

Material Safety Data Sheet

Section I: General Information

Product Name (Number) Solder Alloys of Lead, Silver, Bismuth, Antimony, and Indium
Chemical Family Inorganic Metals.
D.O.T. Hazard Class Not regulated.

Section II: Hazardous Ingredients

Ingredients	CAS Number	Weight Percent	OSHA PEL	ACGIH TLV
Lead } Product contains	7439-92-1	-	0.05mg/cum	0.15mg/cum
Tin } one or more of	7440-31-5	-	2.0mg/cum	2.0mg/cum
Silver } these metallic	7440-22-4	See	0.01mg/cum	0.1mg/cum
Bismuth } elements in varying	7440-69-9	Below	NE	NE
Antimony } percentages.	7440-36-0	-	0.5mg/cum	0.5mg/cum
Indium }	7440-74-6	-	0.1mg/cum	0.1mg/cum

Weight Percent Composition of solder alloys vary widely therefore no weight percent of specific gravity is given. (See product label for composition.)

Section III: Physical Data

(Published or estimated values)

Boiling Point Deg. F.	NA	Specific Gravity (H2O=1)	NA
(760 mm Hg)	NA	% Volatile by Weight	NA
Vapor Pressure (mm Hg at 20 Deg. C.)	NA	Evaporation Rate	NA
Vapor Density (Air=1)	NA		NA
Solubility in water	Insoluble	pH	NA
Appearance and Odor	Silver-gray metal, odorless, various shapes and sizes.		

Section IV: Fire and Explosion Hazard Data

Estimated Flammable Limits (% by Volume in Air) LEL: NA UEL: NA

Flash Point Deg F. NA

Extinguishing Media NA

Special Fire Fighting Procedures: Use NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing if involved in a fire.

Unusual Fire and Explosion Hazard: Moderate in the form of dust when exposed to heat or flame. When heated to high temperatures, lead emits highly toxic fumes.

NA – Not Applicable

NE – Not Established

NL – Not Listed UN – Unknown

Section V: (A) Health Hazard Data

Lead: Exposure to high levels of airborne or ingested lead may produce symptoms of anemia, insomnia, weakness, constipation, nausea and abdominal pain. Overexposure may cause damage to blood-forming, nervous, reproductive, intestinal and urinary systems. For occupational exposure requirements see 29 CFR 1910.1025 Lead Standard and its appendices.

Chronic Toxicity: Women of child bearing age should avoid exposure to lead and its inorganic compounds due to post-natal effects. Lead can cause potential injury to a developing fetus and possible effects on reproduction. For overexposure to TIN, SILVER, BISMUTH, ANTIMONY, and INDIUM see Section X.

Material Safety Data Sheet

7771852 7771853 7771854 7771855 7771856

Section V (A) Health Hazard Data (Continued)

Listed Carcinogens: None of the metal elements of this product are confirmed as human carcinogens at this time by NTP, IARC, or OSHA. IARC classifies lead and some lead compounds as 2B carcinogen (possibly carcinogenic to humans).

Medical Conditions Possibly Aggravated: See Section X.

Section V (B) Health Hazard Data

Inhalation: Lead: Excessive overexposure may result in an acute or chronic illness. If symptoms are present, the individual should be removed from exposure and a physician consulted.

Ingestion: Call a physician or Poison Control Center at once.

Skin Contact: For hot metal burns, exposed area should be cooled with water and medical attention sought. After handling solid solder wire, bar, etc., wash thoroughly with soap and water. Dust, vapor and/or fume are not readily absorbed through the skin.

Eye Contact: Flush with water, contact a physician. Dust or fume may cause irritation.

Section VI: Reactivity Data

Stability Stable: X Unstable: Conditions NA to avoid

Incompatibility: Oxidizing materials, acids, hydrogen peroxide >52%.
(Materials to Avoid)

Hazardous Decomposition Products: Lead oxide and antimony oxide fume may be evolved at temperatures greater than 1000 deg F (538 C).

Hazardous Polymerization Will Occur: Will not occur: X Conditions to avoid: NA

Section VII: Spill or Leak Procedures

Steps to be taken in case material is released or spilled: Avoid inhalation of solder fume or dust. Vacuuming or washing is recommended. Do not use dry sweeping or compressed air cleaning systems.

Waste Disposal: Scrap or waste solder should be recycled or stored in sealed containers for later disposal.

Must be in accordance with Federal, State and Local Laws and Regulations.

Section VIII: Special Protection

Respiratory: A NIOSH/MSHA approved dust/fume respirator should be worn where airborne exposures may exceed OSHA/ACGIH permissible air concentrations.

Eyewear: Safety glasses and/or face protection is recommended for exposures to dust or splash of hot metal.

Clothing/Gloves: Protective gloves should be worn to reduce burn exposure. Work clothes should be worn and laundered in accordance with current OSHA lead standards.

Ventilation: Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below permissible air concentrations.

Material Safety Data Sheet

7771852 7771853 7771854 7771855 7771856

Section IX: Special Precautions

Precautions to be taken in handling and storing: Food and drink should not be consumed or tobacco products used, nor cosmetics applied in areas where solder may be used. Always wash hands after handling solder and before eating, drinking or smoking.

Other Precautions: Containers: Since empty containers may retain product residues (vapor, liquid, or solid) all labeled hazard precautions must be observed. FOR INDUSTRIAL USE ONLY KEEP OUT OF REACH OF CHILDREN. DO NOT TAKE INTERNALLY.

Section X: Additional Information

Notes to Physician: Lead and its inorganic compounds are neurotoxins which may produce peripheral neuropathy. For an overview of the effects of lead exposure, consult Occupational Safety and Health Administration Appendix A of Occupational Exposure to Lead (29CFR1910.1025).

Health Hazard Data: (continued)

Overexposure To:

Tin: Dust or fume may cause irritation of the skin, mucous membranes, and may result in a benign pneumoconiosis (stannosis).

Silver: May cause discoloration of eyes and skin, (argyria).

Bismuth: May cause foul breath, a blue-black line on the gums, and stomatitis.

Antimony: May cause gastrointestinal upset, sleeplessness, irritability and muscular pain. May also cause respiratory tract irritation, metallic taste or damage to kidney, liver or nervous system.

Indium: May cause weight loss, pulmonary edema, blood damage and degenerative changes in liver and kidneys.

Medical Conditions Possibly Aggravated: Diseases of the blood and blood-forming organs, kidneys, nervous and possibly reproductive systems.

-----REGULATORY INFORMATION-----

California State Proposition 65:

“WARNING! This product may contain LEAD known to the State of California to cause birth defects or other reproductive harm”. (See product label.)

Toxic Substance Control Act (TSCA) Status:

All ingredients of this product are listed on the TSCA inventory.

SARA TITLE III (Section 313):

Components that may be present in this product at a level which could require reporting under this statute are: Lead, Antimony, Silver (See Product Label).

EMERGENCY TELEPHONE NUMBER:

CHEMTREC

1-800-424-9300

DAY OR NIGHT

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