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## MATERIAL SAFETY DATA SHEET

### SECTION 1 : CHEMICAL PRODUCT & COMPANY IDENTIFICATION

#### 1.1 Product Details:

Product Name : # 17 WATER SOLUBLE FLUX CORED SOLDER - LEAD FREE ALLOY  
– Sn96.5/Ag3.0/Cu0.5

Product Code : EM#17-307W

Product Use : Soldering flux in cored solder for electrical or electronic application

#### 1.2 Company's Identification:

Supplier's Name : **Electroloy Metal Pte Ltd.**  
Address : Corporation Place,  
2 Corporation Road #07-01B,  
Singapore 618494

Telephone : +65 64912663  
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### SECTION 2 : HAZARD IDENTIFICATION

#### EMERGENCY OVERVIEW

Hot solder can burn eyes and skin. Fumes during soldering are irritating to eyes and may cause headache and respiratory system irritation or damage.

#### POTENTIAL HEALTH EFFECTS

Eye Contact : May cause severe irritation of the eyes, tearing, blurred vision.

Skin Contact : May cause irritation of the skin.

Inhalation : Overexposure to vapor or fumes may cause headache, dizziness, nausea and dryness or irritation of nose, throat or eyes. Inhalation of Tin Oxide may lead to benign pneumoconiosis. Inhalation of Silver may cause permanent grayish pigmentation of skin, eyes and mucous membranes.

Ingestion : May be harmful if swallowed. May caused vomiting nausea, diarrhea.

Others : May aggravate existing respiratory, skin and allergic condition. Prolonged overexposure to Silver can lead to kidney damage.

### SECTION 3 : COMPOSITION / INFORMATION ON MATERIAL

Chemical Name	C.A.S Number	% by weight	OSHA PEL	ACGIH TLV
Tin	7440 - 31 - 5	96.5	2	2
Silver	7440 - 22 - 4	3.0	0.01	0.1
Copper	7440 - 50 - 8	0.5	0.1	0.2
Proprietary activator	-	<3.5	NE	NE

#### NOTES :-

C.A.S : Chemical Abstract Service

OSHA : Occupational Safety and Health Administration

PEL : Permissible Exposure Limit

ACGIH : American Conference of Government Industrial Hygienists

TLV : Threshold Limit Value

Flux percentage is typically 2.2 - 3.3% wt

### SECTION 4 : FIRST AID MEASURES

Eye Contact	: Promptly flush with a large amount of water for at least 15 minutes. Seek immediate medical attention.
Skin Contact	: Promptly wash with soap and water and rinse thoroughly. Remove contaminated clothing/laundry before reuse. If irritation persists, consult a physician.
Inhalation	: Remove to fresh air. Restore breathing if necessary. If irritation persists, consult a physician.
Ingestion	: Seek immediate medical attention. Never give anything by mouth to an unconscious person.

### SECTION 5 : FIRE-FIGHTING MEASURES

Flammability of the Product	: May be combustible at high temperature due to flux content.
Flash point	: Not available
Lower Explosive Limit	: NA
Upper Explosive Limit	: NA
Auto-ignition Temperature	: Brazing flames can ignite combustibles. Finely divided dust may form explosive mixtures with air.
Extinguishing Media	: Carbon Dioxide, dry Chemical (Note : Do not use water on molten alloy.)
Fire Fighting Instruction	: Wear self-contained breathing apparatus and full protective clothing.

### SECTION 6 : ACCIDENTAL RELEASE MEASURES

Leak/ Spill	: Absorb sweep up. Place into properly labeled waste container and sent for disposal according to Federal, State and local regulations.
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## SECTION 7 : HANDLING AND STORAGE

Handling	: This product is for industrial use only. Wash hands after use. Avoid contact with eyes, skin and clothing. Avoid inhalation of soldering fumes during process. Do not take internally. Keep out of reach of children. Observe good industrial practices.
Storage	: Store in a well-ventilated, dry area in ambient temperature.

## SECTION 8 : EXPOSURE CONTROL AND PERSONAL PROTECTION

Engineering Controls	: Use general or local ventilation to keep exposure level below exposure limit.
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### PERSONAL PROTECTIVE EQUIPMENT

Respiratory	: Use respirable fume respirator or air supplied respirator when soldering in confined space or where local exhaust or ventilation does not keep exposure below TLV.
Eye	: Wear approved safety glasses or goggles with unperforated sideshields. Wear equipment appropriate for soldering operation.
Skin	: Wear chemically impervious gloves. Wear equipment appropriate for soldering.
Other	: An emergency eyewash station should be available in case of accidental eye contact.

## SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES

Physical State at 20 °C	: Solid
Boiling Point (760 mm Hg)	: NA °F                      NA °C
Vapor Pressure (mm Hg at 20°C)	: ND
Vapor Density (air=1)	: NA
Solubility in water (% by weight)	: Insoluble(Wire is insoluble in water, core flux is soluble in water).
pH	: NA
Freezing Point (760mm Hg)	: NA
Appearance and Odor	: Silver-gray metal in wire with a core of flux, no odor.
Specific Gravity(water=1 at 25°C)	: ~ 7.4
Melting Point	: 217-219 °C
Evaporation Rate(butyl acetate=1)	: NA
Percent Volatile (by volume)	: 0%
Volatile Organic Compound (VOC)	: NA g/Litre
Odor Threshold	: NE
Coefficient of water/Oil Distribution	: NE

## SECTION 10 : PHYSICAL HAZARDS (STABILITY AND REACTIVITY)

Stability	: Stable
Hazardous Polymerization	: Can occur due to core flux content.
Condition to Avoid	: Moisture, excessive heat during storage.
Incompatibility	: Strong acid and alkalis, oxidizing agents.
Hazardous Decomposition Products	: Carbon Dioxide, Carbon Monoxide, Metal Oxide.

## SECTION 11 : TOXICOLOGICAL INFORMATION

Exposure Limits : See Section 3 for ingredients.

## SECTION 12 : ECOLOGICAL INFORMATION

Keep out of waterway.

## SECTION 13 : DISPOSAL INFORMATION

Waste Disposal Method : Waste / Solder can be reclaimed.

Disposal waste residues in accordance with all Federal, State and Local Regulations regarding pollution and waste disposal.

## SECTION 14 : TRANSPORT INFORMATION

DOT Shipping Data : Not Regulated

Canadian TDG : Not Regulated

## SECTION 15 : REGULATORY INFORMATION

All Chemical substances in this product are listed in the EPA (Environment Protection Agency) TSCA (Toxic Substances Control Act) inventory.

Risk phrases	: R20/21/22	Harmful by inhalation, in contact with skin and if swallowed.
	R33	Danger of cumulative effect.
	R42/43	May cause sensitisation by inhalation and skin contact.

Safety phrases	: S3/9/14	Keep in cool, well ventilated place away from oxidizing agent.
	S23	Do not breathe fume or vapor.
	S24/25/26/28	Avoid contact with skin or eyes. In case of contact with eyes, rinse immediately with plenty of water. After contact with skin, wash immediately with plenty of water.
	S36/37/39	Wear suitable protective clothing, gloves and eye/face protection.
	S44	If you feel unwell, seek medical advice.
	S46	If swallowed seek medical advice immediately.
	S53	Avoid exposure - obtain special instructions before use.

## SECTION 16 : OTHER INFORMATION

NFPA Rating :  
Health : 1      Flammability : 1      Reactivity : 0

HMIS Rating :  
Health : 1      Flammability : 1      Reactivity : 0

The information contained herein is based on data considered accurate and is offered solely for information, consideration and investigation.

Electroloy extends no warranties, makes no representation and assumes no responsibility as to the accuracy, completeness or suitability of this data for any purchaser's use. The data on this Material Safety Data Sheet relates only to this product and does not relate to use with any other material or in any process. All chemical products should be used only by or under the direction of technically qualified personnel who are aware of the hazards involved and the necessity for reasonable care in handling. Hazard communication regulations require that employees must be trained how to use a Material safety Data Sheet as a source of Hazard information.

NE = Not Established  
NA = Not Applicable