Solder Preforms | Engineered Solder Materials

Safety Data Sheet – Indium Lead Alloys – MSDS #520

1. Product & Company Information

Common Name:	Indium Lead
Forms:	Indium lead is commonly used as preforms. Preform shapes include washers, squares, rectangle, customized shapes and rings. Also available in bar and wire.
Material Uses:	Used in electronics industry
Validation Date:	March 3, 2020
Contacts:	
	Array Solders 152 Myrtle Avenue Jersey City, NJ 07305 (201) 997-1333
INFOTRAC	
	North America: (800) 535-5053 International: (352) 323-3500

2. Hazards Indentification

PRIMARY ROUTES OF ENTRY:

Eye Inhalation Skin Ingestion

CARCINOGEN LISTED IN:

NTP IARC OSHA

Signal Word: Warning

Hazard statement(s)

H302	Harmful if swallowed
H351	Suspected of causing cancer (lead)
H361	Suspected off damaging fertility or the unborn child (lead)
H373	May cause damage to organs through prolonged or repeated exposure (lead)

H410	Very toxic to aquatic life with long lasting harmful effects
EUH201A	Warning! Contains lead 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	Take off contaminated clothing and wash before reuse
P301 + P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician 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 if possible, otherwise dispose of via an approved waste handler.

Classification:
Acute toxicity, oral – Category 4
Carcinogenicity- Category 2
Reproductive toxicity- Category 2
Specific target organ toxicity – repeated exposure- Category 2
Acute aquatic toxicity – Category 1
Chronic aquatic toxicity- Category 1

POTENTIAL HEALTH EFFECTS:

Eye Contact: Contact with powered metal alloy or fume from molten metal may cause irritation. Severe eye damage may result from hot molten metal being splashed into the eyes. Wear safety glasses and face shield when working with molten metal.

Ingestion: Ingestion of dust may cause headache, nausea, abdominal pain, fatigue and pain in the legs, arms and joints. May be harmful.

Inhalation: Inhalation of fume or dust may cause local irritation to the respiratory system. Inhalation of fume or dust may cause headache, nausea, abdominal pain, fatigue and pain in the legs, arms and joints. Inhalation can be harmful.

Skin Contact: Normal handling of solid metal should not cause any adverse health effects. Hot molten metal may cause burns to the skin. Wear protective equipment when handling molten metal. Protect skin when grinding/cutting, may cause irritation.

Chronic: TIN: Has been shown to increase incidence of sarcoma in animal tests. Chronic exposure may result in “stannosis” a mild form of pneumoconiosis.
LEAD: Prolonged exposure to vapors or fumes at higher temperatures may cause respiratory irritation and systematic lead poisoning. Symptoms of lead poisoning include headache, nausea, abdominal pain, muscle and joint pain and damage to the nervous system, blood system and kidneys.

Exposure to metal fumes may cause irritation to the respiratory system. Long term exposure by inhalation to metal fumes may cause illness such as metal fume fever. Exposure to lead fume may cause harm. Sign of overexposure is anemia.

WARNING: This product can expose you to chemicals including [lead] which is known to the State of California to cause cancer, and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov

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

3. Composition/Information on ingredients

Name	CAS number %	PEL mg/m³	TLV-TWA mg/m³	TLV-STEL mg/m³
LEAD	7439-92-1			
	(US)	0.05	0.05	-
	(EU)	-	0.15	-
	(Canada)	-	0.05	-
	(China)	-	0.05(dust)	-
		-	0.03(fume)	-
	(Mexico)	0.15	-	-
	(Singapore)	0.15	-	-

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

Alloy Table

Alloy	% Indium (in)	% Lead (pb)	RoHS 2/3 Compliance (2011/65/EU)
50in/50pb	50%	50%	
60in/50pb	60%	40%	
70in/30pb	70%	30%	
75in/25pb	75%	25%	

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, not flammable. None combustible solid in bulk form, however, dust or powder may be combustible.
Extinguishing Media:	Use extinguishers appropriate for the surrounding fire conditions, such as carbon dioxide and water.

Explosion Data - Sensitivity to: Mechanical Impact: Not established Static Discharge: Not established

6. Accidental Release Measures

Personal precautions: Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment

Environmental precautions: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Methods for cleaning up: If emergency personnel are unavailable, vacuum or carefully scoop up spilled material and place in an appropriate container for disposal by incineration. Avoid creating dusty conditions and prevent wind dispersal

7. Handling & Storage

Handling: Avoid contact with eyes. Do not ingest. Avoid breathing dust. Avoid prolonged or repeated contact with skin. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling.

Storage : Keep container tightly closed. Keep container in a cool, well-ventilated area.

8. Exposure Control & Personal Protection

Engineering Controls: Exhaust ventilation is necessary to control any air contaminants such as dusts and particulate. Avoid inhalation of dusts. Heating of material requires ventilation to keep exposures to as low as possible.

Personal protection:

Eyes:	Chemical safety glasses/goggles and face shield with molten metal. Safety glasses and/or goggles for dusts.

Respirator:	An approved air-purifying respirator with a HEPA particulate/fume cartridge is recommended when contaminants are elevated or when there is a risk to exceed the permissible exposure levels. Grinding and cutting applications require a full-face respirator for adequate protection. Dust mask is not recommended in high exposure applications or when measurements or concentration levels are unknown. When levels are unknown and dust is evident additional respiratory protection may be required especially in confined areas. Unknown exposure should be measured to determine the proper protection.
Skin:	Rubber or heat resistant gloves, apron, boots, sleeve protectors may be necessary depending on the type of work performed.
Other:	Lab coat, eye-wash fountain, in work area. Avoid the use of contact lenses in high fume/dust areas.
Work/Hygienic:	Maintain good housekeeping. Clean up spills immediately. Wash hands thoroughly with soap and water immediately upon leaving the work area. Refrain from eating or smoking in work areas.

9. Physical & Chemical Properties

Physical state:	Solid
Color:	silver-grey
Odor:	odorless
Ionicity (in water):	Non-ionic.
Dispersibility properties:	Not dispersible in cold water, hot water, methanol, diethyl ether, n-octanol, acetone.
Solubility:	Insoluble in cold water, hot water, methanol, diethyl ether, n-octanol, acetone.

10. Stability & Reactivity

Conditions of instability

Incompatibility with various substances

Hazardous polymerization
Conditions of reactivity

: The product is stable.
: Stable in normal conditions. Over melting point, toxic metallic oxides may be evolved.
: reactive with oxidizing agents, acids.

: Will not occur.

: Non-flammable in the presence of the following materials or conditions: open flames, sparks and static discharge, heat, shocks and mechanical impacts, oxidizing materials, reducing materials, combustible materials, organic materials, metals, acids, alkalis and moisture. Non-explosive in the presence of the following materials or conditions: open flames, sparks and static discharge, heat and shocks and mechanical impacts.

11. Toxicological Information

Carcinogenicity Listing: National Testing Program (NTP): No
Occupational Safety & Health Administration (OSHA): No
U.N. International Agency for Research on Cancer (IARC): No

LD50: Not established. LC50: Not established.
Other: Chronic Toxicity: Over-exposure to fumes may cause respiratory tract irritation

Specific target organ toxicity- single exposure (Category 3)- May cause respiratory irritation.
Target organs: teeth and gums

12. Ecological Information

Not Listed

13. Disposal Considerations

Waste Disposal Method: Scrap indium metal alloy has value. Contact a commercial reclaimer for recycling. Otherwise, dispose of in accordance with all Federal, State and Local environmental regulations. In Europe follow the Special Waste Regulations.

14. Transport Information

Transport in accordance with applicable regulations and requirements. Not regulated under US DOT (United States Department of Transportation). Non-hazardous under all shipping modes.

UN – none. Marine Pollutant:

No North American Emergency Guide Book – Not applicable

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.)

SARA 313 Listing - 40 CFR 372.65 None
All ingredients are listed on the US EPA TSCA Inventory.

California Prop 65: Warning: This product contains a chemical (s) known to the State of California to cause cancer and birth defects (or other reproductive harm). (Trace levels of lead not intentionally added).

Right to Know Lists: State of Pennsylvania, New Jersey, Massachusetts.

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulation (CPR). WHMIS: Not specifically classified.

Ingredients are listed on the Canadian Domestic Substance List. This product has been classified in accordance with the guidelines set by the Dept of Industrial Health of the Republic of Singapore. This product has been classified in accordance with Mexican regulations NOM-018-STPS-2015 and NOM-010-STPS-2014.

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

Information on exposure levels in China is from regulation document GBZ2-2007 Occupational Exposure Limit for Hazardous Agents in the Workplace.

Japanese Pollution Release and Transfer Registration (PRTR) #44 as of September 2009

Taiwan regulations: Occupational Safety and Health Act (Taiwan OSHA) Regulations for the Labeling and Hazard Communication of Hazardous Chemicals- GHS Standards of Permissible Exposure Limits of Airborne Hazardous Substances in Workplace Waste Disposal Act

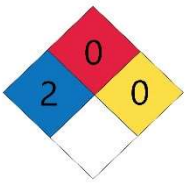
This product has been classified in accordance with: Malaysian – OCCUPATIONAL SAFETY AND HEALTH (CLASSIFICATION, LABELING AND SAFETY DATA SHEET OF HAZARDOUS CHEMICALS) REGULATION OCTOBER 2013 – (CLASS).

Ingredients are listed on the Philippines, Korean, EU, Japanese and China Chemical Inventories.

WARNING: This product can expose you to chemicals including [lead] which is known to the State of California to cause cancer, and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov

16. Other Information

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



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