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### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product name:** HMP 366 5C 1.22MM 0.5KG AM (0.050)  
**Product type:** Cored Solder Wire  
**Company address:**  
 Henkel Corporation  
 15051 East Don Julian Road  
 Industry, California 91746

**Item No. :** MM01007 / IDH No. 395439  
**Region:** United States  
**Contact Information:**  
 Telephone: 626.968.6511  
 Emergency Telephone: 860.571.5100  
 Internet: www.electronics.henkel.us

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Hazardous components</u>	<u>%</u>	<u>ACGIH TLV</u>	<u>OSHA PEL</u>	<u>OTHER</u>
Lead 7439-92-1	60-100	0.05 mg/m <sup>3</sup> TWA	30 µg/m <sup>3</sup> Action Level as Pb. Poison - see 29 CFR 1910.1025 50 µg/m <sup>3</sup> TWA as Pb 50 µg/m <sup>3</sup> PEL as Pb	None
Tin 7440-31-5	1-5	2 mg/m <sup>3</sup> TWA 2 mg/m <sup>3</sup> TWA except Tin hydride	2 mg/m <sup>3</sup> TWA as Sn 2 mg/m <sup>3</sup> TWA	None
Rosin Reacted product Proprietary	1-5	None	None	None
Silver 7440-22-4	1-5	0.1 mg/m <sup>3</sup> TWA	0.01 mg/m <sup>3</sup> TWA	None

### 3. HAZARDS IDENTIFICATION

#### EMERGENCY OVERVIEW

HMIS:

**Physical state:** Solid  
**Color:** Grey  
**Odor:** Mild

**HEALTH:** 3\*  
**FLAMMABILITY:** 1  
**PHYSICAL HAZARD:** 0  
**Personal Protection:** See Section 8

**DANGER:** FUMES EVOLVED DURING SOLDERING WILL IRRITATE THE EYES NOSE AND THROAT HARMFUL IF SWALLOWED, ABSORBED THROUGH SKIN OR INHALED. POSSIBLE CANCER HAZARD. FLUX FUMES GIVEN OFF DURING REFLOW WILL IRRITATE THE EYES, NOSE AND RESPIRATORY SYSTEM. CONTACT WITH FLUX RESIDUES MAY CAUSE SKIN OR RESPIRATORY TRACT IRRITATION OR SENSITIZATION.

**Relevant routes of exposure:** Skin, Inhalation, Ingestion

#### Potential Health Effects

**Inhalation:** 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. Lead is a cumulative poison and continuous exposure to small amounts over time can raise the body's content to toxic levels. Fumes may be irritating or cause sensitization to the respiratory system. 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:** Harmful if absorbed through skin. Prolonged or repeated skin contact may cause irritation, skin sensitization and argyria (a non-toxic, cosmetic blue-gray discoloration of the skin and mucous membranes that is irreversible).

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**Eye contact:**  
**Ingestion:**

Vapors may irritate eyes. Contact with eyes will cause irritation.  
Lead is a cumulative poison and continuous exposure to small amounts over time can raise the body's content to toxic levels. Symptoms of lead poisoning include abdominal pain, nausea, vomiting, and headache. May cause gastrointestinal tract irritation if swallowed.

**Existing conditions aggravated by exposure:**

Repeated or prolonged exposure to lead and its compounds may produce general health deterioration by an accumulation in one or more human organs.

**See Section 11 for additional toxicological information.**

#### 4. FIRST AID MEASURES

**Inhalation:** Remove to fresh air. If discomfort persists seek medical attention.

**Skin contact:** Wash with soap and water. Remove contaminated clothing and shoes. Wash clothing before reuse. If a person feels unwell or symptoms of skin irritation appear, consult a physician.

**Eye contact:** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If eye irritation persists, consult a specialist.

**Ingestion:** Get medical attention immediately.

#### 5. FIRE-FIGHTING MEASURES

**Flash point:** Not applicable.

**Autoignition temperature:** Not applicable

**Flammable/Explosive limits-lower %:** Not applicable

**Flammable/Explosive limits-upper %:** Not applicable

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

**Special fire fighting procedures:** Fire fighters should wear positive pressure breathing apparatus.

**Unusual fire or explosion hazards:** May liberate large quantities of dense, foul-smelling smoke which may contain unidentified toxic gasses.

**Hazardous combustion products:** Oxides of Metals in Section 2. The flux medium will give rise to irritating fumes. Formaldehyde.

#### 6. ACCIDENTAL RELEASE MEASURES

**Environmental precautions:** Do not let product enter drains.

**Clean-up methods:** Scrape up spilled material and place in sealed container for disposal.

#### 7. HANDLING AND STORAGE

**Handling:** Avoid contact with molten material. Avoid contact with eyes, skin and clothing. Do not wear contact lenses. Wash thoroughly after handling.

**Storage:** Store in original container until ready to use.

**Incompatible products:** Oxidizing agents. Strong acids or bases.

For information on product shelf life contact Henkel Customer Service at (626) 968-6511

#### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Engineering controls:** Ensure adequate ventilation, especially in confined areas.

**Respiratory protection:** Use NIOSH approved respirator if there is potential to exceed exposure limit(s).

**Skin protection:** Use impermeable gloves and protective clothing as necessary to prevent skin contact.

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Eye/face protection:

Safety goggles or safety glasses with side shields.

See Section 2 for exposure limits.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical state:** Solid  
**Color:** Grey  
**Odor:** Mild  
**Vapor pressure:** Not determined  
**pH:** Not applicable  
**Boiling point/range:** Not available  
**Melting point/range:** 296 - 565 °C (301 - 574 °F) (solder alloy)  
**Specific gravity:** 11.1  
**Vapor density:** Heavier than air  
**Evaporation rate:** Not available  
**Solubility in water:** Negligible.  
**Partition coefficient (n-octanol/water):** Not determined  
**VOC content:** Zero

### 10. STABILITY AND REACTIVITY

**Stability:** Stable under recommended storage conditions  
**Hazardous polymerization:** Will not occur.  
**Hazardous decomposition products:** Oxides of Metals in Section 2. Thermal decomposition can lead to release of irritating gases and vapors. Formaldehyde.  
**Incompatibility:** Incompatible with oxidising agents.  
**Conditions to avoid:** Solder alloy will react with concentrated nitric acid to produce toxic fumes of nitrogen oxides.

### 11. TOXICOLOGICAL INFORMATION

#### Carcinogen Status

Hazardous components	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen
Lead 7439-92-1	Suspect Carcinogen	Group 2B	Yes
Tin 7440-31-5	No	No	No
Rosin Reacted product Proprietary	No	No	No
Silver 7440-22-4	No	No	No

#### Literature Referenced Target Organ & Other Health Effects

Hazardous components	Health Effects/Target Organs
Lead 7439-92-1	Thyroid, Some evidence of carcinogenicity, Skin, Reproductive, Nervous System, Muscle, Liver, Kidney, Gastrointestinal, Eyes, Developmental, Blood, Behavioral
Tin 7440-31-5	Nervous System, Lung, Liver, Kidney, Irritant, Gastrointestinal
Rosin Reacted product Proprietary	No Records
Silver 7440-22-4	Skin, Respiratory, Irritant, Eyes, Allergen

### 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, groundwater, 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:** Dispose of in accordance with Federal, State and local regulations. Do not dispose of in an uncontrolled manner.

**EPA hazardous waste number:** D008 Lead Silver D011

### 14. TRANSPORT INFORMATION

**U.S. Department of Transportation Ground (49 CFR):**

**Proper shipping name:** Not regulated  
**Hazard class or division:** None  
**Identification number:** None  
**Packing group:** None

**International Air Transportation (ICAO/IATA):**

**Proper shipping name:** Not regulated  
**Hazard class or division:** None  
**Identification number:** None  
**Packing group:** None

**Water Transportation (IMO/IMDG):**

**Proper shipping name:** Not regulated  
**Hazard class or division:** None  
**Identification number:** None  
**Packing group:** None  
**Marine pollutant:** None

### 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.

**CERCLA/SARA Section 302 EHS:** None above reporting de minimus.  
**CERCLA/SARA Section 311/312:** Immediate Health Hazard, Delayed Health Hazard  
**CERCLA/SARA 313:** Lead (CAS# 7439-92-1). Silver (CAS# 7440-22-4).

**California Proposition 65:** This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

**Canada Regulatory Information**

**CEPA DSL/NDSL Status:** All components are listed on or are exempt from listing on the Domestic Substances List.  
**WHMIS hazard class:** D.2.A, D.2.B

## 16. OTHER INFORMATION

This material safety data sheet contains changes from the previous version in sections: 2,3,8,9,13,15

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