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Revision Number 1

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## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

**Product identifier**

**Product Name** Products Containing Bronze

**Details of the supplier of the safety data sheet**

**Supplier** OPW Engineered Systems  
**Address** 2726 Henkle Dr,  
Lebanon, OH 45036,

**Manufacturer** OPW Engineered Systems  
**Address** 2726 Henkle Dr,  
Lebanon, OH 45036,

**Emergency Telephone Number**

**Company Phone Number** 513-932-9114

## 2. HAZARDS IDENTIFICATION

**Classification:**

**Carcinogenicity – Category 2**  
**Reproductive Toxicity – Category 1A**  
**Specific Target Organ Toxicity**  
**Chronic Exposure – Category 1**  
**Aquatic Toxicity –**  
**Short Term (Acute) Category 3**



**Signal Word: Danger**

**Hazard Statement(s)**

**H317: May cause an allergic skin reaction.**  
**H360FD: May damage fertility. May damage the unborn child.**  
**H362: May cause harm to breast-fed children.**  
**H372: Causes damage to organs through prolonged or repeated exposure.**

**Precautionary Statement(s)**

**P201: Obtain special instructions before use.**  
**P280: Wear protective gloves/protective clothing/eye protection/face protection.**  
**P302+P352: IF ON SKIN: Wash with plenty of water.**  
**P333+P313: If skin irritation or rash occurs: Get medical advice/attention.**

**EMERGENCY OVERVIEW**

Inhalation or ingestion of lead may produce both acute and chronic health effects. Possible cancer and reproductive hazard. SCBA and full protective clothing are required for fire emergency response personnel.

**Potential Health Effects:** Inhalation or ingestion of lead may result in headache, nausea, vomiting, abdominal spasms, fatigue, sleep disturbances, weight loss, anemia and leg, arm, and joint pain. Prolonged exposure may also cause central nervous system damage, hypertension, gastrointestinal disturbances, anemia, kidney dysfunction and possible reproductive effects. Pregnant women should be protected from excessive exposure in order to prevent lead crossing the placental barrier and causing infant neurological disorders. Lead and inorganic lead compounds are listed as an *A3 Carcinogen*

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Synonyms ASTM B62 Alloy 836

Chemical Name	CAS-No.	Weight %
Copper	7440-50-8	85%
Lead	7439-92-1	5%
Zinc	7440-66-6	5%
Tin	7440-31-5	5%

**4. FIRST AID MEASURES**

**FIRST AID MEASURES**

**Eye contact (Grinding, Cutting)**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If irritation occurs, get medical advice/attention

**Skin contact (Grinding, Cutting)**

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. If irritation or rash occurs, consult a physician

**Inhalation (Grinding, Cutting, Heating)**

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If respiratory irritation, dizziness, nausea or unconsciousness occurs call poison control

**Ingestion (Grinding, Cutting)**

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. If conscious give large quantities of water

**Most important symptoms and effects, both acute and delayed**

**Notes to Physician**

Treat symptomatically.

**5. FIRE-FIGHTING MEASURES**

**Suitable extinguishing media**

Use extinguishing measures appropriate to local circumstances and surrounding materials.

**Unsuitable extinguishing media**

Do not use water on fires when molten metal is present.

**Explosion Data**

**Sensitivity to Mechanical Impact**

None.

**Sensitivity to Static Discharge**

None.

**Protective equipment and precautions for firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**6. ACCIDENTAL RELEASE MEASURES**

**Personal precautions, protective equipment and emergency procedures**

**Personal Precautions**

Ensure adequate ventilation.

**Environmental precautions**

Avoid release to the environment. Do not allow to enter drains, sewers or watercourses. Spillages or uncontrolled discharges into watercourses must be alerted to the Environment Agency or other appropriate regulatory body

**Methods and material for containment and cleaning up**

**Methods for Cleaning Up**

Ensure suitable personal protection during removal of spillages. Allow product to cool/solidify and pick up as a solid. Transfer to a container for disposal. Recover or recycle if possible. Dispose of this material and its container as hazardous waste

**7. HANDLING AND STORAGE**

**Precautions for safe handling**

**Handling**

Handle in accordance with good industrial hygiene and safety practice.

**Conditions for safe storage, including any incompatibilities**

**Storage**

None

**Incompatible materials**

None

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Control parameters**

Chemical Name	CAS-No.	OSHA PEL
Lead	7439-92-1	0.05 mg/m <sup>3</sup>
Copper	7440-50-9	0.1 mg/m <sup>3</sup> fume 1-dust
Tin	7440-31-5	2 mg/m <sup>3</sup>
Zinc	7440-66-6	5 mg/m <sup>3</sup> fume 1-dust

**Exposure Guidelines**

**Appropriate engineering controls**

**Engineering Measures**

**Individual protection measures, such as personal protective equipment**

**Eye/face Protection**

Safety glasses with side-shields.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Information on basic physical and chemical properties**

<b>Physical State</b>	Solid	<b>Odor</b>	None
<b>Appearance</b>			
<b>Color</b>	Bronze		

<b><u>Property</u></b>	<b><u>Values</u></b>	<b><u>Remarks • Method</u></b>
pH		
Melting point/freezing point		
Boiling point/boiling range		
Flash Point		
Evaporation Rate		
Flammability (solid, gas)		
Flammability Limits in Air		
Upper flammability limits		
Lower Flammability Limit		
Vapor pressure		
Vapor Density		
Specific Gravity	Bronze 8.8,	
Water Solubility	Insoluable	
Solubility in other solvents		
Partition coefficient		
Autoignition Temperature		
Decomposition temperature		
Kinematic viscosity		
Dynamic viscosity		

**10. STABILITY AND REACTIVITY**

<b><u>Reactivity</u></b>	None
<b><u>Chemical stability</u></b>	Material is stable under normal conditions
<b><u>Possibility of Hazardous Reactions</u></b>	
<b><u>Conditions to Avoid</u></b>	N/A
<b><u>Incompatible materials</u></b>	
<b><u>Hazardous Decompositon Products</u></b>	None

**11. TOXICOLOGICAL INFORMATION**

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**Information on likely routes of exposure****Information on toxicological effects****Acute toxicity**

No data available  
Inhalation: No data available  
Dermal: No data available  
No data available

**Skin corrosion/irritation**

No data available

**Serious eye damage/eye irritation**

No data available

**Respiratory or skin sensitisation**

No data available

**Germ cell mutagenicity**

Rat Cytogenetic analysis

**Carcinogenicity**

Limited evidence of carcinogenicity in animal studies  
IARC: 2B - Group 2B: Possibly carcinogenic to humans (Lead)  
NTP: RAHC - Reasonably anticipated to be a human carcinogen (Lead)  
RAHC - Reasonably anticipated to be a human carcinogen.  
OSHA: 1910.1025 (Lead)  
OSHA specifically regulated carcinogen (Lead)

**Reproductive toxicity**

Reproductive toxicity - Rat - Inhalation  
Effects on Newborn: Biochemical and metabolic.  
Reproductive toxicity - Rat - Oral  
Effects on Newborn: Behavioral.  
Reproductive toxicity - Mouse - Oral  
Effects on Fertility: Female fertility index (e.g., # females pregnant per females mated ). Effects on Fertility: Preimplantation mortality  
May damage fertility. May damage the unborn child.  
Developmental Toxicity - Rat - Inhalation  
Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Specific Developmental Abnormalities: Blood and lymphatic system (including spleen and marrow).  
Developmental Toxicity - Rat - Oral  
Specific Developmental Abnormalities: Blood and lymphatic system (including spleen and marrow). Effects on Newborn: Growth statistics (e.g., reduced weight gain).  
Developmental Toxicity - Rat - Oral  
Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Effects on Embryo or Fetus: Fetal death.  
Developmental Toxicity - Mouse - Oral  
Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Effects on Embryo or Fetus: Fetal death.

**Specific target organ toxicity - single exposure**

No data available

**Specific target organ toxicity - repeated exposure**

Causes damage to organs through prolonged or repeated exposure.

**Aspiration hazard**

No data available

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**12. ECOLOGICAL INFORMATION**

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Ecotoxicity

While lead metal is relatively insoluble, its processing or extended exposure in aquatic and terrestrial environments may lead to the release of lead compounds in more bioavailable forms. While lead compounds are not particularly mobile in the aquatic environment, they can be toxic to aquatic organisms, especially fish, at low concentrations. Water hardness, pH and dissolved organic carbon content are three major factors which regulate the degree of lead toxicity. Lead in soil is generally neither very mobile nor bioavailable, as it can become strongly sorbed onto soil particles, increasingly so over time, to a degree related to physical properties of the soil. Lead bioaccumulates in plants and animals in both aquatic and terrestrial environments

**Persistence and degradability** Not available

**13. DISPOSAL CONSIDERATIONS**

**Waste treatment methods**

**Waste Disposal Method** Please consult your local or regional authorities

**Contaminated Packaging** N/A

**14. TRANSPORT INFORMATION**

<u>DOT</u>	Not regulated
<u>TDG</u>	Not regulated
<u>MEX</u>	Not regulated
<u>ICAO</u>	Not regulated
<u>IATA</u>	Not regulated
<u>IMDG / IMO</u>	Not regulated
<u>RID</u>	Not regulated
<u>ADR</u>	Not regulated
<u>ADN</u>	Not regulated

**15. REGULATORY INFORMATION**

The following components are subject to reporting levels established by SARA Title III, Section 313:

Lead  
CAS-No.  
7439-92-1

**SARA 311/312 Hazards**  
Acute Health Hazard, Chronic Health Hazard

**Massachusetts Right To Know Components**  
Lead  
CAS-No.  
7439-92-1

**Pennsylvania Right To Know Components**  
Lead  
CAS-No.  
7439-92-1  
Lead  
CAS-No.  
7439-92-1

**New Jersey Right To Know Components**  
Lead  
CAS-No.

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7439-92-1

**California Prop. 65 Components**

WARNING! This product contains a chemical known to the State of California to cause cancer.

Lead

CAS-No.

7439-92-1

**16. OTHER INFORMATION**

**Issuing Date**

11 September 2018

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**End of MSDS**