1. PRODUCT AND COMPANY IDENTIFICATION

Product name: LOCTITE 309 97SC 5C 0.7MM HA known as 97SC 309 5C 0.7MM 0.5KG
IDH number: 737195

Product type: Solder Wire
Restriction of Use: None identified

Company address:
Henkel Electronic Materials LLC
14000 Jamboree Road
Irvine, CA 92606

Issue date: 03/02/2017

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

DANGER: CAUSES SKIN IRRITATION. MAY CAUSE AN ALLERGIC SKIN REACTION. CAUSES SERIOUS EYE IRRITATION. MAY CAUSE ALLERGY OR ASTHMA SYMPTOMS OR BREATHING DIFFICULTIES IF INHALED.

HAZARD CLASS | HAZARD CATEGORY
--- | ---
SKIN IRRITATION | 2
EYE IRRITATION | 2A
RESPIRATORY SENSITIZATION | 1
SKIN SENSITIZATION | 1

PICTOGRAM(S)

Precautionary Statements

Prevention:
Avoid breathing dust or fumes. Wash affected area thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves, eye protection, and face protection. In case of inadequate ventilation wear respiratory protection.

Response:
IF ON SKIN: Wash with plenty of water. IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If skin irritation or rash occurs: Get medical attention. If eye irritation persists: Get medical attention. If experiencing respiratory symptoms: Call a poison center or physician. Take off contaminated clothing.

Storage: Not prescribed
Disposal: Dispose of contents and/or container according to Federal, State/Provincial and local governmental regulations.

See Section 11 for additional toxicological information.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Hazardous Component(s)</th>
<th>CAS Number</th>
<th>Percentage*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tin</td>
<td>7440-31-5</td>
<td>90 - 100</td>
</tr>
<tr>
<td>Silver</td>
<td>7440-22-4</td>
<td>1 - 5</td>
</tr>
<tr>
<td>Rosin</td>
<td>8050-09-7</td>
<td>0.1 - 1</td>
</tr>
<tr>
<td>Copper Metal</td>
<td>7440-50-8</td>
<td>0.1 - 1</td>
</tr>
</tbody>
</table>

* Exact percentages may vary or are trade secret. Concentration range is provided to assist users in providing appropriate protections.

### 4. FIRST AID MEASURES

**Inhalation:** Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. If symptoms develop and persist, get medical attention.

**Skin contact:** Remove contaminated clothing and footwear. Immediately flush skin with plenty of water (using soap, if available). If symptoms develop and persist, get medical attention. Wash clothing before reuse.

**Eye contact:** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

**Ingestion:** Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention.

**Symptoms:** See Section 11.

### 5. FIRE FIGHTING MEASURES

**Extinguishing media:** Water spray (fog), foam, dry chemical or carbon dioxide.

**Special firefighting procedures:** Wear a self-contained breathing apparatus with a full face piece operated in pressure-demand or other positive pressure mode. Do not use water on fires where molten metal is present.

**Unusual fire or explosion hazards:** In case of fire, keep containers cool with water spray.

**Hazardous combustion products:** Oxides of carbon. Oxides of Metals in Section 3. Formaldehyde. High temperatures may produce heavy metal dust, fumes or vapors. The flux will give rise to irritating fumes.

### 6. ACCIDENTAL RELEASE MEASURES

Use personal protection recommended in Section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.

**Environmental precautions:** Do not allow product to enter sewer or waterways.

**Clean-up methods:** Ensure adequate ventilation. Wear suitable protective clothing, gloves and eyeface protection. Scrape up spilled material and place in a closed container for disposal. Refer to Section 8 “Exposure Controls / Personal Protection” prior to clean up.
7. HANDLING AND STORAGE

Handling: Use only in well-ventilated areas. Wear suitable protective clothing, gloves and eye/face protection. Avoid contact with eyes, skin and clothing. When using, do not eat, drink or smoke. Wash thoroughly after handling.

Storage: Store in a cool, dry, well-ventilated area. Store in original container until ready to use.

For information on product shelf life, please review labels on container or check the Technical Data Sheet.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Employers should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.

<table>
<thead>
<tr>
<th>Hazardous Component(s)</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>AIHA WEEL</th>
<th>OTHER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tin</td>
<td>2 mg/m³ TWA</td>
<td>2 mg/m³ PEL (as Sn)</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Silver</td>
<td>0.1 mg/m³ TWA Dust and fume.</td>
<td>0.01 mg/m³ PEL (as Ag)</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Rosin</td>
<td>Exposure by all routes should be carefully controlled to levels as low as possible. Included in the regulation but with no data values. See regulation for further details (Respiratory sensitization) (Dermal sensitization)</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Copper Metal</td>
<td>0.2 mg/m³ TWA (as Cu) Fume. 1 mg/m³ TWA (as Cu) Dust and mist.</td>
<td>1 mg/m³ PEL (as Cu) Dust and mist. 0.1 mg/m³ PEL (as Cu) Fume.</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

Engineering controls: Use adequate ventilation to remove molten vapors or fumes.

Respiratory protection: Use an organic vapor respirator for concentrations exceeding the Occupational Exposure Limit.

Eye/face protection: Safety goggles or safety glasses with side shields.

Skin protection: Disposable rubber or plastic gloves.

9. 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>Color</td>
<td>Gray</td>
</tr>
<tr>
<td>Odor</td>
<td>None</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>Not available.</td>
</tr>
<tr>
<td>pH</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>Not determined</td>
</tr>
<tr>
<td>Boiling point/range</td>
<td>Not determined</td>
</tr>
<tr>
<td>Melting point/ range</td>
<td>217 °C (422.6 °F)</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>7.5</td>
</tr>
<tr>
<td>Vapor density</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Flammable/Explosive limits - lower:</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flammable/Explosive limits - upper:</td>
<td>Not available.</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flammability</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not available.</td>
</tr>
</tbody>
</table>
Solubility in water: Insoluble
Partition coefficient (n-octanol/water): Not available.
VOC content: < 5.0%
Viscosity: Not available.
Decomposition temperature: Not available.

10. STABILITY AND REACTIVITY

Stability: Stable under normal conditions of storage and use.
Hazardous reactions: Will not occur.
Hazardous decomposition products: Oxides of Metals in Section 3. Formaldehyde. Thermal decomposition can lead to release of irritating gases and vapors.
Incompatible materials: Acids and bases. Oxidizing agents.
Reactivity: Not available.
Conditions to avoid: Solder alloy will react with concentrated nitric acid to produce toxic fumes of nitrogen oxides.

11. TOXICOLOGICAL INFORMATION

Relevant routes of exposure: Skin, Inhalation, Eyes

Potential Health Effects/Symptoms

Inhalation: Inhalation of processing fumes may be harmful. May cause allergic respiratory reaction. Fumes and/or dust produced by this product may be hazardous in case of ingestion or inhalation. Rosin thermal decomposition product (as formaldehyde) is classified by NIOSH as a potential occupational carcinogen. Excessive exposure to tin fumes or dust may cause Stannosis, a chronic respiratory disease resulting in reduced lung capacity and benign tumors. Excessive inhalation of fumes from many metals can produce an acute reaction known as "metal fume fever". Symptoms consist of chills and fever (very similar to and easily confused with flu symptoms) which come on a few hours after large exposures.

Skin contact: Causes skin irritation. May cause allergic skin reaction. Argyria (a non-toxic, cosmetic blue-gray discoloration of the skin and mucous membranes that is irreversible).

Eye contact: Causes serious eye irritation.

Ingestion: May cause gastrointestinal tract irritation if swallowed.

<table>
<thead>
<tr>
<th>Hazardous Component(s)</th>
<th>LD50s and LC50s</th>
<th>Immediate and Delayed Health Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tin</td>
<td>None</td>
<td>Gastrointestinal, Irritant, Kidney, Liver, Lung, Nervous System</td>
</tr>
<tr>
<td>Silver</td>
<td>Oral LD50 (Rat) = &gt; 5,000 mg/kg  Dermal LD50 (Rat) = &gt; 2,000 mg/kg</td>
<td>Allergen, Eyes, Irritant, Respiratory, Skin</td>
</tr>
<tr>
<td>Rosin</td>
<td>None</td>
<td>Allergen, Irritant, Respiratory</td>
</tr>
<tr>
<td>Copper Metal</td>
<td>None</td>
<td>Allergen, Blood, Central nervous system, Developmental, Gastrointestinal, Immune system, Irritant, Kidney, Liver, Mutagen, Sensory, Skin</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hazardous Component(s)</th>
<th>NTP Carcinogen</th>
<th>IARC Carcinogen</th>
<th>OSHA Carcinogen (Specifically Regulated)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tin</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Silver</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Rosin</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Copper Metal</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

IDH number: 737195        Product name: LOCTITE 309 97SC 5C 0.7MM HA known as 97SC 309 5C 0.7MM 0.5KG
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12. ECOLOGICAL INFORMATION

Ecological information: Not available.

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal: Follow all local, state, federal and provincial regulations for disposal.

Hazardous waste number: Waste from this product may be hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. D011. Silver.

14. TRANSPORT INFORMATION

The transport information provided in this section only applies to the material/formulation itself, and is not specific to any package/configuration.

U.S. Department of Transportation Ground (49 CFR)
Proper shipping name: RQ, Environmentally hazardous substances, solid, n.o.s.
Hazard class or division: 9
Identification number: UN 3077
Packing group: III
DOT Hazardous Substance(s): Silver

International Air Transportation (ICAO/IATA)
Proper shipping name: RQ, Environmentally hazardous substance, solid, n.o.s.
Hazard class or division: 9
Identification number: UN 3077
Packing group: III

Water Transportation (IMO/IMDG)
Proper shipping name: RQ, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Hazard class or division: 9
Identification number: UN 3077
Packing group: III

15. REGULATORY INFORMATION

United States Regulatory Information

TSCA 8 (b) Inventory Status: All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.
TSCA 12 (b) Export Notification: None above reporting de minimis
CERCLA/SARA Section 302 EHS: None above reporting de minimis.
CERCLA/SARA Section 311/312: Immediate Health, Delayed Health
This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372), Silver (CAS# 7440-22-4).
CERCLA Reportable quantity: Silver (CAS# 7440-22-4) 1,000 lbs. (454 kg)
California Proposition 65: No California Proposition 65 listed chemicals are known to be present.

Canada Regulatory Information

CEPA DSL/NDSL Status: Contains one or more components listed on the Non-Domestic Substances List. All other components are listed on or are exempt from listing on the Domestic Substances List. Components listed on the NDSL must be tracked by all Canadian Importers of Record as required by Environment Canada. They may be imported into Canada in limited quantities. Please contact Regulatory Affairs for additional details.
This safety data sheet contains changes from the previous version in sections: New Safety Data Sheet format.

Prepared by: Alicia Griffin, Regulatory Affairs Specialist
Issue date: 03/02/2017

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