

# MATERIAL SAFETY DATA SHEET

**Date-Issued :** 10/22/2004  
**MSDS Ref. No :** 618D-SnAgCu  
**Date-Revised :** 01/29/2010  
**Revision No :** 1

## Delta® Solder Paste - 618D - Sn/Ag/Cu Alloys

### 1. PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** Delta® Solder Paste - 618D - Sn/Ag/Cu Alloys  
**PRODUCT DESCRIPTION:** 618D Solder Paste

#### MANUFACTURER

Qualitek International, Inc.  
 315 Fairbank St.  
 Addison, IL 60101  
**Product Stewardship:** (630) 628-8083

### 2. COMPOSITION / INFORMATION ON INGREDIENTS

<u>Chemical Name</u>	<u>Content</u>	<u>CAS</u>	<u>EINECS</u>
Tin*	83.6 - 86.3	7440-31-5	231-141-8
Silver*	2.5 - 3.7	7440-22-4	231-131-3
Copper*	0.3 - 0.8	7440-50-8	231-159-6

### 3. HAZARDS IDENTIFICATION

#### POTENTIAL HEALTH EFFECTS

**EYES:** Fumes from this and other soldering products may cause eye irritation.

**SKIN:** Fumes from this and other soldering products may cause skin irritation.

**INGESTION:** Ingestion of this or other soldering products may cause headache, nausea, and muscular pain.

**INHALATION:** Inhalation of the fumes from this or other soldering products may cause headache, nausea and muscular pain.

#### SIGNS AND SYMPTOMS OF OVEREXPOSURE

**SKIN:** Discomfort or rash.

**INHALATION:** Irritation of the pulmonary system.

**CHRONIC:** Prolonged or repeated exposure due to ingestion may cause anemia, insomnia, weakness, constipation and abdominal pain.

Prolonged or repeated exposure due to skin exposure and inhalation may cause skin rash and damage to the mucous membranes.

**CARCINOGENICITY:** Not listed as a carcinogen by NTP, OSHA, or ACGIH.

**MEDICAL CONDITIONS AGGRAVATED:** Pre-existing conditions of the lungs, kidneys, nervous system and possibly reproductive systems; diseases of the blood forming organs

**ROUTES OF ENTRY:** Inhalation, ingestion, eye or skin contact.

### 4. FIRST AID MEASURES

**EYES:** **MOLTEN PRODUCT:** Cool burns with plenty of low-pressure water. Get immediate medical attention. **SOLID PRODUCT:** Remove any contact lenses. Immediately flush eyes with large quantities of water for at least 15 minutes. Get medical attention if irritation develops.

**SKIN:** **MOLTEN PRODUCT:** Immediately cool skin burns with water and cold packs for at least 15 minutes. Do not put ice directly on the skin. Do not attempt to remove solidified product from the skin, as damage may result. Get immediate medical attention. **SOLID PRODUCT:** Immediately wash skin with soap and copious amounts of water. Use lotion to prevent dryness. Get medical attention if irritation develops.

**INGESTION:** If person is conscious, immediately give 2 glasses of water. Do not induce vomiting. Get immediate medical attention.

**INHALATION:** If symptoms of overexposure are experienced, evacuate to fresh air. If symptoms persist, seek medical attention.

**COMMENTS:** If victims of chemical over-exposure are taken for medical attention, give a copy of the label or this MSDS to the physician/health care professional.

## 5. FIRE FIGHTING MEASURES

**FLASHPOINT AND METHOD:** > 98°C (209°F)

**FLAMMABLE LIMITS:** Not Established

**AUTOIGNITION TEMPERATURE:** > 227°C (440°F)

**EXPLOSION HAZARDS:** None known.

**FIRE FIGHTING EQUIPMENT:** Self contained breathing apparatus with full face piece operated in positive pressure demand mode, appropriate turn-out gear and chemical resistant personal protective equipment is recommended.

## 6. ACCIDENTAL RELEASE MEASURES

**GENERAL PROCEDURES:** Scoop up material and deposit in appropriate containers. Clean up residual spill area with isopropanol or detergent water.

**RELEASE NOTES:** Avoid repeated or prolonged breathing or skin contact. Wash hands immediately, and remove material from under the fingernails.

## 7. HANDLING AND STORAGE

**GENERAL PROCEDURES:** Do not store or use near sparks or open flames. Keep containers tightly closed and upright when not in use in order to prevent leakage.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### EXPOSURE GUIDELINES:

#### OSHA HAZARDOUS COMPONENTS (29 CFR 1910.1200)

<u>Chemical Name</u>	<u>EXPOSURE LIMITS</u>						
	<u>OSHA PEL</u>		<u>ACGIH TLV</u>		<u>Supplier OEL</u>		
	<u>ppm</u>	<u>mg/m<sup>3</sup></u>	<u>ppm</u>	<u>mg/m<sup>3</sup></u>	<u>ppm</u>	<u>mg/m<sup>3</sup></u>	
Tin*	TWA	NL	2.00	NL ppm	2.00	NL ppm	NL
		ppm <sup>[1]</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>
Silver*	TWA	NL ppm	0.10	NL ppm	0.10	NL ppm	NL
			mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>
Copper*	TWA	NL ppm	0.20	NL ppm	0.20	NL ppm	NL
			mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>
	STEL	NL ppm	NL	NL ppm	NL	NL ppm	NL
			mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>
	STEL	NL ppm	NL	NL ppm	NL	NL ppm	NL
			mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>

### OSHA TABLE COMMENTS:

- NL = Not Listed

**ENGINEERING CONTROLS:** General (mechanical) room ventilation is expected to be satisfactory where this product is stored and handled and in closed equipment. Special local ventilation is needed at points where vapors can be expected to escape into the workplace air.

### PERSONAL PROTECTIVE EQUIPMENT

**EYES AND FACE:** Face shield, safety glasses with side shield or chemical splash goggles. When working with molten material, face shield is recommended.

**SKIN:** Rubber, chemical resistant gloves. When material is heated, wear gloves to protect against thermal burns.

**RESPIRATORY:** Not normally needed in well ventilated areas. If the ventilation is insufficient to remove smoke from soldering processes, use NIOSH/MSHA approved cartridge type respirator.

**PROTECTIVE CLOTHING:** Protective clothing and safety shoes as necessary to minimize contact.

**WORK HYGIENIC PRACTICES:** Good personal hygiene practices should be used. Wash after any contact, before eating, and at the end of the work period.

**OTHER USE PRECAUTIONS:** Eye wash station and quick drench safety shower in immediate work area.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

**ODOR:** Mild.

**APPEARANCE:** Paste.

**COLOR:** Metallic gray.

**VAPOR PRESSURE:** Not Determined

**VAPOR DENSITY:** Not Determined

**BOILING POINT:** 198°C (388°F)(vehicle)

**MELTING POINT:** 217°C (423°F) to 221°C (430°F)(Please refer to Technical Bulletin for specific alloy data)

**SOLUBILITY IN WATER:** Partially Soluble

**SPECIFIC GRAVITY:** 4.1 to 4.4 (water=1)

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## 10. STABILITY AND REACTIVITY

**STABILITY:** Stable under ordinary use and storage conditions.

**POLYMERIZATION:** Will not occur under normal use and storage conditions.

**HAZARDOUS DECOMPOSITION PRODUCTS:** May emit toxic fumes of carbon monoxide and carbon dioxide.

**INCOMPATIBLE MATERIALS:** Strong acids and strong oxidizers should be avoided..

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## 11. TOXICOLOGICAL INFORMATION

**GENERAL COMMENTS:** No toxicological information available at this time.

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## 12. ECOLOGICAL INFORMATION

**GENERAL COMMENTS:** No information on ecological toxicity or biodegradability is available at this time.

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## 13. DISPOSAL CONSIDERATIONS

**DISPOSAL METHOD:** Dispose of this material, contaminated absorbent material and other contaminated materials in an approved waste disposal facility, according to all applicable Federal, State, and Local regulations. Recovery and reuse, rather than disposal, should be the ultimate goal in handling efforts.

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## 14. TRANSPORT INFORMATION

**DOT (DEPARTMENT OF TRANSPORTATION)**

**PROPER SHIPPING NAME:** Not regulated by DOT

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## 15. REGULATORY INFORMATION

**UNITED STATES**

**SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)**

**311/312 HAZARD CATEGORIES:** Chronic health hazard.

**313 REPORTABLE INGREDIENTS:** Silver CAS# 7440-22-4, Copper CAS# 7440-50-8 (weight percentages can be determined from product label)

**TSCA (TOXIC SUBSTANCE CONTROL ACT)**

**TSCA STATUS:** All ingredients are listed or are exempt from listing (as polymers) on the Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

**CALIFORNIA PROPOSITION 65:** When used for soldering and similar applications chemicals may be produced which are known to some states to cause birth defects or other reproductive harm.

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**16. OTHER INFORMATION**

**APPROVED BY:** Tippy Wicker    **TITLE:** Director of Product Development

**PREPARED BY:** B. Backes

**INFORMATION CONTACT:** (630) 628-8083

**REVISION SUMMARY** Revision #: 1 This MSDS replaces the October 22, 2003 MSDS. Any changes in information are as follows:

**HMIS RATING**

<b>HEALTH:</b>		<b>1</b>
<b>FLAMMABILITY:</b>		<b>1</b>
<b>PHYSICAL HAZARD:</b>		<b>0</b>
<b>PERSONAL PROTECTION:</b>		<b>B</b>

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