SAFETY DATA SHEET

1. Product and Manufacturer Information

Product Name : Flux-cored solder , Tin/Lead alloy and Solders
Manufacturer/Supplier/Importer Address/TEL/FAX : Ku Ping Enterprise Co., Ltd.
TEL : 8862-8201-3987/88/89 No. 5, Lane 302, Hsin-shuh Road,
FAX : 8862-8201-2368-(2388) Hsin-Chuang City, Taipei Hsien, Taiwan

2. Ingredients and Hazards

Chemical Characteristics : Tin/Lead alloy			
Hazardous Material Classification and Figure : CONTAINS LEAD - HARMFUL CONTAINS ROSIN - IRRITANT	G		
Hazardous Ingredients Name	WT%	C.A.S. Number	Organic Standard
Tin / SN	60-64(see product marking)	7440-31-5	Not Applicable
Lead / PB	36-40(see product marking)	7439-92-1	Not Applicable

3. Health Hazard Data

The most hazard and effects : Ingalation, eyes contact and ingestion during use of the product.
GHS :  
Warning Hazard
Ingalation : When welding and the temperature can be up to 500°C, fume could be generated to cause anemia, constipation, abdominal pain . Over inhalation could be harmful to such systems as blood, nerv, fertile, digestion and urinary, In addition, the lead fume could be harmful to infantile nerve system of pregnant mother.
Skin contact : The melt and high-temperature tin-lead alloy could cause skin scalding.
Eye contact : Fume could be irritant or allergic to eyes.
Ingestion : It could cause vomiting; periodic ingestion could cause nerve system paralysis of arm and medial malleolus.
Symptom of hazard : Irritation of eyes, headache, skin allergy.

4. Emergency First Aid

Different routes of entry : Eyes, skin contact, inhalation & ingestion
Inhalation : Remove person from exposure and restore breathing fresh air first, then get medical treatment.
Skin contact : Wash with soap water', use cold water to soak the scalded skin and see doctor for treatment, if necessary.
Eye contact : Flush eyes with large amount of water and get medical attention.
Ingestion : Get medical attention.

5. Fire and Explosion Hazard Data

Extinguishing Media : CO_2, Chemical powder, Bubble type Extinguisher, Water
The hazard when extinguishing : Spraying melt alloy when it is being pouring water could cause persons to be scalded.
Special firefighting procedures : None recommended
Protective measures for firefighting man : Protective cloths and breath device are required to wear.

6. Procedures if Material is Spilled or Released

Precautions for person : Recycle when the temperature of the spilled materials becomes cool and returns normal, but be careful to treat in order to avoid scalding.
Precautions for environment : Spilled materials must be recycled.
Steps to be taken if material is spilled or released : Scrape off and recycle when spilled materials are cooling down.

7. Precautions to be taken in handling and storage

Handling : Working temperature shall not exceed 500^{o}C in which persons shall wear protective equipment to avoid inhaling gas, powdery dust.
Storage : store in waterproof and non-polluted area. Put warning label and check regularly.

8. Protective measures against exposure

Material engineering control : Provide adequate exhaust ventilation (general and/or local) necessary to meet exposure requirements. Control exposure concentration as low at allowable level.		
Control Parameters		
Average allowable concentration when 8 hours running TWA	Average allowable concentration when Short-time running STEL	Average concentration allowed CEILING
Sn : 2.0mg/m^3 ; Pb : 0.05mg/m^3	Sn : 2mg/m^3 ; Pb : 0.15mg/m^3	Sn : 58.2mg/m^3 ; Pb : 38.8mg/m^3
Protective Measures Respiratory Protection : Wearing respirator is required. Protective gloves : required. Eye protection : Use goggles or face shield Other protcctive clothing/shoes and equipment : recommended.		
Hygienic work practices : Wash hands and face after handling chemicals. Smoking or eating is not allowed when working.		

9. Physical and Chemical Data

Material state : Solid	Appearance : wire1, strap, bar
Color : Silver-gray	Odor : None
pH : Not applicable	Boiling point : Melting point : 183^{0}C
Decomposition temperature : None	Flash Point : Not applicable
Auto-ignition temperature : Not applicable	Exposure limit : Not determined
Vapor pressure : Not applicable	Vapor density : Not applicable
Specific gravity water : 1	Solubility : None in water

10. Stability and Reactivity

Stability : Stable under all conditions
Probably hazard effect under special condition : None known
Condition to avoid : Heat, Flame, Wet and soaking
Materials to avoid : Strong acids, strong oxidizing materials
Hazardous decomposition products : Metal powdery dust and gas

11. Toxicological Properties

Level of Toxicity Acute effect : possibly cause irritation to eyes, nose, throat and skin. Local effect : none known.
Sensitivity : none known
Effects of chronic exposure : Patients with skin or respiratory problems are likely to be harmful.
Special effects : None known.

12. Ecological Data

Probable effect to environment : 1. Soil dispersal 2. Water dispersal 3. Air dispersal

13. Waste Disposal

Waste disposal method : Solder metal can be recycled by reclamation.

14. Delivery Information

Internatinal delivery regulation : LATA-Dangerous Goods Regulation, Not restricted
UN code : Not regulated
Domestic delivery regulation : Road traffic Safety Regulation Item 84
Vessel regulations on dangerous goos
Railroad regulations on dangerous goods
Special delivery method and precaution : None known

15. Law and Regulation

Conform to regulation : 1. Labor Safety & Sanitary Device Regulation 2. Standards for the density of hazardous materials for labor working environment 3. Identification rules for hazardous and harmful materials 4. Standards for waste disposal treatment and facility requirement 5. Road traffic safety rules

16. Additional Information

Reference : MSDS database, CCINFO CD 98-2, NIOSH/OSHA, Occupational Health Guidelines for Chemical Hazards, 1981 Prepared by : Tony Yang Date : July. 31, 2015 Remark : These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.