

# Safety Data Sheet

## 1 Manufacturer Information

Company Name	Shallin Electronics Co., Ltd.		
Address	No. 45, Lane 135, Sec. 3 Hai An Rd., Tainan, Taiwan 70458		
Person in charge	C.T. Yang		
Emergency Phone #	886-6-2591103	Fax #	886-6-2591105
Item Name	Solder		
Alloy composition	Lead-free Sn99.2/Ag0.3/Cu0.5(RD7311D2)		

## 2 Hazards Identification

<i>Physical State and Appearance</i>	Solid
<i>Emergency Overview</i>	<b>Warning !</b>
	Avoid contact with eyes. Avoid prolonged or repeated contact with skin. Wash thoroughly after handling.
<i>Routes of Entry</i>	Inhalation. Ingestion.
<i>Potential Acute Health Effects</i>	<i>Eyes</i> May be causing irritant in case of eye contact
	<i>Skin</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>Inhalation</i> Fumes and/ or dusts produced by this product may be hazardous in case of inhalation.
	<i>Ingestion</i> This product may be hazardous in case of ingestion.
<i>Potential Chronic Health Effects</i>	Chronic effects: Fumes and /or dusts produced by this product may be hazardous in case of ingestion, of inhalation.

This product may be hazardous in case of skin contact (irritant, sensitizer), of eye contact (irritant). Non-corrosive for skin. Non-permeator by skin.



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*Medical Conditions Aggravated by Overexposure* Repeated or prolonged exposure is not known to aggravate medical condition.

*Overexposure/ Signs/ Symptoms* N/A

### 3 Hazardous Ingredients

Hazardous Components			CAS. No.	TWA	STEL	CEILING	LD 50	LC 50
Common Name	Chemical Formula	weight %						
Tin	Sn	99.2	7440-31-5	2	4	N/A	N/A	N/A
Silver	Ag	0.3	7440-22-4	0.01	0.03	N/A	N/A	N/A
Copper	Cu	0.5	7440-50-8	0.2	N/A	N/A	N/A	N/A
Antimony	Sb		7440-36-0	0.5	1.5	N/A	N/A	N/A
Rosin	-	2.5~3.0	8050/9/7	0.1	N/A	N/A	N/A	N/A

### 4 First Aid Measures

<i>Eye Contact</i>	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.
<i>Skin Contact</i>	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with emollient. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.
<i>Hazardous Skin Contact</i>	Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.
<i>Inhalation</i>	If inhaled, remove to fresh air. If not breathing, give

artificial respiration. If breathing is difficult, give oxygen.  
Get medical attention.

*Hazardous Inhalation*

*Ingestion*

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

*Hazardous Ingestion*

N/A

*Notes to Physician*

N/A

## 5 Fire Fighting Measures

*Suitable extinguisher*

Dry powdered type

*Under high-temperature condition, do not use w* Not applicable.

*Fire fighters must wear special protective equipment*

## 6 Accidental Release Measures

*Small Spill and Leak*

Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

<i>Large Spill and Leak</i>	Use a shovel to put the material into a convenient waste disposal
	container. Finish cleaning by spreading water on the contaminated
	surface and allow to evacuate through the sanitary system.

## 7 Handling and Storage

<i>Handling</i>	Avoid contact with eyes. Avoid prolonged or repeated contact with skin.
	Wash thoroughly after handling.
<i>Storage</i>	Keep container tightly closed. Keep container in a cool, well-ventilated area.

## 8 Exposure Controls, Personal Protection

<i>Engineering Protection</i>	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.

<i>Personal Protection</i>	<i>Eyes</i>	Splash goggles.
	<i>Body</i>	Lab coat.
	<i>Respiratory</i>	Dust respirator. Be sure to use an approved/ certified respirator or
		equivalent. Wear appropriate respirator when ventilation.
	<i>Hands</i>	Gloves.
	<i>Feet</i>	Not applicable.

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

<i>Personal Protection in case of a large Spill</i>	Splash goggles. Full Suit. Dust respirator. Boots. Gloves.
	A self contained breathing apparatus should be used to
	avoid inhalation of the product. Suggested protective
	clothing might not be sufficient; consult a specialist
	BEFORE handling this product.

## 9 Physical and Chemical Properties

Physical State and Appearance	Solid grey color
Smell	Odorless
Chemical Formula	Not applicable.
pH(1% Soln/ Water )	Not applicable.
Acid Value	Not available.
Boiling/ Condensation Point	Not available.
Melting/ Freezing Point	227°C
Critical Temperature	Not available.
Vapor Pressure	Not applicable.
Vapor Density	Not available.
Volatility	Not available.
Odor Threshold	Not available.
Odor	Not available.
Taste	Not available.
Color	sliver-grey.
Specific Gravity	7.38 ( water =1 )
Evaporation Rate	Not available.
VOC	Not available.
Viscosity	Not available.
LogKow	The product is insoluble in water and oil.
Ionicity ( In Water )	Non-ionic
Dispersion Properties	Is not dispersed in cold water, hot water, methanol, diethyl ether, n-octanol, acetone.
Solubility	Insoluble
Physcial Chemical Comments	Not available.

## 10 Stability and Reactivity

Stability and Reactivity	This product is stable.
Conditions of Instability	Stable in normal conditions. Over melting point, will emit toxic tin oxides. ( Tin )
Incompatibility with Various Substances	Slightly reactive with oxidizing agents, acids, moisture.
Hazardous Decomposition Products	Not available.
Hazardous Polymerization	Will not occur.
Corrosivity	Not considered to be corrosive for matalns and glass according to our database.

Special Remarks on Corrosivity	Not available.
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## 11 Toxicological Informaiton

<p>Toxic and Chronic Effects on Humans</p>	<p>Fumes and/or dusts produced by this product may be hazardous in case of ingestion, of inhalation. This product may be hazardous in case of skin contact ( irritant, sensitizer ), of eye contact ( irritant ). Non-corrosive for skin. Non-permeator by skin.</p> <p>MUTAGENIC EFFECTS: Not available.</p> <p>TERATOGENIC EFFECTS : Not available.</p> <p>DEVELOPMENTAL TOXICITY: Not available.</p> <p>The product may be toxic to kidneys, lungs, liver, mucous membranes, upper respiratory tract, skin, eye, lens or cornea.</p> <p>Repeated or prolonged exposure to the substance can produce target organs damage.</p>
<p>Toxicity to Animals</p>	<p>LD50: N/A</p> <p>LC50: N/A</p>
<p>Special Remarks on Chronic Effects on Humans</p>	<p>Prolonged and repeated exposure to tin oxyde fumes may result in benigne pneumoconiosis ( stannosis ). ( Tin )</p>
<p>Chronic Effects on Humans</p>	<p>N/A</p> <p>Developmental Toxicity: N/A</p>
<p>Special Remarks on Other Toxic Effects on Humans</p>	<p>MOLTEN METAL can cause severe Burns!</p> <p>Fumes and dust may irritate eyes, digestive system and respiratory tract. ( Tin )</p>
<p>Special Remarks on Toxicity on Animals</p>	<p>No additional remark</p>

## 12 Ecological Information

<i>Ecotoxicity</i>	Unkown
<i>BOD5 and COD</i>	Unkown
<i>Biodegradable/ OECD</i>	Unkown

<i>Mobility</i>	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
<i>Toxicity of the Products of Biodegradation</i>	The product itself and its products of degradation are not toxic.
<i>Special Remarks on the Products of Biodegradation</i>	N/A

### 13 Disposal considerations

<i>Waste Information</i>	Waste must be disposed of in accordance with federal, state and local environmental control regulations.
<i>Waste stream</i>	N/A
<i>Consult your local or regional authorities.</i>	

### 14 Transport Information

<i>UN Number : None</i>	
<i>UN Transportation name: IATA-Dangerous goods regulations</i>	
<i>Classification: Non-DOT restrictive material</i>	
<i>Packing class: None</i>	
Ocean pollution: No	
Special transport methods and remarks: N/A	

### 15 Regulatory Information

<i>Compliant to Labor /Sanitary Regulations</i>
<i>Standards of labor working environment regulating air density of hazardous materials</i>
<i>Standards of waste handling and storage</i>
<i>Identification rules on hazardous materials</i>
<i>Safety rules of road transportation</i>

## 16 Other Information

Company	Shallin Electronics Co., Ltd.	
Person in Charge	C.T.Yang	
Emergency Phone	886-6-2591103	
Fax	886-6-2591105	
DATE	2016/12/30	