

**1. Identification**

Product Name:	Solder for High-density PCB, SD-51	Solder for Precision PCB, SD-52
	Solder for Electronic Kit, SD-53	Solder for Plastic/Radio Controlled Model, SD-54
	Solder for Home Appliances, SD55	Solder for PCB, SD-201
	SF-B□ <sup>1</sup> □ <sup>2</sup> □ <sup>1</sup> = 10,40,80 □ <sup>2</sup> =03,04,06,08,10,12,16	
	Lead-free Solder	
Manufacturer:	TAIYO ELECTRIC IND. CO., LTD.	Section: Engineering Department
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	+81-84-951-1512	
Date issued:	February 13 <sup>th</sup> , 2006	Date reviewed: February 06 <sup>th</sup> , 2019

**2. Hazard Identification**

<GHS Classification> Except Not-applicable

Substances and mixtures which, in contact with water, emit flammable

gases:

Corrosive to metals: Classification not possible

Acute toxicity (Oral): Not classified

Acute toxicity (Dermal): Not classified

Acute toxicity (Inhalation: gas): Not classified

Acute toxicity (Inhalation: vapor): Not classified

Acute toxicity (Inhalation: dust and mist): Not classified

Skin corrosion/irritation: Not classified

Serious eye damage/eye irritation: Not classified

Respiratory sensitization: Not classified

Skin sensitization: Not classified

Germ cell mutagenicity: Not classified

Carcinogenicity: Not classified

Reproductive toxicity: Not classified

Specific target organ/systemic toxicity

(Single exposure):

Specific target organ/systemic toxicity Category 1

(Repeated exposure):

Aspiration hazard: Classification not possible

Environmental hazards Not classified

Acute aquatic toxicity: Not classified

Chronic aquatic toxicity:

<GHS Symbol>



<Signal Word>

Danger

## &lt;Hazard statement&gt;

Causes damage to organs through prolonged or repeated exposure.

## &lt;注意書き&gt; &lt;Precautionary statement&gt;

## [Precautionary measures]

Do not breathe dust/fume/gas/mist/vapors/spray.

Wash hands thoroughly after use.

Do not eat, drink or smoke when using this product.

## [Response]

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF ON SKIN (or hair): Wash with plenty of soap and water.

If exposed or concerned: Get medical advice/attention.

If you feel unwell: Get medical advice/attention.

## [Storage]

Store in a container.

## [Disposal]

Dispose of contents/container in accordance with local/regional/national/international regulations

**3.Composition/Information on Ingredients**

Classification of the substance or/mixture: Mixture

Chemical name or common name: Rosin cored solder

Concentration or concentration range

Component	Percent (wt%)	Chemical/Structural Formula	Chemical Substances Control Law No.	CAS No.
Tin	95.9%	Sn	Not applicable	7440-31-5
Silver	0.29%	Ag	Not applicable	7440-22-4
Copper	0.68%	Cu	Not applicable	7440-50-8
Modified Rosin	3.13%	---	Not applicable	---

**4. First-aids Measures**

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF ON SKIN: Wash with plenty of soap and water.

IF IN EYES: Rinse cautiously with water for several minutes. Get medical advice/attention.

IF SWALLOWED: Induce vomiting. Get medical advice/attention.

Most important symptoms/effects: None known

symptoms/effects:

Protection for first-aid responders: None known

responders:

**5. Fire-fighting Measures**

Extinguishing Media: Dry chemical, air foam, carbon dioxide (no water-based media)

Unsuitable Extinguishing Media: Do not use water if metal is molten.

Specific firefighting measures: Fight fire from as far upwind as possible. Eliminate all ignition sources as soon as possible

Special protective actions for Fight from upwind. Wear respiratory protection to prevent inhaling gases.  
fire fighter:

## 6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Collect from upwind. Wear protective glasses/gloves/mask etc.

Environmental precautions

Avoid release to sewage, river, etc.

Methods and materials for containment, neutralizing, and cleaning up

After cooling the leakage, sweep it or absorb it with a vacuum cleaner. Collect and store in a suitable container.

Regarding handing after collection, see "13. Disposal Considerations".

Prevention of secondary hazards

Remove immediately all surrounding ignition sources. Prepare fire extinguishing media.

## 7. Handling and Storage

[Handling]

Appropriate engineering controls: Do not handle with bare hands.

Local exhaust/total ventilation: Use local exhaust ventilation when in use indoor.

Precautions for safe handling: Wear protective glasses/gloves/mask etc.

[Storage]

Appropriate engineering controls: Store in a cool dark place.

Storage condition: Protect from sunlight. Store in a well-ventilated, cool place.

Incompatible materials: Avoid contact with heat, strong acid, strong oxidizer.

## 8. Exposure Controls/Personal Protection

Facility measures: Use local exhaust ventilation when in use.

Administrative levels: Not established

ACGIH TLV: ACGIH TWA 2009 (Tin)2 (Silver)0.1 (Copper)0.2 unit=mg/m<sup>3</sup>

Occupational Japan Society for Occupational Health 2009 (Tin)--- (Silver)0.01 (Copper)---

Exposure Limits: Unit=mg/m<sup>3</sup>

[Protective equipment]

Respiratory: Protective mask

Hands: Protective gloves

Eyes: Protective goggles

Skin and body: Wear protective clothing/apron/boots if needed.

Appropriate hygiene measure: Before eating, drinking and/or smoking, wash hands and gargle well after work.

## 9. Physical and Chemical Properties

Physical state: Metal wire

Odor: None

PH: No available data

Melting/Freezing point: 217-221° C (melting point of metal)

Flammability: Not applicable

Boiling point or initial boiling point and boiling range:	Data unavailable
Flash point:	Not applicable
Auto-ignition temp.:	Not applicable
Vapor pressure:	Data unavailable
Vapor density (air=1):	Data unavailable
Specific gravity (Density):	6.1 (20° C)
Solubility	Insoluble

### 10. Stability and Reactivity

Chemical stability:	Stable at normal temperature
Possibility of hazardous reactions:	Chemical reaction occurs with strong acid, strong oxidizers.
Conditions to avoid:	High temperature, contact with strong acid, strong oxidizers.
Incompatible materials:	Strong acid, strong oxidizers.
Hazardous decomposition products:	Nothing in particular

### 11. Toxicological Information

Acute toxicity:	None known
Skin corrosion/irritation:	None known
Serious eye damage/eye irritation:	None known
Respiratory sensitization:	None known
Skin sensitization:	None known
Germ cell mutagenicity:	None known
Carcinogenicity:	None known
Reproductive toxicity:	None known
Specific target organ toxicity (Single exposure)	Silver: Causes damage to organs (respiratory system) Copper: May cause damage to respiratory tract (respiratory system)
Specific target organ toxicity (Repeated exposure):	Tin: Causes damage to organs (lungs) through prolonged or repeated exposure Silver: Causes damage to organs (respiratory system, inhaled) through prolonged or repeated exposure Copper: Causes damage to organs (liver) through prolonged or repeated exposure
Aspiration hazards:	None known

### 12. Ecological Information

Ecotoxicity:	None known
Persistence and degradability:	None known
Bioaccumulative potential:	None known
Mobility in soil:	None known
Other adverse effects:	Because of unknown hazards do not discard in general environment.

### 13. Disposal Considerations

Commit disposal to special-controlled-industrial-waste contractor approved by government.
Metal composition can be recycled.

**14. Transport Information**

[International regulations]	
UN classification:	Not applicable
UN Number:	Not applicable
UN Proper Shipping Name:	Not applicable
Packing Group:	Not applicable
Marine Pollutant:	Not applicable
Local regulations:	See "15. Regulatory Information".
Special precautions:	Load so that there will be no tumbling, dropping, damaging, or load collapse.

**15. Regulatory Information**

Industrial Safety and Health Act (Japan):	Tin: Harmful Substances Subject to Be Notified by Names, etc. Enforcement Order 18-2, #322 Tin and its compounds Silver: Harmful Substances Subject to Be Notified by Names, etc. Enforcement Order 18-2, #137 Silver and its water-soluble compounds Copper: Harmful Substances Subject to Be Notified by Names, etc. Enforcement Order 18-2, #379 Copper and its compounds
Air Pollution Control Act (Japan):	Not applicable
Water Pollution Prevention Act (Japan):	Not applicable
Sewerage Act (Japan)	Enforcement order Article 9-4: Copper and its compound
Soil Contamination Countermeasures Act (Japan):	Not applicable
PRTR in Japan:	Class 1 Designated Chemical Substance (#82 Silver and its water-soluble compounds)
Poisonous and Deleterious Substances Control Act (Japan):	Not applicable
RoHS in EU:	Compatible (There is no content exceeding the threshold.)

**16. Other information**

The information herein is given in good faith, but is not a warranty. 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, which exist.