicity:**
Very toxic to aquatic life with long-lasting effects.
- **Persistence and Degradability:**
Not biodegradable.
- **Bioaccumulative Potential:**
May accumulate in aquatic organisms.

Section 13: Disposal Considerations

- **Disposal Methods:**
Dispose of in accordance with federal, state, and local regulations. Recycle if possible.

Section 14: Transport Information

- **UN Number:** 3089
- **UN Proper Shipping Name:** Phosphorus bronze alloy
- **Transport Hazard Class:** 9 (Miscellaneous)
- **Packing Group:** III
- **Environmental Hazards:** Yes, environmental hazards present.

Section 15: Regulatory Information

- **OSHA Hazard Communication Standard:** This material is classified as hazardous under OSHA HCS.

- **SARA Title III:** This product does not contain any chemicals listed under Section 313.

Section 16: Other Information

- **Date of Preparation:** June 2025
- **Revision Date:** June 2025
- **Disclaimer:** The information in this Safety Data Sheet (SDS) is believed to be accurate as of the date of publication. Inweld Corporation makes no warranty, expressed or implied, regarding the accuracy or completeness of the data contained herein.