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## MATERIAL SAFETY DATA SHEET

### SECTION 1 : CHEMICAL PRODUCT & COMPANY IDENTIFICATION

#### 1.1 Product Details:

Product Name : SOLDER BAR - LEAD FREE ALLOY - Sn42/Bi58  
Product Code : LF-302B  
Product Use : Solder for electrical or electronic application

#### 1.2 Company's Identification:

Supplier's Name : **Electroloy Metal Pte Ltd.**  
Address : 67, Tuas Ave 1,  
Singapore 639509  
Telephone : +65 6491 2663  
Facsimile : +65 6399 2168

### 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

Exposure routes: Inhalation, skin and/or eye contact.

EYE CONTACT : May cause irritation of the eyes.  
SKIN CONTACT : May cause irritation of the skin.  
INHALATION : Overexposure to vapor or fumes may cause headache, dizziness, nausea & dryness or irritation of nose, throat or eyes. Inhalation of Tin Oxide may lead to benign pneumoconiosis.  
INGESTION : May be harmful if swallowed. May cause vomiting, nausea, diarrhea  
OTHERS : May aggravate existing respiratory, skin and allergic condition.

### SECTION 3 : COMPOSITION / INFORMATION ON MATERIAL

Chemical Name	C.A.S Number	% by weight	OSHA PEL	ACGIH TLV
Tin	7440-31-5	42	2	2
Bismuth	7440-69-9	58	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

### 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

Flash point	: Non-flammable
Lower Explosive Limit	: NA
Upper Explosive Limit	: NA
Auto-ignition Temperature	: Massive alloy is non-flammable. 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	: 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)	: 0
pH	: NA
Freezing Point(760 mm Hg)	: NA
Appearance and Odor	: Silver-gray metal, no odor
Specific Gravity (water=1 at 25°C)	: ~8.7
Melting Point	: 138°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	: Will not occur
Condition to Avoid	: Moisture , excessive heat during storage.
Incompatibility	: Strong acids 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.

## SECTION 16 : OTHER INFORMATION

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

HMIS Rating :  
Health : 1      Flammability : 0      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