

# MATERIAL SAFETY DATA SHEET

## I. MATERIAL IDENTIFICATION

MATERIAL USAGE: SOLDE RING
TRADE NAME: SOLDER WIRE (LEAD FREE) 0.5mm $\psi$ -2.0mm $\psi$
CHEMICAL NAME: TIN / SILVER / COOPER ALLOY
RSR PART NO : 060714, 060715 AND 060717.

CHEMICAL FAMILY: Metal Alloy	FORMULA: SN: 99.3% AG: 0.3% CU: 0.7 %
MOLECULAR WEIGHT: N/A	ISSUED DATE: 13/Feb./2018
	REVISED DATE: 21/Mar./2019

## II. HAZARDOUS INGREDIENTS AND EXPOSURE

Material or Component:	CAS Number	% Weight	EXPOSURE LIMITS		
			Dust Fume (mg/m <sup>3</sup> )	PEL(OSHA) 8-hr TWA (mg/m <sup>3</sup> )	ACGIH STEL (mg/m <sup>3</sup> )
Tin	7440-31-5	99.0	N/A	N/A	N/A
Silver	7440-21-4	0.3	N/A	N/A	N/A
Copper	7440-50-8	0.7	N/A	N/A	N/A
Rosin	8050-09-7	1.6	N/A	N/A	N/A

## III. PHYSICAL DATA

<b>PHYSICAL STATE</b>  ( at normal cond. )  Gas <input type="checkbox"/> Liquid <input type="checkbox"/> Solid <input type="checkbox"/>	<b>APPERANCE AND</b>  <b>ODER : Silver-grey</b>  metal,  odorless, various  shapes and  sizes.	<b>OTHERS : N/A</b>
<b>VAPOR DENSITY ( Air=1 ) :</b>  N/A	<b>SOLUBILITYIN WATER</b>  ( %by weight ) : N/A	<b>PH : N/A</b>
<b>VAPOR PRESSURE</b>  ( mmHg ) at 20°C : N/A	<b>%VOLATILE BY</b>  <b>VOLUME ( at 20°C ) :</b>  N/A	<b>DENSITY : N/A</b>
<b>SPECIFIC GRAVITY</b>  ( H <sub>2</sub> O=1 ) : ( metal ) 7.3	<b>MELTING POINT ( °C )</b>  217°C	<b>BOILING POINT ( °C ) : N/A</b>

#### IV. FIRE AND EXPLOSION DATA

<b>INFLAMMABILITY :</b> Yes <input type="checkbox"/> No <input type="checkbox"/>	If so, in which conditions :  N/A	<b>Flash Point ( °C ):</b>  Open : N/A      Close : N/A
<b>FIREFIGHTING PROCEDURES :</b> Use NIOSH/MSHA self-contained breathing apparatus and full protective clothing if involved in fire.		
<b>EXTINGUISHING AGENTS :</b> Use dark chemical, carbon dioxide, water spray or foam.		
<b>UNUSUAL FIRE AND EXPLOSION HAZARDS :</b> N/A		

#### V. REACTIVITY DATA

<b>STABILITY :</b> Yes <input type="checkbox"/> No <input type="checkbox"/>	If no, in which conditions?
<b>INCOMPATIBILITY :</b> Yes <input type="checkbox"/> No <input type="checkbox"/>	If no ,in which ones? ( Material to avoid )  Contact with oxidizers acids or hydrogen peroxide may cause a reaction.
<b>HAZARDOUS DECOMPOSITION PRODUCTS :</b> Under reducing conditions or in the Presence of nascent hydrogen, highly toxic stibine gas may be evolved. Over	

melting point

Fumes may be evolved.

HAZARDOUS POLYMERIZATION :

If so, in which conditions?

May occur? Yes  No

N/A

## VI. FIRST AID PROCEDURES

**INHALATION :** Remove from exposure ; place individual under care of physician.

**SKIN/EYE :** No visual appearance-wash skin carefully with soap and water. May cause irritation-rinse thoroughly with water. If irritation persists, seek medical attention.

**INGESTION :** Induce vomiting in conscious individual and call a physician. Give two to three glasses of water.

## VII. PHYSIOLOGICAL EFFECTS

### ROUTES OF EXPOSURE :

Inhalation :

Short Term  Long Term  Skin:Contact  Absorption  Eye  Ingestion

**INHALATION :** Inhalation of fume generated from this product may cause

irritation to the

respiratory system, Inhalation and/or ingestion of fume may cause headache, nausea  
muscular

Pain and possible liver damage. Workers should be aware of potential generation of  
Stifling.

Gas if in contact with acid.

**SKIN/EYE :** Possible mechanical irritation of skin.

**INGESTION :** Prolonged skin contact with fume or dust may cause skin

dermatitis. Over

exposure by inhalation and / or ingestion may cause fatigue, anemia, possible  
central nervous

System damage, nasal inflammation and possible kidney dysfunction.

### POSSIBLE EFFECTS :

Carcinogenic  Reproduction  Terayogenic  Mutagenic

## VIII. PRECAUTIONS

<b>PROTECTIVE CLOTHING AND EQUIPMENT</b>
<b>RESPIRATORY PROTECTION</b> : NIOSH/MSHA respirator for toxic dust, if over limit.
<b>EYES AND FACE</b> : Safety glasses for operation generating flying particles.
<b>HANDS, ARM &amp; BODY</b> : Gloves and goggles
<b>OTHER EQUIPMENT</b> : Approved mask
<b>ENGINEERING CONTROLS</b> e.g. : ventilation, closed process ) : Local exhaust ventilation is required for melting, grinding, screening, soldering or other operations where  Excessive exposure may occur.
<b>SPILL AND PROCEDURES</b> : A clean-up procedure which minimizes exposure is required

Vacuuming is preferred. Place all material in closed containers. Do not use compress air for Cleaning. Use approved respiratory protection if possibility of dust/fume exposure exists.

**HANDLING AND STORING :** Use of approved respirators for application where adequate Ventilation cannot be provided.

#### IX. DISPOSAL AND ENVIRONMENTL

<b>HAZARDOUS :</b>  Yes <input type="checkbox"/> No <input type="checkbox"/>	If so, reportable quantity : N/A
<b>WASTE DISPOSAL METHODS :</b> Material should be returned to process or salvage.  Dispose of only if in accordance with applicable regulations.	
<b>RCRA STATUS OF UNUSED MATERIAL :</b> N/A	

#### X. REFERENCE

**PERMISSIBLE CONCENTRATION,HAZARD INFORMATION,GENERAL,ETC. :**  
  
OSHA regulation 29 CFR 1910.1000 and 1910.1025 documentation of the threshold limit

value 4<sup>th</sup> edition NFPA fire protection guide on hazardous material registry of  
toxic effects on  
chemical substances ( NIOSH ) 1980.  
Regulation resection the quality of the work environment

#### XI. ADDITIONAL INFORMATION

Avoid eating smoking or drinking in work areas. Good personal hygiene is  
essential.

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INFORMATION, CONSIDERATION AND INVESTIGATION.

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