

MATERIAL SAFETY DATA SHEET

Tin-Zinc Solders

Trade Name: Kapp TinZinc Solders for Aluminum to Aluminum and Copper Alloys	Ref. Kapp ID No. 121-126
Composition: 91 - 48% Tin / 9 - 52% Zinc	
Manufacturer: Kapp Alloy & Wire, Inc.	
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Please retain this sheet for your files. Kapp Alloy maintains a file of Material Safety Data Sheets (MSDS) for each alloy produced in compliance with Federal OSHA Hazard Communication Standard (29 CFR 1910.1200) & various right-to-know laws.

The information and recommendations contained within this publication have been compiled from sources believed to be reliable and to represent the best information available to Kapp Alloy and Wire, Inc. at the time of issue. It is our policy to include an MSDS with initial orders for each product. This submission is to become a matter of record and need not accompany subsequent shipments for the same product to the same customer. The information contained on this sheet is intended solely for employee health and safety education and not for contract specification purposes. No warranty, guarantee, or representation is made by Kapp Alloy and Wire, Inc., nor does Kapp Alloy and Wire, Inc. assume any responsibility in connection therewithin; nor can it be assumed that all acceptable safety measures or other safety measures may not be required under particular or exceptional conditions or circumstances. Should you need additional information, contact us.

I - MATERIAL IDENTIFICATION / COMPONENTS

*(Hazardous components 1% or greater; Carcinogens 0.1% or greater)

Component	CAS No.	OSHA PEL	ACGIH TLV	OTHER	% (optional)
Tin (Sn)	7440-31-5	2 mg/m ³	2 mg/m ³	Molecular wt.: .264 lbs./in. ³	91 - 48
Zinc (Zn)	7440-66-6	5mg/m ³	5 mg/m ³	“ .257 lbs./in. ³	9 - 52

NA = Not Applicable, NE = Not Established NAIF = No Applicable Information found

II - PHYSICAL / CHEMICAL CHARACTERISTICS

Boiling Point: Sn @ 4120°F / 2270°C Zn @ 1663°F / 906°C	Melting Point: 390 - 650°F / 198 - 343°C
Vapor Pressure (mm Hg.): N/A	Vapor Density (AIR = 1): N/A
Specific Gravity: .2633 lbs./in. ³	
Solubility in Water: 0 (solid)	Evaporation Rate (Butyl Acetate = 1): N/A
Appearance and Odor: Lustrous, silver metal; odorless / various shapes and sizes.	

III - FIRE AND EXPLOSION HAZARD DATA

Flash point	Auto Ignition	Flammability Limits	LEL	UEL
& Methods Used: N/A	Temperature: N/A	(in air, % by volume):	N/A	N/A
Extinguisher Media:	CO ₂ or dry chemical extinguisher.			
	DO NOT USE WATER ON MOLTEN METAL.			
	Large fires may be flooded with water from a distance.			
Special Fire Fighting Procedures:	Use NIOSH/MSHA -approved self-contained breathing apparatus and full protective clothing if involved in fire.			
Unusual Fire and Explosion Hazards:	Finely Divided dust may form explosive mixture with air. NEVER DROP WATER OR LIQUIDS INTO MOLTEN SOLDER. Do not plunge damp or wet solder bars/pieces into molten solder.			

IV - REACTIVITY HAZARD DATA

Stability: STABLE	Conditions to avoid: NONE
Incompatibility (materials to avoid): Strong Acids, Strong Alkalis	
Hazardous Decomposition Products: NONE	HAZARDOUS POLYMERIZATION WILL NOT OCCUR

V - HEALTH HAZARD DATA

PRIMARY ROUTES OF ENTRY:	Inhalation:	Fumes
	Ingestion:	Solid metal - not edible; highly unlikely
	Skin Absorption:	N/A

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SIGNS AND SYMPTOMS OF OVEREXPOSURE:

Flu-like symptoms (nausea, constipation, headache, dizziness) - self-limiting, usually disappear within 24 hours

VI - EMERGENCY AND FIRST AID PROCEDURES

INGESTION: Drink large quantities of water - induce vomiting.

Call a physician at once; advise of chemical composition (section II).

SKIN: Wash thoroughly with water to remove all residue. If a rash develops, call a physician.

INHALATION: Terminate exposure and remove to fresh air. Call physician, advise of chemical composition (section II).

EYES: Flush with water for at least 15 minutes to remove irritant. Consult a physician.

VII - EFFECTS OF ACUTE EXPOSURE

(Sn) Tin: Elemental Tin is NOT generally considered to be toxic.

(Zn) Zinc: Excessive inhalation of zinc oxide fumes may produce symptoms known as "zinc shakes" which are flu-like and usually cease when the individual is removed from the source.

NOTE: IT IS UNLIKELY THAT NORMAL EXPOSURE (USING APPROPRIATE PROTECTIVE EQUIPMENT) TO THIS SOLDER WOULD RESULT IN ILLNESS.

VIII - CONTROL AND PROTECTIVE MEASURES

Respiratory Protection: Use NIOSH-approved breathing apparatus to prevent exposure to dusts and fumes.

Eye Protection: Approved safety glasses or welding goggles, appropriate to your procedure, should be worn.

Ventilation: Local Exhaust: YES Mechanical: YES Special: Conform with your regulatory statutes.

Protective gloves are recommended, especially for high temperature applications to prevent burns.

Other: Standard protective equipment used in soldering (/applicable) operations.

Conform with all local, state, federal regulations.

IX - PRECAUTIONS FOR SAFE HANDLING AND USE / LEAK PROCEDURES

Steps to be taken if material is spilled or released: SOLDER IS SOLID/RECYCLABLE. Vacuuming is recommended for accumulated metal dust from saw/grind operations.

Waste Disposal Method: DISPOSE OF ACCORDING TO FEDERAL, STATE, LOCAL AND OSHA REGULATIONS.

Precautions to be taken in handling and storage: DRY STORAGE; AMBIENT TEMPERATURE

Other Precaution / Special Handling: Wet or moist ingot(s) WILL present an explosion hazard when submerged in molten solder.

AVOID FIRE RISKS. Always preheat ingot before charging into furnace.

	*0 = Insignificant	1 = Slight	2 = Moderate	3 = High	4 = Extreme		
NFPA RATING:	Health:	1	Flammability:	0	Reactivity:	0	Special: 0
HMIS RATING:	Health:	1	Flammability:	0	Reactivity:	0	Special: 0

X. OPTIONAL INFORMATION

DEPARTMENT OF TRANSPORTATION:

Proper shipping name: Solder alloy - NOT REGULATED

Hazard Class: NAIF

ID & Packing Group Number: NAIF

ERG Guide Number: NAIF

SARA Title III Program: This product contains no toxic chemicals subject to the reporting requirements of EPCRA of 1986 and 40 CFR 372

This information must be included in all MSDS that are copied and distributed for this material.

**GOOD HOUSEKEEPING PROCEDURES SHOULD BE MAINTAINED.
PERSONNEL SHOULD WASH THOROUGHLY BEFORE SMOKING OR EATING
FOOD AND DRINK SHOULD NOT BE CONSUMED OR TOBACCO PRODUCTS USED.
NOR COSMETICS APPLIED IN AREAS WHERE EXPOSURES EXIST.**