

## SECTION 1: Identification

### 1.1. Identification

Product form : Mixture  
Trade name : SILVALOY® 650  
Product code : A00000020

### 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](mailto:LM_SDSinfo@lucasmilhaupt.com) - [www.Lucasmilhaupt.com](http://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

Specific target organ toxicity — Single exposure, Category 3, Narcosis H336 May cause drowsiness or dizziness.

Full text of H statements : see section 16

### 2.2. GHS Label elements, including precautionary statements

#### GHS-US labelling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) : Warning  
Hazard statements (GHS-US) : H336 - May cause drowsiness or dizziness.  
Precautionary statements (GHS-US) : P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.  
P271 - Use only outdoors or in a well-ventilated area.  
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing  
P312 - Call a poison center/doctor if you feel unwell  
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.  
P405 - Store locked up.  
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

### 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

| Name   | Product identifier  | %       |
|--------|---------------------|---------|
| Silver | (CAS-No.) 7440-22-4 | 64 - 66 |
| Copper | (CAS-No.) 7440-50-8 | 19 - 21 |

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| Name | Product identifier  | %       |
|------|---------------------|---------|
| Zinc | (CAS-No.) 7440-66-6 | 13 - 17 |

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. Call a poison center or a doctor if you feel unwell.
- 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)

- Symptoms/effects : May cause drowsiness or dizziness.
- Symptoms/effects after inhalation : May cause respiratory irritation.

#### 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. Avoid breathing dust/fume/gas/mist/vapours/spray.

##### 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 : Wear personal protective equipment. Use only outdoors or in a well-ventilated area. Avoid breathing dust/fume/gas/mist/vapours/spray.
- 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 in a well-ventilated place. Keep cool. Store locked up. Keep container tightly closed.

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### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

| <b>Silver (7440-22-4)</b> |                                      |   |
|---------------------------|--------------------------------------|---|
| ACGIH                     | ACGIH TWA (mg/m <sup>3</sup> )       | 0.1 mg/m <sup>3</sup> (dust and fume)                               |
| OSHA                      | OSHA PEL (TWA) (mg/m <sup>3</sup> )  | 0.01 mg/m <sup>3</sup>  |
| IDLH                      | US IDLH (mg/m <sup>3</sup> )         | 10 mg/m <sup>3</sup> (dust)   |
| NIOSH                     | NIOSH REL (TWA) (mg/m <sup>3</sup> ) | 0.01 mg/m <sup>3</sup> (dust)                                       |
| <b>Copper (7440-50-8)</b> |                                      |   |
| ACGIH                     | ACGIH TWA (mg/m <sup>3</sup> )       | 0.2 mg/m <sup>3</sup> (fume)  |
| OSHA                      | OSHA PEL (TWA) (mg/m <sup>3</sup> )  | 0.1 mg/m <sup>3</sup> (fume)<br>1 mg/m <sup>3</sup> (dust and mist) |
| IDLH                      | US IDLH (mg/m <sup>3</sup> )         | 100 mg/m <sup>3</sup> (dust, fume and mist)                         |
| NIOSH                     | NIOSH REL (TWA) (mg/m <sup>3</sup> ) | 1 mg/m <sup>3</sup> (dust and mist)<br>0.1 mg/m <sup>3</sup> (fume) |
| <b>Zinc (7440-66-6)</b>   |                                      |   |
| ACGIH                     | ACGIH TWA (mg/m <sup>3</sup> )       | 2 mg/m <sup>3</sup> (as ZnO)  |

#### 8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.  
Environmental exposure controls : Avoid release to the environment.

#### 8.3. 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

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic 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 : 1325 °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

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|                           |                     |
|---------------------------|---------------------|
| 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 |

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

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

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. 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

Oxidizing agent. Strong acids. Strong bases.

### 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

Acute toxicity : Not classified

| <b>Silver (7440-22-4)</b> |              |
|---------------------------|--------------|
| LD50 oral rat             | > 5000 mg/kg |
| LD50 dermal rat           | > 2000 mg/kg |

| <b>Zinc (7440-66-6)</b> |           |
|-------------------------|-----------|
| LD50 oral rat           | 630 mg/kg |

|                                   |                  |
|-----------------------------------|------------------|
| 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) | : May cause drowsiness or dizziness. |

|  |                  |
|--|------------------|
| Specific target organ toxicity (repeated exposure) | : Not classified |
|--|------------------|

|                   |                  |
|-------------------|------------------|
| Aspiration hazard | : Not classified |
|-------------------|------------------|

|                                   |                                      |
|-----------------------------------|--------------------------------------|
| Symptoms/effects                  | : May cause drowsiness or dizziness. |
| Symptoms/effects after inhalation | : May cause respiratory irritation.  |

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### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - general : Very toxic to aquatic life.

| <b>Silver (7440-22-4)</b> |   |
|---------------------------|---|
| LC50 fish 1               | 0.00155 - 0.00293 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])  |
| EC50 Daphnia 1            | 0.00024 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])                  |
| LC50 fish 2               | 0.0062 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through])       |
| <b>Copper (7440-50-8)</b> |   |
| LC50 fish 1               | 0.0068 - 0.0156 mg/l (Exposure time: 96 h - Species: Pimephales promelas)             |
| EC50 Daphnia 1            | 0.03 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])                     |
| LC50 fish 2               | < 0.3 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])              |
| <b>Zinc (7440-66-6)</b>   |   |
| LC50 fish 1               | 2.16 - 3.05 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])  |
| EC50 Daphnia 1            | 0.139 - 0.908 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])            |
| LC50 fish 2               | 0.211 - 0.269 mg/l (Exposure time: 96 h - Species: Pimephales promelas [semi-static]) |

#### 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

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| <b>Silver (7440-22-4)</b>  |   |
|--|---|
| Listed on the United States TSCA (Toxic Substances Control Act) inventory<br>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 |
| <b>Copper (7440-50-8)</b>  |   |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory<br>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 |
| <b>Zinc (7440-66-6)</b>  |   |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory<br>Subject to reporting requirements of United States SARA Section 313 |   |
| CERCLA RQ  | 454 kg 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

| <b>Silver (7440-22-4)</b>                                |
|--|
| Listed on the TCSI (Taiwan Chemical Substance Inventory) |
| <b>Copper (7440-50-8)</b>                                |
| Listed on the TCSI (Taiwan Chemical Substance Inventory) |
| <b>Zinc (7440-66-6)</b>                                  |
| Listed on the TCSI (Taiwan Chemical Substance Inventory) |

### 15.3. US State regulations

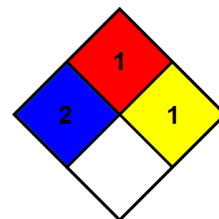
| <b>Silver (7440-22-4)</b>  |
|--|
| U.S. - Massachusetts - Right To Know List<br>U.S. - New Jersey - Right to Know Hazardous Substance List<br>U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List<br>U.S. - Pennsylvania - RTK (Right to Know) List |
| <b>Copper (7440-50-8)</b>  |
| U.S. - Massachusetts - Right To Know List<br>U.S. - New Jersey - Right to Know Hazardous Substance List<br>U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List<br>U.S. - Pennsylvania - RTK (Right to Know) List |
| <b>Zinc (7440-66-6)</b>  |
| U.S. - Massachusetts - Right To Know List<br>U.S. - New Jersey - Right to Know Hazardous Substance List<br>U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List<br>U.S. - Pennsylvania - RTK (Right to Know) List |

## SECTION 16: Other information

Full text of H-statements:

|      |                                    |
|------|------------------------------------|
| H336 | May cause drowsiness or dizziness. |
|------|------------------------------------|

|                    |  |
|--------------------|--|
| 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    | : 1 - Materials that in themselves are normally stable but can become unstable at elevated temperatures and pressures. |



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### 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 : 1 Slight Hazard - Materials that are normally stable but can become unstable (self-react) at high temperatures and pressures. Materials may react non-violently with water or undergo hazardous polymerization in the absence of inhibitors.
- Personal protection : B  
B - Safety glasses, Gloves

SDS US (GHS HazCom 2012)

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