Safety Data Sheet

Section 1: Identification

Product identifier
Product Name • Zinc Strip – Alloy Series 190, 310, 500, 600, 700, 800
Synonyms • Strip Zinc Material; Zinc Coil

Relevant identified uses of the substance or mixture and uses advised against
Recommended use • Consult manufacturer for the recommended product use

Details of the supplier of the safety data sheet
Manufacturer • Jarden Zinc Products, LLC
P.O. Box 1890
Greeneville, TN 37744-1890
United States
Jardenzinc.com
jwinters@jardenzinc

Telephone (General) • 423-639-8111

Emergency telephone number
Manufacturer • 800-424-9300 - CHEMTREC

Section 2: Hazard Identification

United States (US)
According to: OSHA 29 CFR 1910.1200 HCS

Classification of the substance or mixture
OSHA HCS 2012 • Reproductive Toxicity 1B
Combustible Dust
Hazards Not Otherwise Classified - Health Hazards - Metal fume fever

Label elements
OSHA HCS 2012

DANGER

Hazard statements • May damage fertility or the unborn child.
May form combustible dust concentrations in air.

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/face protection.

Response • IF exposed or concerned: Get medical advice/attention.

Storage/Disposal • Store locked up.
Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

**Other hazards**

**OSHA HCS 2012**


### Section 3 - Composition/Information on Ingredients

#### Substances

- Material does not meet the criteria of a substance.

#### Mixtures

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Requested Chemical Information</th>
<th>%</th>
<th>LD50/LC50</th>
<th>Classifications According to Regulation/Directive</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zinc (Pyrophoric)</td>
<td>CAS:7440-66-6</td>
<td>&gt; 99%</td>
<td>NDA</td>
<td>OSHA HCS 2012: Hazard Not Otherwise Classified - Health Hazard - Metal fume fever, Comb. Dust</td>
<td>NDA</td>
</tr>
<tr>
<td>Titanium, massive</td>
<td>CAS:7440-32-6</td>
<td>0% TO 0.95%</td>
<td>NDA</td>
<td>OSHA HCS 2012: Not Classified</td>
<td>NDA</td>
</tr>
<tr>
<td>Manganese (powder)</td>
<td>CAS:7439-96-5</td>
<td>0% TO 0.95%</td>
<td>Ingestion/Oral-Rat LD50 • 9 g/kg</td>
<td>OSHA HCS 2012: Eye Irrit. 2</td>
<td>NDA</td>
</tr>
<tr>
<td>Copper</td>
<td>CAS:7440-50-8</td>
<td>0% TO 0.95%</td>
<td>NDA</td>
<td>OSHA HCS 2012: Comb. Dust; Repr. 1B (Orl); STOT SE 1 (Kidney, Orl); STOT SE 3: Resp. Irrit.; STOT RE 2 (Liver, Orl)</td>
<td>NDA</td>
</tr>
<tr>
<td>Lead, powder</td>
<td>CAS:7439-92-1</td>
<td>0% TO 0.03%</td>
<td>NDA</td>
<td>OSHA HCS 2012: Exposure Limits</td>
<td>NDA</td>
</tr>
<tr>
<td>Cadmium (pyrophoric)</td>
<td>CAS:7440-43-9</td>
<td>0% TO 0.02%</td>
<td>Ingestion/Oral-Rat LD50 • 2330 mg/kg</td>
<td>OSHA HCS 2012: Exposure Limits</td>
<td>NDA</td>
</tr>
<tr>
<td>Aluminum powder, stabilized</td>
<td>CAS:7429-90-5</td>
<td>0% TO 0.02%</td>
<td>NDA</td>
<td>OSHA HCS 2012: Exposure Limits</td>
<td>NDA</td>
</tr>
</tbody>
</table>

### Section 4: First-Aid Measures

#### Description of first aid measures

**Inhalation**

- IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Give artificial respiration if victim is not breathing. If signs/symptoms continue, get medical attention.

**Skin**

- In case of contact with substance, immediately flush skin with running water for at least 20 minutes. If irritation develops and persists, get medical attention.

**Eye**

- In case of contact with substance, immediately flush eyes with running water for at least 20 minutes. If eye irritation persists: Get medical advice/attention.

**Ingestion**

- Do NOT induce vomiting. Obtain medical attention immediately if ingested.

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

- Refer to Section 11 - Toxicological Information.

#### Indication of any immediate medical attention and special treatment needed

- All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials...
other than this product may have occurred.

**Section 5: Fire-Fighting Measures**

**Extinguishing media**

**Suitable Extinguishing Media**
- LARGE FIRE: Water spray, fog or regular foam.
- SMALL FIRES: Dry chemical, CO2, water spray or regular foam.

**Unsuitable Extinguishing Media**
- No data available

**Special hazards arising from the substance or mixture**

**Unusual Fire and Explosion Hazards**
- Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

**Hazardous Combustion Products**
- Metal Oxide.

**Advice for firefighters**
- Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters’ protective clothing will only provide limited protection.

**Section 6 - Accidental Release Measures**

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

**Personal Precautions**
- Ventilate enclosed areas. Do not walk through spilled material. Use appropriate Personal Protective Equipment (PPE)

**Emergency Procedures**
- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep unauthorized personnel away.

**Environmental precautions**
- Avoid run off to waterways and sewers.

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

**Containment/Clean-up Measures**
- Avoid generating dust.
- Use clean nonsparking tools to collect material.
- Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).

**Section 7 - Handling and Storage**

**Precautions for safe handling**

**Handling**
- Use only with adequate ventilation. Keep away from heat, sparks, and flame. Minimize dust generation and accumulation. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres. Avoid breathing dust. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco.

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

**Storage**
- Keep container closed. Store in a cool, dry, well-ventilated place. Keep dry. Melting wet zinc may contribute to explosion hazard.

**Section 8 - Exposure Controls/Personal Protection**
### Control parameters

<table>
<thead>
<tr>
<th>Exposure Controls</th>
<th>Exposure Limits/Guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Result</td>
</tr>
<tr>
<td><strong>Cadmium (pyrophoric)</strong> (7440-43-9)</td>
<td>Ceilings</td>
</tr>
<tr>
<td></td>
<td>TWAs</td>
</tr>
<tr>
<td><strong>Manganese (powder)</strong></td>
<td>Ceilings</td>
</tr>
<tr>
<td></td>
<td>TWAs</td>
</tr>
<tr>
<td></td>
<td>STELs</td>
</tr>
<tr>
<td><strong>Copper</strong> (7440-50-8)</td>
<td>TWAs</td>
</tr>
<tr>
<td><strong>Lead, powder</strong> (7439-92-1)</td>
<td>TWAs</td>
</tr>
<tr>
<td><strong>Aluminum powder, stabilized</strong> (7429-90-5)</td>
<td>TWAs</td>
</tr>
</tbody>
</table>

### Exposure controls

**Engineering Measures/Controls**

- Ensure that dust handling systems (such as exhaust ducts, dust collectors, vessels and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment). It is recommended that dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen-deficient environment. Use only appropriately classified electrical equipment.

**Personal Protective Equipment**

**Respiratory**

- For limited exposure use an N95 dust mask. For prolonged exposure use an air-purifying respirator with high efficiency particulate air (HEPA) filters. Follow the OSHA respirator regulations found in 29 CFR 1910.134. Use a NIOSH/MSHA approved respirator if exposure limits are exceeded or symptoms are experienced.

**Eye/Face**

- Wear safety goggles.

**Skin/Body**

- Wear appropriate gloves. Wear long sleeves and/or protective coveralls.

**Environmental Exposure Controls**

- Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways. Follow best practice for site management and disposal of waste.

### Key to abbreviations

- ACGIH = American Conference of Governmental Industrial Hygiene
- NIOSH = National Institute of Occupational Safety and Health
- STEL = Short Term Exposure Limits are based on 15-minute exposures
- TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures
### Section 9 - Physical and Chemical Properties

#### Information on Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Material Description</th>
<th>Solid</th>
<th>Appearance/Description</th>
<th>An odorless, bluish-white metal.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>Bluish-white</td>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Odor Threshold</td>
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<td></td>
<td></td>
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</table>

#### General Properties

<table>
<thead>
<tr>
<th>Boiling Point</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Melting Point/Freezing Point</td>
<td>420 °F (215.556 °C)</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
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<tr>
<td>pH</td>
<td>No data available</td>
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<tr>
<td>Specific Gravity/Relative Density</td>
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</tr>
<tr>
<td>Water Solubility</td>
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<tr>
<td>Viscosity</td>
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</tr>
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</table>

#### Volatility

<table>
<thead>
<tr>
<th>Vapor Pressure</th>
<th>1 mmHg (torr) @ 487 °F (252.7778 °C)</th>
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</thead>
<tbody>
<tr>
<td>Vapor Density</td>
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</tr>
<tr>
<td>Evaporation Rate</td>
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</tr>
</tbody>
</table>

#### Flammability

<table>
<thead>
<tr>
<th>Flash Point</th>
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</tr>
</thead>
<tbody>
<tr>
<td>LEL</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
</tbody>
</table>

#### Environmental

| Octanol/Water Partition coefficient | No data available |

### Section 10: Stability and Reactivity

#### Reactivity

- No dangerous reaction known under conditions of normal use.

#### Chemical stability

- Stable under normal temperatures and pressures.

#### Possibility of hazardous reactions

- Hazardous polymerization will not occur.

#### Conditions to avoid

- Avoid generating dust. Keep away from heat, sparks and flame.

#### Incompatible materials

- Acids and alkalis react to evolve hydrogen gas.

#### Hazardous decomposition products

- Oxides/fumes from metals.

### Section 11 - Toxicological Information

#### Information on toxicological effects

Preparation Date: 14/April/2016
Revision Date: 14/April/2016
<table>
<thead>
<tr>
<th>Components</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zinc (Pyrophoric (&gt; 99%)) 7440-66-6</td>
</tr>
<tr>
<td>Acute Toxicity: Ingestion/Oral-Mouse TDL0 • 108 mg/kg; Behavioral: Tremor; Gastrointestinal: Hypermotility, diarrhea; Gastrointestinal: Nausea or vomiting; Ingestion/Oral-Mouse TDL0 • 158 mg/kg; Kidney, Ureter, and Bladder: Changes in tubules (including acute renal failure, acute tubular necrosis); Ingestion/Oral-Mouse TDL0 • 232 mg/kg; Kidney, Ureter, and Bladder: Changes primarily in glomeruli; Blood: Changes in spleen; Blood: Changes in serum composition (e.g., TP, bilirubin cholesterol); Multi-dose Toxicity: Ingestion/Oral-Rabbit TDL0 • 3 g/kg 60 Day(s)-Continuous; Cardiac: Other changes; Liver: Hepatitis (hepatocellular necrosis), zonal; Related to Chronic Data: Death in the Other Multiple Dose data type field; Reproductive: Ingestion/Oral-Rat TDL0 • 152 mg/kg (22W pre); Reproductive Effects: Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus); Reproductive Effects: Specific Developmental Abnormalities: Central nervous system: Ingestion/Oral-Rat TDL0 • 1210 µg/kg (35W pre); Reproductive Effects: Effects on Fertility: Pre-implantation mortality; Reproductive Effects: Effects on Fertility: Post-implantation mortality; Ingestion/Oral-Rat TDL0 • 1520 µg/kg (22W pre); Reproductive Effects: Specific Developmental Abnormalities: Musculoskeletal system; Tumorigen / Carcinogen: Ingestion/Oral-Mouse TDL0 • 10.08 mg/kg 12 Week(s)-Continuous; Tumorigen: Carcinogenic by RTECS criteria; Lungs, Thorax, or Respiration: Other changes.</td>
</tr>
<tr>
<td>Copper (0% TO 0.95%) 7440-50-8</td>
</tr>
<tr>
<td>Reproductive: Ingestion/Oral-Rat TDL0 • 158 mg/kg (multigeneration); Reproductive Effects: Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus); Reproductive Effects: Effects on Embryo or Fetus: Fetal death.</td>
</tr>
<tr>
<td>Titanium, massive (0% TO 0.95%) 7440-32-6</td>
</tr>
<tr>
<td>Reproductive: Ingestion/Oral-Rat TDL0 • 158 mg/kg (43D male); Reproductive Effects: Paternal Effects: Spermatogenesis; Ingestion/Oral-Rat TDL0 • 50 mg/kg (20D post); Reproductive Effects: Specific Developmental Abnormalities: Central nervous system; Reproductive Effects: Effects on Newborn: Biochemical and metabolic; Reproductive Effects: Effects on Newborn: Behavioral.</td>
</tr>
<tr>
<td>Manganese (powder) (0% TO 0.95%) 7439-96-5</td>
</tr>
<tr>
<td>Acute Toxicity: Ingestion/Oral-Rat LD50 • 9 g/kg; Inhalation-Man TCLo • 2300 µg/m³; Brain and Coverings: Other degenerative changes: Behavioral: Changes in motor activity (specific assay); Behavioral: Muscle weakness; Irritation: Eye-Rabbit • 500 mg 24 Hour(s) • Mild irritation; Skin-Rabbit • 500 mg 24 Hour(s) • Mild irritation; Multi-dose Toxicity: Inhalation-Human TCLo • 0.5 mg/m³ 39 Week(s)-Intermittent; Brain and Coverings: Other degenerative changes: Peripheral Nerve and Sensation: Sensory change involving peripheral nerve; Behavioral: Irritability; Inhalation-Mouse TCLo • 0.7 mg/m³ 24 Hour(s) 22 Week(s)-Continuous; Lungs, Thorax, or Respiration: Fibrosis (Interstitial); Immunological Including Allergic: Decrease in cellular immune response: Inhalation-Rat TCLo • 0.3 mg/m³ 5 Hour(s) 26 Week(s)-Intermittent; Lungs, Thorax, or Respiration: Fibrosis (Interstitial); Immunological Including Allergic: Decrease in cellular immune response; Reproductive: Ingestion/Oral-Mouse TDL0 • 322.5 mg/kg (43D male); Reproductive Effects: Paternal Effects: Spermatogenesis; Ingestion/Oral-Rat TDL0 • 50 mg/kg (20D post); Reproductive Effects: Specific Developmental Abnormalities: Central nervous system; Reproductive Effects: Effects on Newborn: Biochemical and metabolic; Reproductive Effects: Effects on Newborn: Behavioral.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GHS Properties</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity</td>
<td>OSHA HCS 2012 • No data available</td>
</tr>
<tr>
<td>Skin corrosion/Irritation</td>
<td>OSHA HCS 2012 • No data available</td>
</tr>
<tr>
<td>Serious eye damage/Irritation</td>
<td>OSHA HCS 2012 • No data available</td>
</tr>
<tr>
<td>Skin sensitization</td>
<td>OSHA HCS 2012 • No data available</td>
</tr>
<tr>
<td>Respiratory sensitization</td>
<td>OSHA HCS 2012 • No data available</td>
</tr>
<tr>
<td>Aspiration Hazard</td>
<td>OSHA HCS 2012 • No data available</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>OSHA HCS 2012 • No data available</td>
</tr>
<tr>
<td>Germ Cell Mutagenicity</td>
<td>OSHA HCS 2012 • No data available</td>
</tr>
<tr>
<td>Toxicity for Reproduction</td>
<td>OSHA HCS 2012 • Toxic to Reproduction 1B</td>
</tr>
<tr>
<td>STOT-SE</td>
<td>OSHA HCS 2012 • No data available</td>
</tr>
<tr>
<td>STOT-RE</td>
<td>OSHA HCS 2012 • No data available</td>
</tr>
</tbody>
</table>
Potential Health Effects

Inhalation

Acute (Immediate) • Exposure to dust may cause irritation. Processes such as cutting, grinding, crushing, or impact may result in generation of excessive amounts of airborne dusts in the workplace. Nuisance dust may affect the lungs but reactions are typically reversible.

Chronic (Delayed) • No data available

Skin

Acute (Immediate) • Exposure to dust may cause mechanical irritation.

Chronic (Delayed) • No data available

Eye

Acute (Immediate) • Exposure to dust may cause mechanical irritation. Excessive concentrations of nuisance dust in the workplace may reduce visibility and may cause unpleasant deposits in eyes.

Chronic (Delayed) • No data available

Ingestion

Acute (Immediate) • Excessive concentrations of nuisance dust in the workplace may cause mechanical irritation to mucous membranes.

Chronic (Delayed) • No data available

Carcinogenic Effects

This material contains a component that may cause cancer, however based on regulatory criteria this material is not classified as a carcinogen.

<table>
<thead>
<tr>
<th>Carcinogenic Effects</th>
<th>CAS</th>
<th>OSHA</th>
<th>IARC</th>
<th>NTP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cadmium (pyrophoric)</td>
<td>7440-43-9</td>
<td>Specifically Regulated Carcinogen</td>
<td>Group 1-Carcinogenic</td>
<td>Known Human Carcinogen</td>
</tr>
<tr>
<td>Lead, powder</td>
<td>7439-92-1</td>
<td>Not Listed</td>
<td>Group 2A-Probable Carcinogen</td>
<td>Reasonably Anticipated to be Human Carcinogen</td>
</tr>
</tbody>
</table>

Reproductive Effects • Repeated and prolonged exposure may cause reproductive effects.

Other information

• Heating above the melting point releases metallic oxides which may cause metal fume fever which is an influenza like illness. Symptoms include headache, metallic taste in the mouth, cough, thirst, throat irritation, shortness of breath, fever, sweating and pain in the limbs. This illness is not permanent and recovery usually occurs within 24-48 hours after onset.

Key to abbreviations

LD = Lethal Dose
TC = Toxic Concentration
TD = Toxic Dose

Section 12 - Ecological Information

Toxicity

• Non-mandatory section - information about this substance not compiled for this reason.

Persistence and degradability

• Non-mandatory section - information about this substance not compiled for this reason.

Bioaccumulative potential

• Non-mandatory section - information about this substance not compiled for this
Mobility in Soil

• Non-mandatory section - information about this substance not compiled for this reason.

Other adverse effects

• Non-mandatory section - information about this substance not compiled for this reason.

Section 13 - Disposal Considerations

Waste treatment methods

Product waste

• Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Packaging waste

• Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transport Information

<table>
<thead>
<tr>
<th>UN number</th>
<th>UN proper shipping name</th>
<th>Transport hazard class(es)</th>
<th>Packing group</th>
<th>Environmental hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOT</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
<td>NDA</td>
</tr>
</tbody>
</table>

Special precautions for user

• None specified.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

• No data available

Section 15 - Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications

• Chronic, Pressure(Sudden Release of)

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS</th>
<th>TSCA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum powder, stabilized</td>
<td>7429-90-5</td>
<td>Yes</td>
</tr>
<tr>
<td>Cadmium (pyrophoric)</td>
<td>7440-43-9</td>
<td>Yes</td>
</tr>
<tr>
<td>Copper</td>
<td>7440-50-8</td>
<td>Yes</td>
</tr>
<tr>
<td>Lead, powder</td>
<td>7439-92-1</td>
<td>Yes</td>
</tr>
<tr>
<td>Manganese (powder)</td>
<td>7439-96-5</td>
<td>Yes</td>
</tr>
<tr>
<td>Titanium, massive</td>
<td>7440-32-6</td>
<td>Yes</td>
</tr>
<tr>
<td>Zinc (Pyrophoric)</td>
<td>7440-66-6</td>
<td>Yes</td>
</tr>
</tbody>
</table>

United States

Labor

U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals

• Copper 7440-50-8 Not Listed
• Cadmium (pyrophoric) 7440-43-9 Not Listed
<table>
<thead>
<tr>
<th>Chemical</th>
<th>CAS Number</th>
<th>Regulations</th>
</tr>
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<tbody>
<tr>
<td>Lead, powder</td>
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<td>Not Listed</td>
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<tr>
<td>Manganese (powder)</td>
<td>7439-96-5</td>
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<tr>
<td>Aluminum powder, stabilized</td>
<td>7429-90-5</td>
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</tr>
<tr>
<td>Titanium, massive</td>
<td>7440-32-6</td>
<td>Not Listed</td>
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<tr>
<td>Zinc (Pyrophoric)</td>
<td>7440-66-6</td>
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**U.S. - OSHA - Specifically Regulated Chemicals**

<table>
<thead>
<tr>
<th>Chemical</th>
<th>CAS Number</th>
<th>Regulations</th>
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<tbody>
<tr>
<td>Copper</td>
<td>7440-50-8</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Cadmium (pyrophoric)</td>
<td>7440-43-9</td>
<td>5 µg/m³ TWA (See 29 CFR 1910.1027); 2.5 µg/m³ Action Level</td>
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<td>Lead, powder</td>
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<td>30 µg/m³ Action Level (See 29 CFR 1910.1025); 50 µg/m³ TWA (See 29 CFR 1910.1025)</td>
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<td>Aluminum powder, stabilized</td>
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<td>Not Listed</td>
</tr>
<tr>
<td>Titanium, massive</td>
<td>7440-32-6</td>
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<tr>
<td>Zinc (Pyrophoric)</td>
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</table>

**Environment**

**U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants**

<table>
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<th>Chemical</th>
<th>CAS Number</th>
<th>Regulations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper</td>
<td>7440-50-8</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Cadmium (pyrophoric)</td>
<td>7440-43-9</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Lead, powder</td>
<td>7439-92-1</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Manganese (powder)</td>
<td>7439-96-5</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Aluminum powder, stabilized</td>
<td>7429-90-5</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Titanium, massive</td>
<td>7440-32-6</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Zinc (Pyrophoric)</td>
<td>7440-66-6</td>
<td>Not Listed</td>
</tr>
</tbody>
</table>

**U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities**

<table>
<thead>
<tr>
<th>Chemical</th>
<th>CAS Number</th>
<th>Regulations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper</td>
<td>7440-50-8</td>
<td>5000 lb final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is &gt;100 µm); 2270 kg final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is &gt;100 µm)</td>
</tr>
<tr>
<td>Cadmium (pyrophoric)</td>
<td>7440-43-9</td>
<td>10 lb final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is &gt;100 µm); 4.54 kg final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is &gt;100 µm)</td>
</tr>
</tbody>
</table>

Preparation Date: 14/April/2016
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Format: GHS Language: English (US)
OSHA HCS 2012

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- **Lead, powder** 7439-92-1 µm; 4.54 kg final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is >100 µm)
- **Manganese (powder)** 7439-96-5 Not Listed
- **Aluminum powder, stabilized** 7429-90-5 Not Listed
- **Titanium, massive** 7440-32-6 Not Listed
- **Zinc (Pyrophoric)** 7440-66-6

### U.S. - CERCLA/SARA - Radionuclides and Their Reportable Quantities
- **Copper** 7440-50-8 Not Listed
- **Cadmium (pyrophoric)** 7440-43-9 Not Listed
- **Lead, powder** 7439-92-1 Not Listed
- **Manganese (powder)** 7439-96-5 Not Listed
- **Aluminum powder, stabilized** 7429-90-5 Not Listed
- **Titanium, massive** 7440-32-6 Not Listed
- **Zinc (Pyrophoric)** 7440-66-6 Not Listed

### U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs
- **Copper** 7440-50-8 Not Listed
- **Cadmium (pyrophoric)** 7440-43-9 Not Listed
- **Lead, powder** 7439-92-1 Not Listed
- **Manganese (powder)** 7439-96-5 Not Listed
- **Aluminum powder, stabilized** 7429-90-5 Not Listed
- **Titanium, massive** 7440-32-6 Not Listed
- **Zinc (Pyrophoric)** 7440-66-6 Not Listed

### U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs
- **Copper** 7440-50-8 Not Listed
- **Cadmium (pyrophoric)** 7440-43-9 Not Listed
- **Lead, powder** 7439-92-1 Not Listed
- **Manganese (powder)** 7439-96-5 Not Listed
- **Aluminum powder, stabilized** 7429-90-5 Not Listed
- **Titanium, massive** 7440-32-6 Not Listed
- **Zinc (Pyrophoric)** 7440-66-6 Not Listed

### U.S. - CERCLA/SARA - Section 313 - Emission Reporting
- **Copper** 7440-50-8 1.0 % de minimis concentration
- **Cadmium (pyrophoric)** 7440-43-9 0.1 % de minimis concentration
- **Lead, powder** 7439-92-1 0.1 % Supplier notification limit; 0.1 % de minimis concentration (when contained in stainless steel, brass, or bronze)
<table>
<thead>
<tr>
<th>Chemical</th>
<th>CAS Number</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manganese (powder)</td>
<td>7439-96-5</td>
<td>1.0 % de minimis concentration</td>
</tr>
<tr>
<td>Aluminum powder, stabilized</td>
<td>7429-90-5</td>
<td>1.0 % de minimis concentration (dust or fume only)</td>
</tr>
<tr>
<td>Titanium, massive</td>
<td>7440-32-6</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Zinc (Pyrophoric)</td>
<td>7440-66-6</td>
<td>1.0 % de minimis concentration (dust or fume only)</td>
</tr>
</tbody>
</table>

**U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing**

- Copper
- Cadmium (pyrophoric)
- Lead, powder
- Manganese (powder)
- Aluminum powder, stabilized
- Titanium, massive
- Zinc (Pyrophoric)

**United States - California**

**Environment**

**U.S. - California - Proposition 65 - Carcinogens List**

- Copper
- Cadmium (pyrophoric)
- Lead, powder
- Manganese (powder)
- Aluminum powder, stabilized
- Titanium, massive
- Zinc (Pyrophoric)

**U.S. - California - Proposition 65 - Developmental Toxicity**

- Copper
- Cadmium (pyrophoric)
- Lead, powder
- Manganese (powder)
- Aluminum powder, stabilized
- Titanium, massive
- Zinc (Pyrophoric)

**U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)**

- Copper
- Cadmium (pyrophoric)
- Lead, powder
- Manganese (powder)
- Aluminum powder, stabilized
- Titanium, massive
- Zinc (Pyrophoric)

**U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)**

- Copper
### Zinc Strip – Alloy Series 190, 310, 500, 600, 700, 800

**Other Information**

- WARNING: This product contains a chemical known to the State of California to cause cancer, birth defects, or other reproductive harm.

### Section 16 - Other Information

**Revision Date**

- 14/April/2016

**Preparation Date**

- 14/April/2016

**Disclaimer/Statement of Liability**

- The information herein is given in good faith but no warranty, expressed or implied, is made.

<table>
<thead>
<tr>
<th>Chemical</th>
<th>CAS Number</th>
<th>NSRL (Inhalation)</th>
<th>NSRL (Oral)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cadmium (pyrophoric)</td>
<td>7440-43-9</td>
<td>0.05 µg/day</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Lead, powder</td>
<td>7439-92-1</td>
<td>15 µg/day</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Manganese (powder)</td>
<td>7439-96-5</td>
<td>Not Listed</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Aluminum powder, stabilized</td>
<td>7429-90-5</td>
<td>Not Listed</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Titanium, massive</td>
<td>7440-32-6</td>
<td>Not Listed</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Zinc (Pyrophoric)</td>
<td>7440-66-6</td>
<td>Not Listed</td>
<td>Not Listed</td>
</tr>
</tbody>
</table>

**U.S. - California - Proposition 65 - Reproductive Toxicity - Female**

- Copper | 7440-50-8 | Not Listed |
- Cadmium (pyrophoric) | 7440-43-9 | Not Listed |
- Lead, powder | 7439-92-1 | female reproductive toxicity, 2/27/87 |
- Manganese (powder) | 7439-96-5 | Not Listed |
- Aluminum powder, stabilized | 7429-90-5 | Not Listed |
- Titanium, massive | 7440-32-6 | Not Listed |
- Zinc (Pyrophoric) | 7440-66-6 | Not Listed |

**U.S. - California - Proposition 65 - Reproductive Toxicity - Male**

- Copper | 7440-50-8 | Not Listed |
- Cadmium (pyrophoric) | 7440-43-9 | male reproductive toxicity, 5/1/97 |
- Lead, powder | 7439-92-1 | male reproductive toxicity, 2/27/87 |
- Manganese (powder) | 7439-96-5 | Not Listed |
- Aluminum powder, stabilized | 7429-90-5 | Not Listed |
- Titanium, massive | 7440-32-6 | Not Listed |
- Zinc (Pyrophoric) | 7440-66-6 | Not Listed |