



**INDIUM CORPORATION OF AMERICA®\EUROPE®\ASIA-PACIFIC®
INDIUM CORPORATION (SUZHOU)®**

SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: ZINC CONTAINING METAL ALLOY MIXTURE

SDS Number: SDS-4766

Revised Date: 29 JANUARY 2015

Product Use: INDUSTRIAL USE - METAL CONSISTING OF ZINC MIXED WITH OTHER ALLOYS – USED FOR APPLICATIONS SUCH AS BRAZING.

MANUFACTURER:

In America:

The Indium Corporation of America
1676 Lincoln Ave., Utica NY 13502
Information: (315) 853-4900
nswarts@indium.com

EMERGENCY PHONE:

CHEMTREC 24 hrs.
USA: 1 (800) 424-9300
Outside USA: +1 (703) 527-3887

In Europe:

Indium Corporation of Europe
7 Newmarket Ct.
Kingston, Milton Keynes, UK, MK 10 OAG
Information: +44 [0] 1908 580400

In China:

Indium Corporation (Suzhou) Co., Ltd.
No. 428 Xinglong Street
Suzhou Industrial Park
Suchun Industrial Square
Unit No. 14-C
Jiangsu Province, China 215126
Information: (86) 512-6283-4900

In Asia:

Indium Corporation of America
Asia-Pacific Operations-Singapore
29 Kian Teck Avenue
Singapore 628908
Information: +65 6268-8678

<http://www.indium.com>

2. HAZARDS IDENTIFICATION

PRIMARY ROUTES OF ENTRY:				CARCINOGEN LISTED IN:			
*Eye	*Inhalation	*Skin	*Ingestion	NTP	IARC	OSHA	*Not Listed

GHS: Not hazardous under GHS

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 + P314 IF SWALLOWED: Get Medical attention/advice 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)

POTENTIAL HEALTH EFFECTS:

Eye Contact: Contact with metal alloy or fume from molten metal may cause irritation or burns. 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. May cause irritation.

Ingestion: May cause irritation.

Inhalation: Inhalation of fume or dust may cause local irritation to the respiratory system. Inhalation of fumes may cause metal fume fever.

Skin Contact: Normal handling should not cause any adverse health effects. Hot molten metal may cause burns to the skin. Wear protective equipment when handling molten metal.

Chronic: ZINC: Prolonged exposure to high concentrations of zinc fumes may cause “zinc shakes” an involuntary twitching of the muscles. Repeated inhalation may cause chronic bronchitis.

TIN: Has been shown to increase incidence of sarcoma in animal tests.

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

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

Warning: This product contains a chemical known to the State of California to cause cancer and/or birth defects (or other reproductive harm). (trace levels of lead)

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

3. COMPOSITION / INFORMATION ON INGREDIENTS

Components	% wt	CAS Registry #	PEL mg/m ³	TLV-TWA mg/m ³	TLV-STEL mg/m ³
ZINC	*	7440-66-6	N.E.	N.E.	N.E.
ALUMINUM	*	7429-90-5	15	10	-
		(EU)	-	10	-
		(Canada)	-	10	20
		(Mexico)	-	5	-
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
		(Mexico)	-	0.1	-
		(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)
		(Mexico)	-	0.2 (fog)	2 (powder)
		(Singapore)	0.2(fume)	1(dust)	-

(China)	-	1(dust)	2.5
		0.2(fume)	0.6

Symbol: XI Risk Phrases: R36/37
 N.E. = Not established * See Alloy Table

PRODUCT DOES NOT CONTAIN ANY EU REACH SUBSTANCES OF VERY HIGH CONCERN

ALLOY TABLE

NS= Non - standard alloy

INDALLOY	%ZINC Zn	%ALUMINUM Al	%SILVER Ag	%COPPER Cu	%TIN Sn	SPECIFIC GRAVITY
NS	15	-	65	20	-	9.50
NS	17	-	56	22	5	9.21
NS	95	5	-	-	-	6.59

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:** Zinc is 460C(860F).
- Flammable Limits:** Limits not established. Massive metal (bulk form) is not flammable; however dust or powder may be a hazard. Avoid accumulation of dusts and powders.
- Extinguishing Media:** Use extinguishers appropriate for the surrounding fire conditions. Alcohol resistant foam, carbon dioxide, dry chemical.
- 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:** Contain spill. If molten, cool to allow metal to solidify. If a solid metal, wear gloves, pick up and return to process. If dust, wear recommended personal protective equipment. DO NOT SWEEP. Avoid accumulation of dusts. Use a vacuum, place in barrels and return to process if applicable. Otherwise, dispose of following all Federal, State and Local regulations. In the EU refer

to the Special Waste Regulations. Metal has reclaim value.

7. HANDLING AND STORAGE

- Handling Precautions:** Only dry metals should be added to molten bath. If working with molten metals, or exposed to fume or dust, use appropriate personal protective equipment.
- Storage Precautions:** Store product in a cool, dry area away from incompatible materials.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

- Engineering Controls:** Local exhaust ventilation is recommended to control any air contaminants. Control concentration of all components so that their exposure levels are not exceeded.
- Personal protection:**
- Eyes:** Chemical safety glasses/goggles and face shield with molten metal.
- Respirator:** A NIOSH approved or EU compliant CE marked air-purifying respirator with a fume/dust chemical cartridge is recommended under certain circumstances where airborne concentrations are expected to be elevated. Additional protection may be required after assessment and testing.
- Skin:** Gloves-leather or impervious (vinyl) type. Heat resistant gloves if handling hot metal. Safety type boots. Personal protective equipment is recommended when working with molten metal to avoid burns.
- Other:** Lab coat, safety shower and eye-wash fountain in work area. Avoid the use of contact lenses in high fume areas.
- Work/Hygienic Practices:** 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

- | | | | |
|--------------------------|-------------------------|-----------------------------|----------------|
| Appearance: | Silver grey solid metal | Boiling Point: | 908C (zinc) |
| Odor: | Odorless | Melting Point: | Not available |
| Specific Gravity: | See table | pH: | Not applicable |
| Vapor Pressure: | Not applicable. | 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 mineral acids.
- Hazardous Decomposition / Combustion:** Harmful organic fumes and toxic oxide fumes may form at elevated temperatures.
- Hazardous Polymerization:** Will not occur.

11. TOXICOLOGICAL INFORMATION

Carcinogenicity: National Toxicity 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
--------------	-----------------	--------------	-----------------

Product not tested.

12. ECOLOGICAL INFORMATION

Product not tested.

An environmental hazard cannot be excluded in the event of unprofessional handling, use and or disposal of this product.

13. DISPOSAL CONSIDERATION

Waste Disposal Method: Scrap metal alloy has reclaim 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).

Solid metal:

Not hazardous under the shipping regulations, all 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.).

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

WHMIS: Not classified.

This product has been classified in accordance with Mexican regulations NOM-018-STPS-2000 and NOM-010-STPS-1999.

This product has been classified under the Chinese Occupational Exposure Limit for Hazardous Agents in the Workplace, GBZ2-2002.

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

California PROP 65: WARNING : This product contains a chemical known to the State of California to cause cancer and/or birth defects (or other reproductive harm). (Trace levels of lead).

SARA 313 Listing - 40 CFR 372.65: Zinc

All ingredients are listed on the EPA TSCA Inventory.

All ingredients are listed on the Canadian Domestic Substance List.

EC Classification, Packaging and Labeling Requirements:

Symbol and Hazard Classification of Product

XI

Risk Phrases:

R36/37 Irritating to eyes and respiratory system

Safety Phrases:

S20/21 When using do not eat, drink or smoke

S22 Do not breathe dust

S23 Do not breathe fumes

S24/25 Avoid contact with skin and eyes

S28 After contact with skin wash immediately with plenty of soap and water

S36/37/39 Wear suitable protective clothing, gloves and eye/face protection

16. OTHER INFORMATION

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

Revised Date: 29 JANUARY 2015

Prepared by: Nancy Swarts, Indium Corporation of America

Approved by: Nancy Swarts, Indium Corporation of America

The information and recommendations contained herein are, to the best of The Indium Corporation of America's knowledge and belief, accurate and reliable as of the date issued. The Indium Corporation of America does not warrant or guarantee their accuracy or reliability, and The Indium Corporation of America shall not be liable for any loss or damage arising out of the user thereof. The information and recommendations are offered for the user's consideration and examination, and it is the user's responsibility to satisfy itself that they are suitable and complete for its particular use. If buyer repackages this product, legal counsel should be consulted to insure proper health, safety and other necessary information is included on the container. The Indium Corporation does not recommend, manufacturer, market or endorse any of its products for human consumption.