

**Y I K S H I N G T A T**

Industrial Co.,Ltd

Solder Manufacturer Ltd



# Product Specification

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( **Version number: HFB-02** )

**Category:**

**Sn-0.7Cu Halogen-free Solder Wire  
Type : M807**

**1. Technical Data Sheet**

**2. Material Safety Data Sheet**



**Yik Shing Tat Industrial Co., Ltd**

**Yik Shing Tat Solder Manufacturer Ltd**

## Technical Data Sheet

### ★ Application

The product is suitable for environmental-friendly iron soldering with good ratio of performance to price. It is made from high-purity raw material by precise technological control. Matching with the enclosed flux, this product has good spreading ability, less fume and splash. This product could be widely used in environmental-friendly electronic assembly.

### ★ Characteristics

#### 1. Chemical composition of solder alloy

Sort	Chemical composition (wt.%)								
	Sn	Pb	Sb	Cu	Bi	Zn	Fe	Al	Cd
Sn-0.7Cu	Bal.	< 0.07	<0.10	0.7±0.1	<0.10	0.001	<0.02	<0.001	<0.002

#### 2. Physical property of solder alloy

Sort	Melting Point (°C)	Spec. Gravity g/cm <sup>3</sup>	Tensile Strength MPa	Resistivity 10 <sup>-9</sup> ohm · m
Sn-0.7Cu	227	7.40	28	100-150

#### 3. Solder wire property

a.

Flux content (%)	Flux Classification	Halogen Test Method	Numbers of cores	Preservability
1.8~3.0	ROL0	IPC-TM-650	Single core	Two years

\* Percent of flux can according as the requirement of client.

b.

Test Items	Test Method	Test Result
Copper plate corrosion test	IPC-TM-650-2.6.15	Pass
Insulation resistance (Ω)	IPC-TM-650-2.6.3.3	> 1.0 × 10 <sup>8</sup>
Solution resistance (Ωm)	JIS-Z-3197	≥ 500
Spreading rate (%)	JIS-Z-3197 (1999)	≥ 75
Dryness test	JIS-Z-3197	Pass

#### 4 · Recommended parameters for iron soldering using M807 solder wire

- a. Using iron with a power of 60-80W;
- b. Recommended iron tip temperature: 370-400°C

#### 5 · Appearance

- a. The surface shall be smooth and glossy uniformly .Extremely poor gloss , and adhesion of foreign matters and dirt shall not be found.
- b. Significant scratches , cracks, tears, and surface oxidization shall not be found.
- c. Noticeable coiling collapse shall not be found.

### ★ Packaging . Marking

#### 1. Packaging

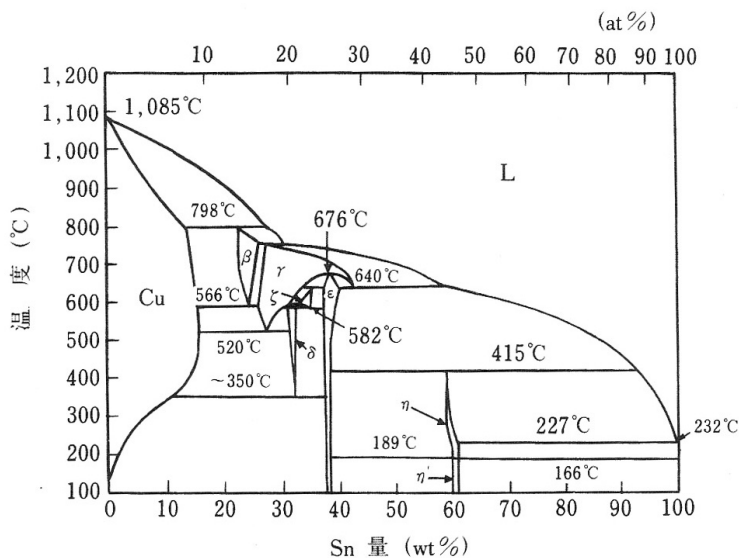
Sort \ Items	Weight / Case	Quantity / Case	Weight / Roll
Solder Wire	12KG/15KG	15 Roll	0.8KG/1KG

\* Choice of packaging can according as the requirement of client.

## 2. Marking

- ① Product name    ②Product code of our company    ③Manufacture's name    ④ Manufacture's Web
- ⑤Net mass    ⑥Type    ⑦Wire diameter    ⑧Alloy composition
- ⑨Flux content

## ★ Sn-Cu Phase Diagram



Eutectic point: Sn-0.7Cu, melting point: 227°C

## ★ Residue Removal

Based upon the using flux, the left residue around the soldering joint should be cleaned or not. If necessary, please select the matching cleaner. The operation is easily and convenient.

## ★ Safety

Lead-free halogen-free solder wire is one kind of environmental-friendly product with good stability. While there will be some fume when using the solder wire. Good ventilation is necessary for the safe of operator.

All of the information included in this technology data are based upon accurate data and freely provided to customer. But no guarantee will be provided for the absolute accuracy of the providing data. Also, no responsibility for the loss and injury result from using this data or demonstrated materials.

## Material Safety Data Sheet

2013-01-04

### SECTION 1 - CHEMICAL PRODUCT AND COMPANY INFORMATION

**Product Identifier: Sn-0.7Cu LEAD-FREE HALOGEN-FREE CORED WIRE**

**MSDS number:** MSDS –Wire Alloy : Sn-0.7Cu

**Product Use:** Soldering flux in cored solder for electrical or electronic applications.

**Manufacturer:**

Yik Shing Tat Industrial Co., Ltd  
Qianjin second Rd, 75 Zone, 76 Section  
Xixiang, Baoan District, Shenzhen, P.R. China  
Information: 86-755-2747 3328

**In Case Of Emergency**  
**CHEMTREC 24-Hour**  
**86-755-2747 3136**

### SECTION 2 - COMPOSITION / INFORMATION ON INGREDIENTS

Name	CAS #	Weight percent (wt%)	OSHA PEL mg/m <sup>3</sup>	TLV-TWA mg/m <sup>3</sup>	TLV-STEL mg/m <sup>3</sup>
<b>Tin (Sn)</b>	7440-31-5	99.3	2.0	2	N.E
<b>Copper (Cu)</b>	7440-50-8	0.7	0.1	0.2	N.E
<b>Rosin</b>	65997-05-9	< 3	N.E	N.E	N.E

### SECTION 3 - HAZARDS IDENTIFICATION

<b>Physical State and Appearance</b>	Solid. (Cored metal wire)
<b>Emergency Overview</b>	Risk of cancer depends on duration and level of exposure. Avoid contact with eyes, skin and clothing. DO NOT ingest. Avoid breathing dust. Avoid prolonged or repeated contact with skin. Keep container closed. Use only with adequate ventilation. Avoid exposure during pregnancy. Wash thoroughly after handling.
<b>Primary Routes of Entry</b>	<input type="radio"/> Skin <input type="radio"/> Eyes <input checked="" type="radio"/> Inhalation <input checked="" type="radio"/> Ingestion
<b>Target Organs</b>	Eyes, mucous membranes and respiratory system.
<b>Potential Health Effects of ACUTE (severe short-term) Exposure</b>	
<i>Inhalation</i>	Flux fumes during soldering may cause irritation and damage of mucous membranes and respiratory system.
<i>Eye Contact</i>	Irritation from contact with smoke from soldering.
<i>Skin Contact</i>	This product may be hazardous in case of skin contact (irritant, sensitizer). Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.
<i>Ingestion</i>	Fumes and/or dusts produced by this product may be hazardous in case of ingestion.
<i>Skin Absorption</i>	None.
<b>Potential Health Effects of CHRONIC (prolonged) Exposure</b>	
Fumes may cause irritation of eyes and mucous membranes, headache, and/or respiratory system irritation or damage.	
<b>Medical Conditions Aggravated by Overexposure</b>	

Chemical hypersensitivity, asthma and other respiratory conditions, existing eye and skin disorders.

#### **Overexposure /Signs/Symptoms**

Not available.

#### **See Toxicological Information (section 11)**

**Notes: The YIKST SOLDER MANUFACTURER does not recommend, manufacture market or endorse any of its products for human consumption.**

### **SECTION 4 - FIRST AID MEASURES**

**Seek medical assistance for further treatment, observation and support if needed.**

#### **EYE CONTACT**

For burns flush immediately with cool water and get medical attention. For fume irritation use eye drops and remove from exposure.

#### **SKIN CONTACT**

For burns flush immediately with cool water. If a rash develops from flux fumes, remove person from exposure and wash skin with soap and water.

#### **INHALATION**

Remove person from exposure to fumes.

#### **INGESTION**

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if necessary.

### **SECTION 5 - FIRE FIGHTING MEASURES**

**Flammability**     Yes     No

**Conditions to avoid**    Not established.

**Flash Point (T.O.C)**    NA

**Auto-Ignition Temperature**    NA

#### **Flammability Limits percent by volume in air**

The greatest known range is LOWER: NA    UPPER: NA

**Extinguishing Means**     Water     Carbon Dioxide     Alcohol Foam     Dry Chemical

#### **Hazardous Combustion Products**

Carbon monoxide, carbon dioxide.

#### **Explosion Sensitivity**

Impact - None Identified.

**Static Discharge Sensitivity**     No     Yes

#### **Special Firefighting Procedures**

Avoid breathing smoke. Wear self-contained breathing apparatus if this material is in the vicinity of a fire.

### **SECTION 6 - ACCIDENTAL RELEASE MEASURES**

#### **Spill or Leak Procedures**

Melted solder will solidify on cooling and can be scraped up. Use caution to avoid breathing fumes if a gas torch is used to cut up large pieces.

### **SECTION 7 - HANDLING AND STORAGE**

**Storage Precautions**

Keep container dry and tightly closed. Keep in a cool, well-ventilated place. Highly toxic or infectious materials should be stored in a separate locked safety storage cabinet or room.

**Handling Precautions**

Wear suitable protective clothing. Use in a well ventilated area. When using do not eat, drink or smoke. Avoid contact with skin and eyes. After handling, always wash hands thoroughly with soap and water.

**Personal Precautions**

Avoid breathing smoke / fumes generated during soldering. Wash thoroughly after handling.

**SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION****Engineering Controls**

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

**Personal Protection\***

<i>Eyes</i>	Safety glasses should be used.
<i>Body</i>	Lab coat.
<i>Respiratory</i>	When ventilation is not sufficient to remove fumes from the breathing zone, a safety approved respirator or self-contained breathing apparatus should be worn.
<i>Hands</i>	Wear rubber gloves to avoid skin contact.

**Hygienic Work Practices**

Wear protective equipment and wash thoroughly after handling.

**\* Note: Suggested protective clothing may not be adequate for a specific process. Consult a specialist before using.**

**SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES**

<b>Physical State at 20 °C</b>	Solid. (Cored wire)	<b>Specific Gravity (water = 1 at 25 °C)</b>	7.40
<b>Boiling Point (760 mm Hg)</b>	NA	<b>Melting Point</b>	227°C
<b>Vapor Pressure (mm Hg at 20 °C)</b>	N.D.	<b>Evaporation Rate (butyl acetate = 1)</b>	N.A.
<b>Vapor Density (air = 1)</b>	N.A.	<b>Percent Volatile (by volume)</b>	0 %
<b>Solubility in Water (% by weight)</b>	0	<b>Volatile Organic Compound (VOC)</b>	N.A.
<b>PH</b>	N.A.	<b>Odor Threshold</b>	N.E.
<b>Freezing Point (760 mm Hg)</b>	N.E.	<b>Coefficient of Water / Oil Distribution</b>	N.E.
<b>Viscosity (mPa·s)</b>	N.A.		
<b>Appearance and Odor</b>	Silver-gray metal in wire, ribbon shapes with a core of flux, no odor.		

**SECTION 10 - STABILITY AND REACTIVITY**

<b>Stability and Reactivity</b>	<input checked="" type="radio"/> Stable <input type="radio"/> Unstable	<b>Conditions to avoid</b>	N.E.
<b>Incompatibility with Various Substances</b>	Strong acid, strong oxidizers		

<b>Hazardous Decomposition Products</b>	Not Applicable.
<b>Hazardous Polymerization</b>	Will not occur.

### SECTION 11 - TOXICOLOGICAL INFORMATION

EXPOSURE LIMITS: Not determined for the product. See Section 2 for ingredients.

Rosin is an allergen. Prolonged or repeated exposure to fumes during soldering may result in allergic reaction in a sensitive person, resulting in eye and skin irritation and asthma symptoms.

### SECTION 12 - ECOLOGICAL INFORMATION

This section is subject to future development.

**Biodegradability** Data not established.

**Aquatic Toxicity** Data not established.

### SECTION 13 - DISPOSAL CONSIDERATIONS

#### Waste Disposal Methods

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

CAUTION: Empty containers may contain product residue. Observe all label precautions.

### SECTION 14 - TRANSPORT INFORMATION

#### DOT Classification

Not Regulated (United States).

#### ADR/RID Classification

Not Regulated (Europe).

#### TDG Classification

Not Regulated (Canada).

### SECTION 15 – REGULATORY INFORMATION

Not Available.

### SECTION 16 - OTHER INFORMATION

#### HMIS (Hazardous Material Information System) Rating

Health: 1 Flammability: 0 Reactivity: 0 Personal Protection: X

**NOTES** To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

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