

2. HAZARDS IDENTIFICATION**PRIMARY ROUTES OF ENTRY:**

⊕Eye ⊕Inhalation ⊕Skin ⊕Ingestion NTP

Carcinogen listed in

IARC OSHA ⊕Not Listed

GHS

Lead free products



Signal Word: Warning

Hazard statement(s)

H317 May cause an allergic skin reaction
 H319 Causes serious eye irritation
 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled
 EUH208 Contains rosin. May produce an allergic reaction

Precautionary statement(s)

P233 Keep container tightly closed
 P261 Avoid breathing dust/fume/gas/mist/vapors/spray
 P270 Do not eat, drink or smoke when using this product
 P273 Avoid release to the environment
 P280 Wear protective gloves/protective clothing/eye protection/face protection
 P362 + P364 Take off contaminated clothing and wash before reuse
 P301 + P314 IF SWALLOWED: Get Medical advice/attention if you feel unwell
 P302 + P352 IF ON SKIN: Wash with plenty of soap and water
 P304 + 341 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing
 P305 + 351 IF IN EYES: Rinse continuously with water for several minutes (15 mins)
 P501 Dispose of contents by recycling or thru an approved chemical waste hauler.

Lead containing products



Signal Word: Warning

Hazard statement(s)

H303 May be harmful if swallowed
 H317 May cause an allergic skin reaction
 H319 Causes serious eye irritation
 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled
 H351 Suspected of causing cancer
 H361 Suspected of damaging fertility or the unborn child
 H373 May cause damage to organs through prolonged or repeated exposure
 H410 Very toxic to aquatic life with long lasting harmful effects
 EUH201A Warning! Contains lead. Review listing.
 EUH208 Contains rosin. May produce an allergic reaction

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Classification:

Carcinogenicity (Category 2) (lead)

Reproductive toxicity (Category 2) (lead)

Acute aquatic toxicity – Category 1 for lead containing products

Chronic aquatic toxicity – Category 1 for lead containing products

For product containing both lead and antimony the Acute and Chronic Classification is (Category 2)

POTENTIAL HEALTH EFFECTS:

Eye Contact: Irritating to the eyes and if not removed, may result in serious injury. Contact with fume from molten metal may cause irritation.

Ingestion: This product contains metal and organic chemicals. May cause irritation or harm.

Inhalation: Inhalation of fume or dust may cause local irritation to the respiratory system. Inhalation of lead fume may be harmful. Rosin may cause occupational asthma.

Skin Contact: May cause skin irritation. Rosin may cause dermatitis or sensitization. Antimony may cause irritation.

Chronic: SILVER: Chronic skin contact or ingestion of silver powder, salts or fume can result in a condition known as Argyria, a condition with bluish pigmentation of the skin and eyes.

TIN: Prolonged inhalation of fume may result in lung complications.

COPPER: Overexposure to fumes of copper may cause metal fume fever (chills, muscle aches, nausea, fever; dry throat, cough, weakness, lassitude); metallic or sweet taste; discoloration of skin and hair.

LEAD: Prolonged exposure to vapors or fumes at higher temperatures may cause respiratory irritation and systematic lead poisoning.

INDIUM: May cause damage to respiratory or kidney system. May be harmful if inhaled.

NOTE: The Indium Corporation does not recommend, manufacture, market or endorse any of its products for human consumption.

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. (lead).

WARNING: This product may contain lead. Lead may be harmful to your health. US Federal law prohibits the use of leaded solders in making of joints in any private or public potable (drinking) water supply system. Keep out of the reach of children.

Solid metal as received does not pose a hazard.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Components	% wt	CAS Registry #/EINECS#	PEL mg/m ³	TLV-TWA mg/m ³	TLV-STEL mg/m ³
TIN	*	7440-31-5/231-141-8			
		(US)	2	2	-
		(EU)	-	2	4
		(Canada)	-	2	4
		(Singapore)	2	-	-
SILVER	*	7440-22-4/231-131-3			
		(US)	0.01	0.1	-
		(EU)	-	0.1	-
		(Canada)	-	0.1	0.3
		(Singapore)	0.1	-	-
COPPER	*	7440-50-8/231-159-6			
		(US)	0.1 (fume)	0.2 (fume)	-
		(EU)	-	0.2 (fume)	-
		(Canada)	-	0.2 (fume)	0.6 (fume)
		(Singapore)	0.2(fume)	-	-
		(Mexico)	-	0.2(fume)	2
LEAD	*	7439-92-1/231-100-4			
		(US)	0.05	0.05	-
		(EU)	-	0.15	-
		(Canada)	0.05	0.05	-
		(Singapore)	0.15	-	-
		(Mexico)	N.E.	0.15	-
		(China)	-	0.05(dust) 0.03(fume)	- -
ANTIMONY	*	7440-36-0/231-146-5			
		(US)	0.5	0.5	-

		(EU)	0.5	-	-
		(Canada)	N.E.	0.5	1.5
		(Singapore)	0.5	-	-
		(Mexico)	0.5	-	-
		(China)	-	0.5	-
INDIUM	*	7440-74-6/231-180-0			
		(US)	0.1	0.1	-
		(EU)	-	0.1	0.3
		(Canada)	-	0.1	0.3
		(Singapore)	0.1	-	-
		(Mexico)	-	0.1	0.3
		(China)	-	0.1	0.3
MANGANESE	doped	7439-96-5	N.E.	N.E.	N.E.
ROSIN MIX	1 - 5.0	65997-05-9	N.E.	N.E.	N.E.
		(EU)	0.05	N.E.	0.15 (sensitiser)
N.E. = Not established					
* See alloy table					

ALLOY TABLE

Metal alloy mixed with rosin (1-5%)

INDALLOY Metal Mix	Lead Pb	Tin Sn	Copper Cu	Silver Ag	Antimony Sb	Indium In	Specific Gravity (metal mix)	RoHS Compliance
106 (Sn63/Pb37)	34.2-36.7	60- 62.4	-	-	-	-	8.40	No
109 (Sn60/Pb40)	38 - 39.6	57 - 59.4	--	-	-	-	8.50	No
121 (96.5Sn/3.5Ag)	-	91.7 -95.5	-	3.3 - 3.47	-	-	7.50	Yes
132 (95Sn/5Ag)	-	90 - 94	-	4.75 - 4.95	-	-	7.39	Yes
133 (95Sn/5Sb)	-	90-94	-	-	4.75-4.95	-	7.25	Yes
165 (97.5Pb/1.5Ag/1Sn)	92.6 - 96.5	0.95 - 0.99	-	1.43 - 1.48	-	-	11.28	Yes*
171	90-94	4.75-4.95	-	-	-	-	11.04	Yes*

(95Pb/5Sn)								
227 77.2Sn/20In/2.8Ag)	-	73-77.4	-	2.66-2.77	-	19-19.8	7.25	Yes
INDALLOY Metal Mix	Lead Pb	Tin Sn	Copper Cu	Silver Ag	Antimony Sb	Indium In	Specific Gravity (metal mix)	RoHS Compliance
228 (88Pb/10Sn/2Ag)	83.6 – 87	9.5 - 9.9	-	1.9 - 1.98	-	-	10.75	Yes*
241 (SAC387) (95.5Sn/3.8Ag/0.7)	-	79-87.9	0.58-0.64	3.15-3.5	-	-	7.40	Yes
256 (SAC 305) (96.5Sn/3Ag/0.5Cu)	-	91.6 - 95.5	0.475-0.495	2.85 - 2.97	-	-	7.40	Yes
268 (SACM0510) (98.5Sn/0.5Ag/1Cu) Doped 0.05Mn	-	93.6-97.5	0.95-0.99	0.475-0.495	-	-	7.32	Yes
Sn995 (Co995) (99.5Sn/0.5Cu/<500 ppm Co)	-	94.5 - 98.5	0.475-0.495	-	-	-	7.29	Yes
Non standard (Sn50/Pb48.5/Cu1.5)	46 – 48	47.5 - 49.5	1.43 - 1.48	-	-	-	8.84	No
Non standard (93.5Pb/5Sn/1.5Ag)	88.8 - 92.6	4.75 - 4.95	-	1.43 - 1.49	-	-	11.03	Yes*

* Review applicable exemptions that may apply, otherwise not compliant.

4. FIRST AID MEASURES

- Eye Contact:** Hold eyelids apart and flush eyes with plenty of tepid water for at least 15 minutes. Seek medical attention if irritation persists.
- Ingestion:** If patient is conscious, ONLY induce vomiting as directed by trained personnel. NEVER give anything by mouth to an unconscious person. Seek medical attention immediately.
- Inhalation:** Remove to fresh air. If not breathing, give artificial respiration or oxygen by trained personnel. Seek immediate medical attention.
- Skin Contact:** Remove contaminated clothing. Wash affected area with soap and water. Wash clothing before reuse. If irritation persists, obtain medical attention.

5. FIRE FIGHTING MEASURES

- Flash Point:** Not established. **Method:** Not established.
- Auto-ignition Temperature:** Not established.
- Flammable Limits:** Limits not established.
- Extinguishing Media:** Use extinguishers appropriate for the surrounding fire conditions.
- Special Fire Fighting Procedures:** Firefighters must wear NIOSH approved self-contained breathing apparatus and full protective clothing.

6. ACCIDENTAL RELEASE MEASURES

Spill or Leak Procedures: Pick up solids and put in container for reuse or recycling. Do not sweep powder or small particulate. Use vacuum. Reduce airborne dust and prevent scattering by moistening with water. Dispose of following all Federal, State and Local regulations.

7. HANDLING AND STORAGE

Handling Keep containers tightly closed when not in use. Use care to avoid spills. Always thoroughly wash your hands after handling this product. DO NOT touch or rub eyes until hands are washed.

Storage Precautions: Refer to product label for specific storage temperature requirements. Rotate stock to ensure use before expiration date on the label.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls: Exhaust ventilation is recommended to keep exposures below established limits and protect operators. Use proper ventilation when working with leaded products.

Personal protection:

Eyes: Chemical safety glasses/goggles. Face shield for splash hazards.

Respirator: An approved or compliant marked air-purifying respirator with a fume/organic chemical cartridge is recommended under certain circumstances where airborne concentrations are expected to be elevated or exceed exposure limits.

Skin: Compatible chemical resistant gloves may be required for certain applications. Hot gloves as needed for melting applications.

Other: Lab coat, eye-wash fountain in work area. Avoid the use of contact lenses in high fume areas. Follow standard lead work practices when working with lead containing products.

Work/Hygienic Maintain good housekeeping. Clean up spills immediately. Good personal hygiene is essential. Avoid eating, smoking or drinking in the work area. Wash hands thoroughly with soap and water immediately upon leaving the work area. Follow applicable lead work practices.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Solid metal - wire	Boiling Point:	Not applicable.
Odor:	Odorless	Melting Point:	See table
Specific Gravity:	See table	pH:	Not applicable
Vapor Pressure:	Not established	Solubility in Water:	Insoluble
Vapor Density:	(air=1) Not applicable.		

10. STABILITY AND REACTIVITY

General: Stable.

Conditions to Avoid:	Not established.
Incompatible Materials:	Avoid contact with acids, bases or oxidizing agents.
Hazardous Decomposition / Combustion:	Harmful organic fumes and toxic oxide fumes may form at elevated temperatures.
Hazardous Polymerization:	Will not occur.

11. TOXICOLOGICAL INFORMATION

Carcinogenicity:	NTP: No		
	OSHA: 1910.1025 (lead)		
	IARC: Yes	Lead and lead compounds are listed as possible carcinogens.	
LD50:	Not established.	LC50:	Not established.

Chronic Toxicity: Lead can cause potential harm to the developing fetus.

12. ECOLOGICAL INFORMATION

Protect not tested.

13. DISPOSAL CONSIDERATION

Waste Disposal Method: Scrap metal alloy usually has value. Contact a commercial reclaimer for recycling. Otherwise, dispose of in accordance with all Federal, State and Local environmental regulations.

14. TRANSPORT INFORMATION

Transport in accordance with applicable regulations and requirements. Not regulated under US DOT (United States Department of Transportation).

Not hazardous under shipping regulations. UN – none

15. REGULATORY INFORMATION

The information in this Safety Data Sheet meets the requirements of the United States Occupational Safety and Health Act and regulations promulgated hereunder (29 CFR 1910.1200 ET. SEQ.).

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulation (CPR).

Canadian WHMIS: D2A-Materials Causing Other Toxic Effects-Very Toxic Material (Chronic). (lead)
D2B Materials Causing Other Toxic Effects -irritant



This product has been classified in accordance with the Mexican regulations NOM-018-STPS-2015 and

Malaysia:

This product has been classified in accordance with: Malaysian – OCCUPATIONAL SAFETY AND HEALTH (CLASSIFICATION, LABELING AND SAFETY DATA SHEET OF HAZARDOUS CHEMICALS) REGULATION OCTOBER 2013 – (CLASS). (GHS)

In China:

Decree No. 591: Regulations on the Control over Safety of Hazardous Chemicals
GB 30000.2-29-2013, Rules for classification and labeling of chemicals. (GHS)
GB/T 16483-2008, GB/T 17517-2013

This product has been classified using the Chinese Occupational Limit for Hazardous Agents in the Workplace, GBZ2-2007

This product has been classified in accordance with the guidelines set by the Dept of Industrial Health of the Republic of Singapore.

SARA 313 Listing - 40 CFR 372.65
Silver Copper Lead

All ingredients are listed on the EPA TSCA Inventory.

EPA Genetic Toxicology Program – Lead CAS# 7439-92-1

California Prop 65 Safe Drinking Water Standard: Warning: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. (LEAD)

16. OTHER INFORMATION

HMIS Hazard Rating:	Health:	2
	Fire:	1
	Reactivity:	0

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