SECTION 1: Identification

1.1. Identification
- Product form: Mixture
- Trade name: SILVALOY® 502
- Product code: A00000006

1.2. Recommended use and restrictions on use
- Recommended use: Alloys for brazing/soldering and other metallurgical processes

1.3. Supplier
Lucas-Milhaupt, Inc.,
5656 South Pennsylvania Ave.
Cudahy, WI 53110 - USA
T (414)-769-6000
LM_SDSinfo@lucasmilhaupt.com - www.Lucasmilhaupt.com

1.4. Emergency telephone number
- Emergency number: CHEMTREC within the USA and Canada: 1-800-424-9300
CHEMTREC outside the USA and Canada +1 701-741-5970

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture
GHS-US classification
- Not classified

2.2. GHS Label elements, including precautionary statements
GHS-US labelling
- No labelling applicable

2.3. Other hazards which do not result in classification
- No additional information available

2.4. Unknown acute toxicity (GHS US)
- Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substances
- Not applicable

3.2. Mixtures

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper</td>
<td>(CAS-No.) 7440-50-8</td>
<td>48 - 52</td>
</tr>
<tr>
<td>Silver</td>
<td>(CAS-No.) 7440-22-4</td>
<td>49 - 51</td>
</tr>
</tbody>
</table>

Full text of hazard classes and H-statements: see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures
- First-aid measures general: Call a poison center or a doctor if you feel unwell.
- First-aid measures after inhalation: Remove person to fresh air and keep comfortable for breathing.
- First-aid measures after skin contact: Wash skin with plenty of water.
- First-aid measures after eye contact: Rinse eyes with water as a precaution.
- First-aid measures after ingestion: Call a poison center or a doctor if you feel unwell. Rinse mouth.

4.2. Most important symptoms and effects (acute and delayed)
- No additional information available

4.3. Immediate medical attention and special treatment, if necessary
- Treat symptomatically.
SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Dry powder. Water spray. Foam.
Unsuitable extinguishing media: Water.

5.2. Specific hazards arising from the chemical

Reactivity: The product is non-reactive under normal conditions of use, storage and transport.

5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures: Ventilate spillage area.

6.1.2. For emergency responders

Protective equipment: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: “Exposure controls/personal protection”.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment: Collect spillage.
Methods for cleaning up: Mechanically recover the product.
Other information: Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling: Ensure good ventilation of the work station. Wear personal protective equipment.
Hygiene measures: Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Store locked up. Store in a well-ventilated place. Keep cool.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Silver (7440-22-4)

<table>
<thead>
<tr>
<th>Standard</th>
<th>Value (mg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH TWA</td>
<td>0.1 (dust and fume)</td>
</tr>
<tr>
<td>OSHA PEL (TWA)</td>
<td>0.01</td>
</tr>
<tr>
<td>US IDLH</td>
<td>10 (dust)</td>
</tr>
<tr>
<td>NIOSH REL (TWA)</td>
<td>0.01 (dust)</td>
</tr>
</tbody>
</table>

Copper (7440-50-8)

<table>
<thead>
<tr>
<th>Standard</th>
<th>Value (mg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH TWA</td>
<td>0.2 (fume)</td>
</tr>
<tr>
<td>OSHA PEL (TWA)</td>
<td>0.1 (fume)</td>
</tr>
<tr>
<td>US IDLH</td>
<td>100 (dust, fume and mist)</td>
</tr>
<tr>
<td>NIOSH REL (TWA)</td>
<td>1 (dust and mist)</td>
</tr>
</tbody>
</table>

04/12/2018 EN (English) 2/6
Appropriate engineering controls
- Ensure good ventilation of the work station.
- Avoid release to the environment.

Individual protection measures/Personal protective equipment
Hand protection:
- Protective gloves
Eye protection:
- Safety glasses
Skin and body protection:
- Wear suitable protective clothing
Respiratory protection:
- In case of insufficient ventilation, wear suitable respiratory equipment

Physical and chemical properties
- Physical state: Solid
- Appearance: White to light yellow metallic luster, various forms.
- Colour: No data available
- Odour: No data available
- Odour threshold: No data available
- pH: No data available
- Melting point: 1607 °F
- Freezing point: Not applicable
- Boiling point: No data available
- Flash point: Not applicable
- Relative evaporation rate (butylacetate=1): No data available
- Flammability (solid, gas): Non flammable
- Vapour pressure: No data available
- Relative vapour density at 20 °C: No data available
- Relative density: Not applicable
- Solubility: No data available
- Log Pow: No data available
- Auto-ignition temperature: Not applicable
- Decomposition temperature: No data available
- Viscosity, kinematic: Not applicable
- Viscosity, dynamic: No data available
- Explosive limits: Not applicable
- Explosive properties: No data available
- Oxidising properties: No data available

Stability and reactivity
Reactivity
The product is non-reactive under normal conditions of use, storage and transport.

Chemical stability
Stable under normal conditions.

Possibility of hazardous reactions
No dangerous reactions known under normal conditions of use.
10.4. **Conditions to avoid**

None under recommended storage and handling conditions (see section 7).

10.5. **Incompatible materials**


10.6. **Hazardous decomposition products**

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

### SECTION 11: Toxicological information

11.1. **Information on toxicological effects**

<table>
<thead>
<tr>
<th>Acute toxicity</th>
<th>Not classified</th>
</tr>
</thead>
</table>

**Silver (7440-22-4)**

<table>
<thead>
<tr>
<th>Test</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
<td>&gt; 5000 mg/kg</td>
</tr>
<tr>
<td>LD50 dermal rat</td>
<td>&gt; 2000 mg/kg</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation: Not classified

Serious eye damage/irritation: Not classified

Respiratory or skin sensitisation: Not classified

Germ cell mutagenicity: Not classified

Carcinogenicity: Not classified

Reproductive toxicity: Not classified

Specific target organ toxicity (single exposure): Not classified

Specific target organ toxicity (repeated exposure): Not classified

Aspiration hazard: Not classified

### SECTION 12: Ecological information

12.1. **Toxicity**

Ecology - general: Very toxic to aquatic life.

**Silver (7440-22-4)**

<table>
<thead>
<tr>
<th>Test</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 fish 1</td>
<td>0.00155 - 0.00293 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])</td>
</tr>
<tr>
<td>EC50 Daphnia 1</td>
<td>0.00024 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])</td>
</tr>
<tr>
<td>LC50 fish 2</td>
<td>0.0062 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through])</td>
</tr>
</tbody>
</table>

**Copper (7440-50-8)**

<table>
<thead>
<tr>
<th>Test</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 fish 1</td>
<td>0.0068 - 0.0156 mg/l (Exposure time: 96 h - Species: Pimephales promelas)</td>
</tr>
<tr>
<td>EC50 Daphnia 1</td>
<td>0.03 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])</td>
</tr>
<tr>
<td>LC50 fish 2</td>
<td>&lt; 0.3 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])</td>
</tr>
</tbody>
</table>

12.2. **Persistence and degradability**

No additional information available

12.3. **Bioaccumulative potential**

No additional information available

12.4. **Mobility in soil**

No additional information available

12.5. **Other adverse effects**

No additional information available
SECTION 13: Disposal considerations

13.1.  Disposal methods

Waste treatment methods: Dispose of contents/container in accordance with licensed collector’s sorting instructions.

SECTION 14: Transport information

Department of Transportation (DOT)
In accordance with DOT

Not applicable

Transportation of Dangerous Goods
Not applicable

Transport by sea
Not applicable

Air transport
Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

Silver (7440-22-4)
Listed on the United States TSCA (Toxic Substances Control Act) inventory
Subject to reporting requirements of United States SARA Section 313
CERCLA RQ 1000 lb no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is >100 µm

Copper (7440-50-8)
Listed on the United States TSCA (Toxic Substances Control Act) inventory
Subject to reporting requirements of United States SARA Section 313
CERCLA RQ 5000 lb no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is >100 µm

15.2. International regulations

Silver (7440-22-4)
Listed on the TCSI (Taiwan Chemical Substance Inventory)

Copper (7440-50-8)
Listed on the TCSI (Taiwan Chemical Substance Inventory)

15.3. US State regulations

Silver (7440-22-4)
U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) List

Copper (7440-50-8)
U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information
NFPA health hazard: 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.

NFPA fire hazard: 1 - Materials that must be preheated before ignition can occur.

NFPA reactivity: 0 - Material that in themselves are normally stable, even under fire conditions.

Hazard Rating
Health: 2 Moderate Hazard - Temporary or minor injury may occur
   * - Chronic (long-term) health effects may result from repeated overexposure

Flammability: 1 Slight Hazard - Materials that must be preheated before ignition will occur. Includes liquids, solids and semi solids having a flash point above 200 F. (Class IIIB)

Physical: 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

Personal protection: B
   B - Safety glasses, Gloves

SDS US (GHS HazCom 2012)

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Lucas-Milhaupt, Inc.