

## Safety Data Sheet

### Section 1: Identification

- **Product Name:** Silicon Bronze
- **Manufacturer:** Inweld Corporation
- **Address:** 3962 Portland St, Coplay, PA 18037, UNITED STATES
- **Inweld Phone Number:** (800) 346-5368
- **Emergency Phone Number:** (800) 424-9300 (CHEMTREC)
- **Recommended Use:** Metal alloy, welding material.
- **Restrictions on Use:** Use only as intended, according to manufacturer's guidelines.

### Section 2: Hazard(s) Identification

- **GHS Classification:**
  - Physical Hazards: Not classified.
  - Health Hazards: Acute toxicity (oral) – Category 4, Skin corrosion/irritation – Category 2, Eye damage/irritation – Category 2A, Specific target organ toxicity (single exposure) – Category 1 (nervous system).

- **GHS Hazard Pictograms:**



- **Signal Word:** Danger
- **Hazard Statements:**
  - H302: Harmful if swallowed.
  - H315: Causes skin irritation.
  - H319: Causes serious eye irritation.
  - H370: Causes damage to organs (nervous system) through prolonged or repeated exposure.
- **Precautionary Statements:**
  - P264: Wash thoroughly after handling.

- P270: Do not eat, drink, or smoke when using this product.
- P280: Wear protective gloves, protective clothing, eye protection, and face protection.
- P301+P312: IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.
- P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
- P314: Get medical advice/attention if you feel unwell.
- P402+P404: Store in a dry place. Store in a closed container.

### Section 3: Composition/Information on Ingredients

- **Substance:** Silicon Bronze (Metal alloy)
- **Ingredients:**
  - Copper (Cu): 90-95%
  - Silicon (Si): 2-6%
  - Iron (Fe): <1%
  - Manganese (Mn): <1%
  - Other minor trace elements may be present.

**Note:** The exact composition can vary depending on the specific formulation.

### Section 4: First-Aid Measures

- **Inhalation:**
  - Move to fresh air immediately. If breathing is difficult, administer oxygen and seek medical attention.
- **Skin Contact:**
  - Remove contaminated clothing. Wash the affected skin with plenty of water and soap. If irritation persists, seek medical attention.
- **Eye Contact:**

- Rinse eyes immediately with plenty of water for at least 15 minutes. Remove contact lenses if present. Seek medical attention immediately.
- **Ingestion:**
  - If swallowed, rinse mouth with water. Do not induce vomiting. Seek medical attention immediately.

## **Section 5: Fire-Fighting Measures**

- **Suitable Extinguishing Media:**
  - Use CO<sub>2</sub>, dry chemical, or foam extinguishers.
- **Unsuitable Extinguishing Media:**
  - Do not use water or high-pressure water streams, as this may spread fire or cause a steam explosion.
- **Specific Hazards Arising from the Chemical:**
  - Metal alloys may produce toxic fumes when burned. Inhalation of metal fumes can cause health issues such as metal fume fever.
- **Special Protective Equipment for Firefighters:**
  - Wear self-contained breathing apparatus (SCBA) and full protective gear to prevent inhalation of toxic fumes.

## **Section 6: Accidental Release Measures**

- **Personal Precautions:**
  - Wear appropriate personal protective equipment (PPE), including gloves, eye protection, and respiratory protection if necessary.
- **Environmental Precautions:**
  - Prevent the material from entering drains, sewers, or watercourses.
- **Methods for Containment and Cleanup:**
  - Clean up spilled material using methods that do not generate dust. Place collected material in suitable containers for disposal according to local regulations.

## **Section 7: Handling and Storage**

- **Precautions for Safe Handling:**
  - Avoid inhalation of dust or fumes. Ensure proper ventilation during handling. Use appropriate PPE when handling the product.
- **Conditions for Safe Storage:**
  - Store in a cool, dry place away from incompatible materials. Keep containers tightly closed.

## Section 8: Exposure Controls/Personal Protection

- **Occupational Exposure Limits:**
  - ACGIH TLV for copper: 0.2 mg/m<sup>3</sup> (as Cu).
  - ACGIH TLV for silicon: 10 mg/m<sup>3</sup> (total dust).
- **Engineering Controls:**
  - Use adequate ventilation to reduce exposure to metal fumes or dust.
- **Personal Protective Equipment (PPE):**
  - **Respiratory Protection:** Use a NIOSH-approved dust mask or respirator if exposure limits are exceeded.
  - **Gloves:** Wear protective gloves to avoid skin contact.
  - **Eye Protection:** Wear safety goggles or face shield to protect eyes.
  - **Skin Protection:** Wear protective clothing to minimize skin exposure.

## Section 9: Physical and Chemical Properties

- **Appearance:** Solid metal alloy.
- **Odor:** Odorless.
- **pH:** Not applicable (solid metal).
- **Melting Point:** 1,100 - 1,200 °C.
- **Boiling Point:** Not applicable (metal).
- **Flash Point:** Not applicable (solid metal).
- **Solubility in Water:** Insoluble.

- **Density:** 8.9 g/cm<sup>3</sup>.

## Section 10: Stability and Reactivity

- **Reactivity:** Stable under normal conditions.
- **Chemical Stability:** Stable under normal conditions.
- **Possibility of Hazardous Reactions:** May react with acids or oxidizing agents.
- **Conditions to Avoid:** Avoid contact with incompatible materials.
- **Incompatible Materials:** Strong acids, strong oxidizers.
- **Hazardous Decomposition Products:** Metal oxides and toxic fumes.

## Section 11: Toxicological Information

- **Routes of Exposure:** Inhalation, skin contact, eye contact, ingestion.
- **Acute Toxicity:**
  - Harmful if swallowed (LD50 > 500 mg/kg).
- **Chronic Toxicity:** Prolonged or repeated exposure may cause damage to the nervous system.
- **Carcinogenicity:** Not classified as a carcinogen by OSHA, IARC, or NTP.
- **Other Information:** Metal fume fever may occur from inhalation of metal fumes.

## Section 12: Ecological Information

- **Ecotoxicity:**
  - Harmful to aquatic life in large quantities.
- **Persistence and Degradability:** Not biodegradable.
- **Bioaccumulative Potential:** Not expected to bioaccumulate.
- **Mobility in Soil:** Not applicable (solid metal).

## Section 13: Disposal Considerations

- **Disposal Methods:**
  - Dispose of in accordance with local, regional, and national regulations. May be recyclable depending on the alloy composition.

## Section 14: Transport Information

- **UN Number:** Not applicable.
- **Proper Shipping Name:** Not regulated for transport.
- **Transport Hazard Class:** Not regulated.
- **Packing Group:** Not applicable.
- **Environmental Hazards:** None.

## Section 15: Regulatory Information

- **OSHA Hazard Communication Standard:** This product is classified as hazardous under OSHA's HCS 2012.
- **CERCLA:** Silicon bronze is not listed as a hazardous substance.
- **SARA Title III:** This product is not subject to reporting requirements under SARA Title III.

## Section 16: Other Information

- **Date of Issue:** June 2025
- **Revision History:** First edition.