



Revision Number: 003.0

Issue date: 09/18/2014

1. PRODUCT AND COMPANY IDENTIFICATION

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|---------------------------------|--|---------------------|---------------|
| Product name: | LOCTITE HYDX 97SC 3C 0.81MM H known as 97SC Hydro-X 3C Cored Wire | IDH number: | 732997 |
| Product type: | Solder Wire | Item number: | MM01950 |
| Restriction of Use: | None identified | Region: | United States |
| Company address: | Contact information: | | |
| Henkel Electronic Materials LLC | Telephone: +1 (888) 943-6535 | | |
| 14000 Jamboree Road | MEDICAL EMERGENCY Phone: Poison Control Center | | |
| Irvine, CA 92606 | 1-877-671-4608 (toll free) or 1-303-592-1711 | | |
| | TRANSPORT EMERGENCY Phone: CHEMTREC | | |
| | 1-800-424-9300 (toll free) or 1-703-527-3887 | | |
| | Internet: www.henkel.com/electronics | | |

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

WARNING: CAUSES SKIN IRRITATION.
MAY CAUSE AN ALLERGIC SKIN REACTION.
CAUSES SERIOUS EYE IRRITATION.

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

PICTOGRAM(S)



Precautionary Statements

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| Prevention: | Avoid breathing dust or fumes. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wear eye and face protection. Wear protective gloves. |
| Response: | IF ON SKIN: Wash with plenty of soap and water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to remove. Continue rinsing. If skin irritation or rash occurs: Get medical attention. If eye irritation persists: Get medical attention. Take off contaminated clothing. |
| Storage: | Not prescribed |
| Disposal: | Dispose of contents and/or container according to Federal, State/Provincial and local governmental regulations. |

Classification complies with OSHA Hazard Communication Standard (29 CFR 1910.1200) and is consistent with the provisions of the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

See Section 11 for additional toxicological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

| Hazardous Component(s) | CAS Number | Percentage* |
|------------------------|------------|-------------|
| Tin | 7440-31-5 | 60 - 100 |
| Silver | 7440-22-4 | 1 - 5 |
| Copper Metal | 7440-50-8 | 0.1 - 1 |

* Exact percentage is a trade secret. Concentration range is provided to assist users in providing appropriate protections.

4. FIRST AID MEASURES

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| Inhalation: | Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention. |
| Skin contact: | Immediately flush skin with plenty of water (using soap, if available). If adverse health effects develop seek medical attention. Wash clothing before reuse. |
| Eye contact: | Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention. |
| Ingestion: | DO NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If symptoms develop and persist, get medical attention. |
| Symptoms: | See Section 11. |

5. FIRE FIGHTING MEASURES

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| Extinguishing media: | Water spray (fog), foam, dry chemical or carbon dioxide. Do not use high volume water jet. |
| Special firefighting procedures: | Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear. |
| Unusual fire or explosion hazards: | In case of fire, keep containers cool with water spray. |
| Hazardous combustion products: | High temperatures may produce heavy metal dust, fumes or vapours. The flux medium 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.

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| Environmental precautions: | Do not allow product to enter sewer or waterways. |
| Clean-up methods: | Ensure adequate ventilation. Wear suitable protective clothing, gloves and eye/face protection. Scrape up as much material as possible. Keep in suitable and closed containers for disposal. |

7. HANDLING AND STORAGE

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| Handling: | Use only with adequate ventilation. 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: | For safe storage, store between 15 °C (59°F) and 30 °C (86°F) Keep in a cool, well ventilated area. |

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.

| Hazardous Component(s) | ACGIH TLV | OSHA PEL | AIHA WEEL | OTHER |
|------------------------|---|---|-----------|-------|
| Tin | 2 mg/m3 TWA | 2 mg/m3 PEL (as Sn) | None | None |
| Silver | 0.1 mg/m3 TWA Dust and fume. | 0.01 mg/m3 PEL (as Ag) | None | None |
| Copper Metal | 0.2 mg/m3 TWA (as Cu) Fume. 1 mg/m3 TWA (as Cu) Dust and mist. | 1 mg/m3 PEL (as Cu) Dust and mist. 0.1 mg/m3 PEL (as Cu) Fume. | None | None |

| | |
|--------------------------------|---|
| Engineering controls: | Provide adequate local exhaust ventilation to maintain worker exposure below exposure limits. |
| Respiratory protection: | Use NIOSH approved respirator if there is potential to exceed exposure limit(s). |
| Eye/face protection: | Safety goggles or safety glasses with side shields. |
| Skin protection: | Heat and chemical resistant gloves. |

9. PHYSICAL AND CHEMICAL PROPERTIES

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|---|--|
| Physical state: | Solid |
| Color: | Gray |
| Odor: | None |
| Odor threshold: | Not available. |
| pH: | Not available. |
| Vapor pressure: | Negligible vapor pressure at ambient temperatures. |
| Boiling point/range: | Not available. |
| Melting point/ range: | 217 °C (422.6 °F) (solder alloy) |
| Specific gravity: | 7.5 |
| Vapor density: | Not available. |
| Flash point: | Does not flash. |
| Flammable/Explosive limits - lower: | Not available. |
| Flammable/Explosive limits - upper: | Not available. |
| Autoignition temperature: | Not available. |
| Evaporation rate: | Not available. |
| Solubility in water: | Insoluble |
| Partition coefficient (n-octanol/water): | Not available. |
| VOC content: | Negligible |
| Viscosity: | Not available. |
| Decomposition temperature: | Not available. |

10. STABILITY AND REACTIVITY

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|--|--|
| Stability: | Stable under normal conditions of storage and use. |
| Hazardous reactions: | Will not occur. |
| Hazardous decomposition products: | Oxides of carbon. Oxides of Metals in Section 2. Thermal decomposition can lead to release of irritating gases and vapors. |
| Incompatible materials: | Strong oxidizing agents. Strong acids and strong bases. |
| 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. 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: Not expected under normal conditions of use.

| Hazardous Component(s) | LD50s and LC50s | Immediate and Delayed Health Effects |
|------------------------|--|--|
| Tin | None | Gastrointestinal, Irritant, Kidney, Liver, Lung, Nervous System |
| Silver | Oral LD50 (RAT) = > 5,000 mg/kg Dermal LD50 (RAT) = > 2,000 mg/kg | Allergen, Eyes, Irritant, Respiratory, Skin |
| Copper Metal | None | Allergen, Blood, Central nervous system, Developmental, Gastrointestinal, Immune system, Irritant, Kidney, Liver, Mutagen, Sensory, Skin |

| Hazardous Component(s) | NTP Carcinogen | IARC Carcinogen | OSHA Carcinogen (Specifically Regulated) |
|------------------------|----------------|-----------------|--|
| Tin | No | No | No |
| Silver | No | No | No |
| Copper Metal | No | No | No |

12. ECOLOGICAL INFORMATION

Ecological information: No specific studies have been conducted by Henkel on the ecotoxicity or environmental fate of this material; however, commonly available data on the material indicate that uncontrolled releases to soil, ground water, or surface waters could entail acute and/or chronic ecological effects, depending on the quantity and concentration of such releases. Releases of volatile components to the atmosphere are not believed to entail significant ecological consequences provided such releases are within the exposure levels set forth in this document. Accordingly, all appropriate measures should be taken to avoid uncontrolled releases to the environment, and any spills or other uncontrolled releases which may occur should be contained and cleaned up immediately in accordance with Section 6.

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: 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: 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: 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
CERCLA/SARA Section 313: 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: This product contains a chemical known in the State of California to cause cancer.

Canada Regulatory Information

CEPA DSL/NDL Status: All components are listed on or are exempt from listing on the Canadian Domestic Substances List.

16. OTHER INFORMATION

This safety data sheet contains changes from the previous version in sections: New Safety Data Sheet format.

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