



SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: ZINC CONTAINING METAL ALLOY MIXTURE

SDS Number: SDS-4766

Revised Date: 9 JANUARY 2019

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®.
34 Robinson Rd., Clinton, NY 13323
Information: (315) 853-4900
nswarts@indium.com

In Europe:

The Indium Corporation of America® (European Operations)
7 Newmarket Ct
Kingston, Milton Keynes, UK, MK 10 OAG
Information: +44 [0] 1908 580400

In Asia:

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

EMERGENCY PHONE:

CHEMTREC 24 hrs.
USA: 1 (800) 424-9300
Outside USA: +1 (703) 527-3887
In China: Emergency 86+ 4008417580

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

<http://www.indium.com>

2. HAZARDS IDENTIFICATION

PRIMARY ROUTES OF ENTRY:

*Eye *Inhalation *Skin *Ingestion

CARCINOGEN LISTED IN:

NTP IARC OSHA *Not Listed

GHS



Signal Word: Warning

Hazard statement(s)

H319 Causes serious eye irritation
H335 May cause respiratory irritation

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 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)

Classification:

Respiratory sensitizer-Category 1B
Eye irritation-Category 2A

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.

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

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

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) 0.2(fume)	2.5 0.6
			INDIUM	*	7440-74-6	(US)
(EU)	-	0.1	0.3			
(Canada)	-	0.1	0.3			
(Singapore)	0.1	-	-			
(Mexico)	-	0.1	0.3			
(China)	-	0.1	0.3			
			-			

N.E. = Not established

EU = European Union Occupational Exposure Limits

ALLOY TABLE

INDALLOY	%ZINC Zn	%ALUMINUM Al	%SILVER Ag	%COPPER Cu	%TIN Sn	%INDIUM In	SPECIFIC GRAVITY
NS	15	-	65	20	-	-	9.50
NS	17	-	56	22	5	-	9.21
NS	95	5	-	-	-	-	6.59
NS	2.5	-	-	-	-	97.5	7.37

NS= Non - standard alloy

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.
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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.
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14. TRANSPORT INFORMATION

Transport in accordance with applicable international 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.

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. All ingredients are listed on the China Chemical Inventory

This product has been classified in accordance with Mexican regulations NOM-018-STPS-2015 and NOM-010-STPS-2014.

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



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

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.

16. OTHER INFORMATION

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

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Prepared by: Nancy Swarts, Indium Corporation of America

Approved by: Nancy Swarts, Indium Corporation of America

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