Silvabrite Solder Paste
Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 01/23/2018  Version: 5.0

SECTION 1: Identification

1.1. Identification

Product form : Substance
Trade name : Silvabrite Solder Paste
Product code : A00000228

1.2. Recommended use and restrictions on use

No additional information available

1.3. Supplier

No additional information available

1.4. Emergency telephone number

No additional information available

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification
Acute toxicity (oral), Category 4 H302 Harmful if swallowed.
Skin corrosion/irritation, Category 1B H314 Causes severe skin burns and eye damage.
Serious eye damage/eye irritation, Category 1 H318 Causes serious eye damage.
Specific target organ toxicity — Repeated exposure, Category 2 H373 May cause damage to organs through prolonged or repeated exposure.

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) : Danger
Hazard statements (GHS-US) :
H302 - Harmful if swallowed.
H314 - Causes severe skin burns and eye damage.
H318 - Causes serious eye damage.
H373 - May cause damage to organs through prolonged or repeated exposure.

Precautionary statements (GHS-US) :
P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
P264 - Wash hands, forearms and face thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P301+P312 - If swallowed: Call a poison center/doctor if you feel unwell.
P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting.
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 - Immediately call a poison center/doctor.
P314 - Get medical advice/attention if you feel unwell.
P321 - Specific treatment (see supplemental first aid instruction on this label).
P330 - Rinse mouth.
P363 - Wash contaminated clothing before reuse.
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.
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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
Name : SILVABRITE SOLDER PASTE

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Petrolatum</td>
<td>(CAS-No.) 8009-03-8</td>
<td>50 - 60</td>
</tr>
<tr>
<td>Zinc chloride</td>
<td>(CAS-No.) 7646-85-7</td>
<td>19 - 25</td>
</tr>
<tr>
<td>Ethylene glycol</td>
<td>(CAS-No.) 107-21-1</td>
<td>8 - 12</td>
</tr>
</tbody>
</table>

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

3.2. Mixtures
Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : Call a physician immediately.
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact : Rinse skin with water/shower. Take off immediately all contaminated clothing. Call a physician immediately.
First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
First-aid measures after ingestion : Rinse mouth. Do not induce vomiting. Call a physician immediately.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after skin contact : Burns.
Symptoms/effects after eye contact : Serious damage to eyes.
Symptoms/effects after ingestion : Burns.

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.
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. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes.

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

Methods for cleaning up : Mechanically recover the product.
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### 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. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes. Wear personal protective equipment.

**Hygiene measures**
Wash contaminated clothing before reuse. 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

<table>
<thead>
<tr>
<th>Substance</th>
<th>ACGIH TWA (ppm)</th>
<th>ACGIH STEL (mg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene glycol (107-21-1)</td>
<td>25 ppm (vapor fraction)</td>
<td>10 mg/m³ (inhalable particulate matter, aerosol only)</td>
</tr>
<tr>
<td>Zinc chloride (7646-85-7)</td>
<td>1 mg/m³ (fume)</td>
<td>2 mg/m³ (fume)</td>
</tr>
<tr>
<td>Petrolatum (8009-03-8)</td>
<td>Not applicable</td>
<td></td>
</tr>
</tbody>
</table>

#### 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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Solid</td>
</tr>
<tr>
<td>Colour</td>
<td>No data available</td>
</tr>
<tr>
<td>Odour</td>
<td>No data available</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available</td>
</tr>
</tbody>
</table>
### 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

No additional information available

#### 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 (oral) : Oral: Harmful if swallowed.
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

<table>
<thead>
<tr>
<th>Substance</th>
<th>Route of Exposure</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene glycol (107-21-1)</td>
<td>Oral (oral)</td>
<td>500 mg/kg bodyweight</td>
</tr>
<tr>
<td>LD50 oral rat</td>
<td>4700 mg/kg</td>
<td></td>
</tr>
<tr>
<td>LD50 dermal rat</td>
<td>10600 mg/kg</td>
<td></td>
</tr>
<tr>
<td>ATE US (oral)</td>
<td>4700 mg/kg bodyweight</td>
<td></td>
</tr>
<tr>
<td>ATE US (dermal)</td>
<td>10600 mg/kg bodyweight</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Substance</th>
<th>Route of Exposure</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zinc chloride (7646-85-7)</td>
<td>Oral (oral)</td>
<td>1100 mg/kg</td>
</tr>
<tr>
<td>LD50 oral rat</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LC50 inhalation rat (mg/l)</td>
<td>&lt;= 1975 mg/m³ (Exposure time: 10 min)</td>
<td></td>
</tr>
<tr>
<td>ATE US (oral)</td>
<td>1100 mg/kg bodyweight</td>
<td></td>
</tr>
</tbody>
</table>
Petrolatum (8009-03-8)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 dermal rabbit</td>
<td>3600 mg/kg</td>
</tr>
<tr>
<td>ATE US (dermal)</td>
<td>3600 mg/kg bodyweight</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation: Causes severe skin burns and eye damage.
Serious eye damage/irritation: Causes serious eye damage.
Respiratory or skin sensitisation: Not classified
Germ cell mutagenicity: Not classified
Carcinogenicity: Not classified
Reproductive toxicity: Not classified
STOT-single exposure: Not classified
STOT-repeated exposure: May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard: Not classified
Viscosity, kinematic: No data available

**Symptoms/effects after skin contact**: Burns.
**Symptoms/effects after eye contact**: Serious damage to eyes.
**Symptoms/effects after ingestion**: Burns.

### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - general: Before neutralisation, the product may represent a danger to aquatic organisms.

**Ethylene glycol (107-21-1)**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 fish 1</td>
<td>41000 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss)</td>
</tr>
<tr>
<td>EC50 Daphnia 1</td>
<td>46300 mg/l (Exposure time: 48 h - Species: Daphnia magna)</td>
</tr>
<tr>
<td>LC50 fish 2</td>
<td>14 - 18 ml/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])</td>
</tr>
</tbody>
</table>

#### 12.2. Persistence and degradability

No additional information available

#### 12.3. Bioaccumulative potential

**Ethylene glycol (107-21-1)**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log Pow</td>
<td>-1.93</td>
</tr>
</tbody>
</table>

**Zinc chloride (7646-85-7)**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCF fish 1</td>
<td>16000</td>
</tr>
</tbody>
</table>

#### 12.4. Mobility in soil

No additional information available

#### 12.5. Other adverse effects

**Ethylene glycol (107-21-1)**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990 Hazardous Air Pollutant (Clean Air Act)</td>
<td>Yes</td>
</tr>
</tbody>
</table>

### 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

**Ethylene glycol (107-21-1)**
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

**Zinc chloride (7646-85-7)**
Listed on the United States TSCA (Toxic Substances Control Act) inventory
CERCLA RQ 1000 lb

**Petrolatum (8009-03-8)**
Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

**Ethylene glycol (107-21-1)**
Listed on the TCSI (Taiwan Chemical Substance Inventory)

**Zinc chloride (7646-85-7)**
Listed on the TCSI (Taiwan Chemical Substance Inventory)

**Petrolatum (8009-03-8)**
Listed on the TCSI (Taiwan Chemical Substance Inventory)

15.3. US State regulations

**WARNING:** This product can expose you to Ethylene glycol, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

<table>
<thead>
<tr>
<th>Component</th>
<th>Carcinogenicity</th>
<th>Developmental toxicity</th>
<th>Reproductive toxicity male</th>
<th>Reproductive toxicity female</th>
<th>No significant risk level (NSRL)</th>
<th>Maximum allowable dose level (MADL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene glycol(107-21-1)</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>8700 µg/day oral; ingested</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>State or local regulations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene glycol(107-21-1)</td>
<td>U.S. - Massachusetts - Right To Know List</td>
</tr>
<tr>
<td></td>
<td>U.S. - New Jersey - Right to Know Hazardous Substance List</td>
</tr>
<tr>
<td></td>
<td>U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List</td>
</tr>
<tr>
<td></td>
<td>U.S. - Pennsylvania - RTK (Right to Know) List</td>
</tr>
</tbody>
</table>
### Section 16: Other information

Full text of H-statements:

<table>
<thead>
<tr>
<th>H302</th>
<th>Harmful if swallowed.</th>
</tr>
</thead>
<tbody>
<tr>
<td>H314</td>
<td>Causes severe skin burns and eye damage.</td>
</tr>
<tr>
<td>H318</td>
<td>Causes serious eye damage.</td>
</tr>
<tr>
<td>H373</td>
<td>May cause damage to organs through prolonged or repeated exposure.</td>
</tr>
</tbody>
</table>

**SDS US (GHS HazCom 2012)**

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*