

Material Safety Data Sheet

KESTER SOLDER
515 E. TOUHY AVENUE
DES PLAINES, IL 60018

MSDS Number: "A" Core
 Date Prepared: 20 May 1993
 Supersedes: 01 June 1992
 Prepared By: D. Bernier

88923

Telephone Number For Information: (708) 297-1600
 CHEMTREC 24-Hour Emergency Telephone Number: (800) 424-9300

SECTION 1 - PRODUCT IDENTIFICATION AND USE

"A" FLUX CORED SOLDER

Product Name And Number As Used On Label

PRODUCT USE: Soldering flux in cored solder for general applications.

NFPA Rating: Health: 1 Flammability: 2 Reactivity: 0 Special:
 HMIS Rating: Health: 1 Flammability: 2 Reactivity: 0 Personal Protection: X

88923

DOT: Not Regulated.

WHMIS: Class D, Division 2, Subdivision B.

TDG: Not Regulated.

NA = Not Applicable NE = Not Established UN = Unknown

SECTION 2 - INGREDIENTS AND HAZARDS

HAZARDOUS INGREDIENTS 1% or greater CARCINOGENS 0.1% or greater	C.A.S. Number	WT. %	OSHA PEL mg/m ³	ACGIH TLV TWA mg/m ³
Lead	7439-92-1*	**	0.05	0.15
Tin	7440-31-5	**	2.0	2.0
Silver	7440-22-4*	**	0.01	0.1
Bismuth	7440-69-9	**	NE	NE
Antimony	7440-36-0*	**	0.5	0.5
Ammonium Chloride	12125-02-9	<2	10	20
Ethylene Glycol	107-21-1	<1	NE	NE
NON-HAZARDOUS INGREDIENTS				

NOTES : *This Chemical is subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

** Composition and weight % of solder alloys varies widely and can be determined by product label.

Flux in core is typically 1-3 % by weight.

Date Prepared: 20 May 1993

88923

SECTION 3 - PHYSICAL DATA

Boiling Point (760 mm Hg): NA° F NA° C	Specific Gravity (water = 1 at 25 °C): > 1
Vapor Pressure (mm Hg at 20 °C): NA	Melting Point: NA° F NA° C
Vapor Density (air=1): NA	Evaporation Rate (butyl acetate=1): NA
Solubility in Water (% by weight): 0	% Volatile (by volume): NA
pH: NA	Volatile Organic Compound (VOC): NA g/liter
	Odor Threshold: NE

Appearance and Odor: Silver-gray metal in wire, ribbon or preformed shapes with a core of flux.

SECTION 4- FIRE AND EXPLOSION HAZARD DATA

Flash Point (T.O.C.): NA° F NA° C Auto-Ignition Temperature: NA° F NA° C
 Flammability Limits % by volume in air LEL: NA UEL: NA
 Extinguishing Media: () WATER () CARBON DIOXIDE () ALCOHOL FOAM () DRY CHEMICAL

Hazardous Combustion Products: Melted solder may liberate carbon monoxide, carbon dioxide, lead oxide fumes.

Explosion Sensitivity: Impact - None Identified Static discharge - () Yes (X) No

Special Firefighting Procedures: Wear self-contained breathing apparatus if this material is in the vicinity of a fire.

Unusual Fire and Explosion Hazards: Flux in cored solder may ignite when the solder melts in a fire.

SECTION 5 - REACTIVITY HAZARD DATA

STABILITY (X) Stable () Unstable Conditions to Avoid: None

Incompatibility (materials to avoid): Strong acid, strong oxidizers.

Hazardous Decomposition Products: When heated to soldering temperatures, the solvent in the flux will boil away and carry up droplets of thermal degradation products such as aliphatic aldehydes and acids. No lead is detected in fumes from soldering below 1000 °F (537 °C).

HAZARDOUS POLYMERIZATION:

() May Occur Conditions To Avoid: NE

(X) Will Not Occur

SECTION 6 - HEALTH HAZARD DATA

EXPOSURE LIMITS: Ingested LD(50): NE g/Kg Inhaled LC(50): NE g/Kg

Primary exposure during soldering is to evaporated solvent which may contain organic decomposition products.

PRIMARY ROUTES OF ENTRY: () Skin (X) Eyes (X) Inhalation (X) Ingestion

TARGET ORGANS: Flux fumes: eyes, mucous membranes and respiratory system. Ingestion of lead metal can affect kidneys, gastrointestinal, reproductive and neurological systems.

EFFECTS OF ACUTE (severe short-term) EXPOSURE:

INHALATION: Flux fumes during soldering may cause irritation and damage of mucous membranes and respiratory system.

SKIN CONTACT: Possible local irritation by contact with flux or fumes.

SKIN ABSORPTION: None.

EYE CONTACT: Irritation from contact with smoke from soldering.

INGESTION: Not likely to occur.

EFFECTS OF CHRONIC (prolonged) EXPOSURE: Breathing fumes during soldering may cause respiratory irritation, headache and irritation of mucous membranes. Repeated ingestion of lead can result in systemic poisoning.

Medical Conditions Generally Aggravated by Exposure: Pre-existing conditions of the lungs, diseases of the blood and blood-forming organs, kidneys, nerves and possibly reproductive system

CARCINOGEN () NTP () OSHA (9) IARC () Not Listed

EMERGENCY FIRST AID PROCEDURES: Seek medical assistance for further treatment, observation and support if needed

EYE CONTACT: For burns flush immediately with cool water. For fume irritation use eye drops and remove from exposure.

SKIN CONTACT: For burns flush immediately with cool water. If a rash develops from flux fumes, remove person from exposure and wash skin with soap and water.

INHALATION: Remove person from exposure to fumes.

INGESTION: NA

SECTION 7 - PROCEDURES FOR MATERIAL CONTROL

Steps to be Taken If Material Is Spilled Or Released: Melted solder will solidify on cooling and can be scraped up. Use caution to avoid breathing fumes if a gas torch is used to cut up large pieces.

Waste Disposal Methods: Solder can be reclaimed.

CAUTION : Empty containers may contain product residue. Observe all label precautions.

Precautions to be Taken in Handling and Storage: Store away from sources of sulfur. Wash hands after handling solder containing lead before eating or smoking. Avoid breathing smoke / fumes generated during soldering. Do not place flux cored solder into a hot solder pot because the flux may ignite.

SECTION 8 - PROTECTIVE MEASURES

Respiratory Protection: Usually not required. When ventilation is not sufficient to remove fumes from the breathing zone, a cartridge type respirator should be worn.

Protective Gloves: Usually not required.

Eye Protection: When soldering, use goggles or face shield.

VENTILATION TO BE USED: Provide adequate exhaust ventilation (general and / or local) to meet TLV requirements

Other Protective Clothing and Equipment: None.

Hygienic Work Practices: Wash hands thoroughly after handling solder containing lead before eating or smoking.

SECTION 9 - ADDITIONAL INFORMATION

If the solder contains lead, these precautions are applicable.

This product contains lead which is known to the State of California to cause cancer, birth defects or other reproductive harm.

Lead and its compounds have been placed in Class B2, probably carcinogenic to humans by USEPA.

IARC has placed lead and its compounds in Class 2B, possibly carcinogenic to humans.

The information contained herein is based on data considered accurate and is offered solely for information, consideration and investigation. Kester Solder extends no warranties, makes no representations 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 their handling. Hazard communication regulations, U.S.A. Occupational Safety and Health Act (OSHA) and Canada Workplace Hazardous Materials Information System (WHMIS), require that employees must be trained how to use a Material Safety Data Sheet as a source for hazard information.