

MATERIAL SAFETY DATA SHEET



Asahi Cored Lead Free Solder Wire

Sn96.5/Ag3.5 (Core Flux : CLF5013)

MSDS #: EHC 2 – 7/5

Date of Preparation: December, 2003

SECTION 1: CHEMICAL PRODUCT & COMPANY IDENTIFICATION

1.1 Product Details:

Product Name : Asahi Cored Flux Lead-Free Solder Wire

Trade Name : Asahi Cored Flux Lead-Free Solder Wire Sn96.5/Ag3.5 (Core Flux : CLF5013)

Use : Cored flux solder wire may be used for manual soldering or in repair and rework for electrical or electronic assemblies.

1.2 Company's Identification:

Manufacturer's Name and Address : Singapore Asahi Chemical & Solder Industries Pte Ltd
47 Pandan Road
Singapore 609288

Telephone : (65) 6262-1616

Facsimile : (65) 6261-6311

1.3 Contact Point:

Designation : Chemist

Emergency Telephone Number: (65) 6262-1616

SECTION 2: COMPOSITION/INFORMATION ON MATERIAL

Chemical Name	CAS No.	%	OSHA PEL (mg/m ³)	ACGIH TLY (mg/m ³)	Other Limits Recommended
Tin (Sn)	7440-31-5	96.5	2.0	2.0	
Silver	7440-22-4	3.5	Dust/Fumes 0.1 Soluble Compounds 0.01	0.1 0.01	
Flux % in Core Wire		3			
Flux Composition:					
Resin		85-95			
Activators		5-10			
Solvent		Rem.			
Total		100			

SECTION 3: HAZARD IDENTIFICATION

Class of Hazards Chemicals :

Effect of Acute (severe short term) Exposure: Acute toxicity of the alloy is low.

INHALATION : Inhalation of soldering fumes may cause irritation to the respiratory tract and may lead to central nervous system effects (drowsiness, dizziness, headaches, nausea, vomiting, headache, joint and muscle pain. Long term inhalation of tin or insoluble tin compounds may cause tin dust lungs (stannosis).

SKIN CONTACT : Excessive absorption of silver is local or generalized impregnation of tissues, retained as silver sulfide resulting in argyria (bluish discoloration of skin and mucous membranes).

EYE CONTACT : Soldering fumes may cause irritation to the eyes.

INGESTION : Intake of tin has caused vomiting, diarrhoea and depression of the central nervous system with symptoms like fatigue, headache and ataxia. Large doses of colloidal silver (administered to animals) produced pulmonary edema and congestion resulting in death.

SECTION 4: FIRST AID MEASURES

Ingestion : Seek medical attention.

Eye Contact : Flush eyes with plenty of water immediately for at 15 minutes. Seek medical attention.

Skin Contact : Wash thoroughly with soap and warm water.

Inhalation : Evacuate to a safe area with fresh air.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing Media : NA

Fire Fighting Instructions : NA

Special Hazards : NA

Unusual Fire and Explosion Hazards : Flux may burn if soldering is done with a flame.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Leak/Spill : Place into properly labeled waste container and may be sent for recovery following appropriate recovery routes or methods.

SECTION 7: HANDLING AND STORAGE

Handling : Wash hand thoroughly with soap and water prior to eating, drinking or smoking. Do not smoke while soldering. Avoid inhalation of vapors and contact with skin and eyes. Observe good industrial practices.

Storage : Store in a cool environment away from oxidizing agents.

SECTION 8: EXPOSURE CONTROL AND PERSONAL PROTECTION

Engineering Measures : Maintain general or local exhaust ventilation to meet exposure limit requirements.
Personal Protection : Operator should be protected from soldering fumes
PROTECTIVE GLOVES : Impervious rubber
EYE PROTECTION : Safety glasses

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Metallic coil with flux in the center of the coil.
Odor : No odor.
Solubility in water: : Soluble (flux)
Boiling Point(°C) : NA (solder); 124°C (flux)
Melting Point(°C) : 221°C (solder)
Vapor Pressure(mm of Hg at 20°C) : NA
Vapour Density (air=1) : NA
Percentage Volatiles (by Volume) : NA
Volatile Organic Compound (VOC) : NA
Evaporation Rate (butyl acetate=1) : NA
Specific Gravity (water=1 at 25°C) : 7.36 (solder)
Flash Point (°C) : NE
Auto-ignition Temperature(°C) : NE

SECTION 10: PHYSICAL HAZARDS (STABILITY AND REACTIVITY)

Condition to avoid : Unknown
Incompatibles : Oxidizing materials
Decomposition products : Unknown
Hazardous polymerization : Will not occur

SECTION 11: TOXICOLOGICAL INFORMATION

Toxicity data : Organic tin compounds are toxic and will cause damage to health if ingested. Soluble silver compounds may affect the liver.
Carcinogenicity : Not listed
Effect on reproductive organ: NE
Effects of overexposure (Chronic Effect): Breathing of vapors may produce respiratory irritation.
Target Organs : Respiratory system (from fumes)
Medical Conditions Generally Aggravated by Exposure: Soldering fumes may irritate the eyes.

SECTION 12: ECOLOGICAL INFORMATION

Mobility & Bioaccumulation : Non volatile material
Biodegradability : Non biodegradable
Aquatic Toxicity : Organic and inorganic tin compounds are toxic to the aquatic ecosystems.

SECTION 13: DISPOSAL INFORMATION

Dispose according to federal, state and local regulations. This product is suitable for recovery following appropriate recovery routes or methods. If in doubt, contact Singapore Asahi.

SECTION 14: TRANSPORT INFORMATION

UN Number : NA
T.D.G. Classification : NA
Packing group : NA
Special shipping instruction : NA

SECTION 15: REGULATORY INFORMATION

- a. Proposed classification : Harmful
- b. Risk phrase
 - R20/21/22 Harmful by inhalation, in contact with skin and if swallowed.
 - R36/37/38 Irritating to the eyes, respiratory system and skin.
- c. Safety phrase
 - S23 Do not breath fume or vapor.
 - S24/25/26 Avoid contact with skin or eyes. In case of contact with skin, rinse immediately with plenty of water.
 - S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
 - S59 Refer to manufacturer/supplier for information on recovery/recycling.

SECTION 16: OTHER INFORMATION

THIS INFORMATION RELATES ONLY TO THE SPECIFIC MATERIAL DESIGNATED AND MAY NOT BE VALID FOR SUCH MATERIAL USED IN COMBINATION WITH ANY OTHER MATERIALS OR IN ANY PROCESS. SUCH INFORMATION IS TO THE BEST OF THE COMPANY'S KNOWLEDGE AND BELIEVED ACCURATE AND RELIABLE AS OF THE DATE INDICATED.

HOWEVER, NO REPRESENTATION, WARRANTY OR GUARANTEE IS MADE AS TO ITS ACCURACY, RELIABILITY OR COMPLETENESS. IT IS THE USER'S RESPONSIBILITY TO SATISFY HIMSELF AS TO THE SUITABILITY AND COMPLETENESS OF SUCH INFORMATION FOR HIS OWN PARTICULAR USE.

*optional

NE = Not Established
NA = Not Applicable
PEL = Permissible Exposure Level