



SAFETY DATA SHEET

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

1.1 **Product Identifier:** INDALLOY 4 (INDIUM METAL)

SDS Number: SDS- IB011

Revised Date: 6 MARCH 2019

1.2 **Relevant identified uses of the substance or mixture and uses advised against**

Product Use: Industrial Use – Indium metal (99% +). Available in various styles/forms: bar, performs and purity.
(MINIMUM 99% PURITY or GREATER)

1.3 **Details of the supplier of the safety data sheet**

MANUFACTURER/SUPPLIER/IMPORTER:

In America:

The Indium Corporation of America®.

34 Robinson Rd., Clinton, New York 13323

Technical & Safety Information: (315) 853-4900

Safety & SDS Information: nswarts@indium.com

Corporation web page: <http://www.indium.com>

In Europe:

The Indium Corporation of America® (European Operations)

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Information: (normal business hours) +44 [0] 1908 580400

EU Contact: aday@indium.com

In China:

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Jiangsu Province, China 215126

Information: (86) 512-6283-4900

In Asia:

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Singapore 628908

Information: +65 6268-8678

In Korea:

Indium Corporation (Korea) Co., Ltd.

248-6, Songjeong-dong, Heungdeok-gu, Cheongju-si

Chungcheongbuk-do, Korea PC: 361-290

Information: +82-43-271-9823

Fax: +82-43-271-9828

1.4 Emergency telephone number

FOR CHEMICAL EMERGENCY ONLY PHONE *:

CHEMTREC 24 hrs.

USA: 1 (800) 424-9300

Outside USA: +1 (703) 527-3887

China: Emergency 86+ 4008417580

*** Used only for spill/leak/fire/exposure/accident**

ALL OTHER INQUIRIES: TOLL FREE: +1-800-448-9240 Indium Corporation

SECTION 2. HAZARDS IDENTIFICATION

PRIMARY ROUTES OF ENTRY:

Eye Inhalation Skin Ingestion

Carcinogen listed in

NTP IARC OSHA Not Listed

2.1 Classification of the substance or mixture

Specific target organ toxicity- single exposure (Category 3)

2.2 Label elements



Signal Word: Warning

Hazard statement(s)

H335 May cause respiratory irritation

Precautionary statement(s)

P261 Avoid breathing dust/fume/gas/mist/vapours/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)

2.3 OTHER HAZARDS:

POTENTIAL HEALTH EFFECTS:

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

Ingestion: Ingestion of dust or fume may cause irritation. May be hazardous by ingestion.

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

dust may be harmful.

- Skin Contact:** Normal handling of metal form should not cause any adverse health effects. May cause skin irritation. Hot molten metal may cause burns to the skin. Wear protective equipment when handling molten metal.
- Chronic:** Kidney and liver damage from injecting indium compounds has been reported based on limited animal testing but no systematic effects from human exposure has been reported.
Target organs: teeth/gums.

3. COMPOSITION / INFORMATION ON INGREDIENTS

3.2 Mixture:

Components	% wt	CAS Registry #/ EINECS#	
INDIUM	100	7440-74-6/231-180-0	REACH Registration 01-2120756870-48-XXXX

4. FIRST AID MEASURES

4.1 Description of 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. Burns require IMMEDIATE medical care.
- 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. Burns require medical attention.

4.2 Most important symptoms and effect, both acute and delayed:

Skin contact may cause irritation.
Eye exposure may cause serious irritation.
Burns require immediate attention.

4.3 Indication of any immediate medical attention and special treatment needed:

No specific special treatment information is available on this mixture. Review data provided in this document to understand the hazards when working with the product. No other information is available at this time.

Seek medical attention if eye irritation continues after flushing .
If respiratory discomfort is evident seek immediate medical advice.
Molten metal splash requires immediate medical attention. Seek medical care for burns to skin/eyes.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing Media: Use extinguishers appropriate for the surrounding fire conditions. Water, CO2, foam media.

5.2 Special hazards arising from the substance or mixture:
May produce toxic indium fumes if burning .

5.3 Advice for Firefighters Fire-fighters must wear approved self-contained breathing apparatus and full protective clothing.

Material product is not flammable. However, dust in the air could generate a hazard. No other information is available.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:

For non-emergency personnel:

Keep away from the spill. Remove sources of ignition. Keep exhaust ventilation system running. In the event of a fire evacuate area.

For emergency responders:

Wear safety glasses, gloves when cleaning up any spill. Other equipment may be necessary based on the immediate area and other chemicals unrelated to the product that may be in use. Adequate ventilation should be available. Keep unnecessary personnel away from area during clean up. If on floor wear foot protection to avoid any direct contamination to shoes and boots. Avoid conditions that create fumes or fine dust. DO NOT SWEEP DRY SOLIDS. Do not raise dust levels. Use an approved respirator with particulate cartridge. Dust type masks are not recommended.

6.2 Environmental Precautions: Material has reclaim value. Recycle/recover/reuse value. If recycling cannot be done then dispose of material following all applicable governmental regulations. Material is non - hazardous.

6.3 Methods and material for containment and cleaning up:

Spill or leak procedures: Clean up by vacuum and not sweeping to avoid dust generation. Place into pail or drum and tightly cap. Recycle.

6.4 Reference to other sections: See Section 8 for exposure levels.

7. HANDLING AND STORAGE

7.1 Precautions Keep containers tightly closed when not in use. Use care to avoid spills. Wear appropriate personal protective equipment (PPE) when working or handling material. Always thoroughly wash your hands after handling this product. DO NOT touch or rub eyes until hands are washed. Do not eat, drink or smoke when handling this product. Utilize exhaust ventilation during handling of this product.

Conditions for Safe Storage, including any incompatibilities:

Storage Precautions: Store product in tightly capped original containers in a cool, dry area. Refer to product label and product data sheet for specific storage temperature requirements. Rotate stock to ensure use before expiration date.

7.2 Specific End Use(s): Various

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control Parameters:

INDIUM	100	CAS#/EINECS#	TWA	STEL
			mg/m ³	mg/m ³
		7440-74-6/231-180-0		
		(UK)	0.1	0.3
		(Belgium)	0.1	-
		(Spain)	0.1	-
		(Portugal)	0.1	-
		(Finland)	0.1	-
		(Denmark)	0.1	-
		(Austria)	0.1	0.2
		(Switzerland)	0.1	-
		(Norway)	0.1	-
		(Ireland)	0.1	0.3

N.E. = Not established TWA = TIME WEIGHTED AVERAGE (NDS-MAC)
 STEL = SHORT TERM EXPOSURE LIMIT (NDSP-MAC(C)

8.2 Exposure Controls:

Engineering Controls: Local and/or Mechanical exhaust ventilation or point source exhaust is required to control any airborne contaminants and to reduce potential exposures to workers. Avoid inhalation of particulate/dust/spray. Use exhaust when there is any doubt in whether the operator/user is getting any exposure. Measurement of exposure may be required. Additional activities such as sintering of product require ventilation for handling and worker protection. It has been observed that sintered particulates may cause inflammation or other damage to the respiratory system.

Personal Protective Equipment:

Follow requirements for proper equipment as outlined under 2016/425.

Eye/face protection:

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection:

Handle with CEN approved disposable nitrile gloves (minimum layer thickness: 5 mil), EN 374 Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. Use EN 407 approved thermal (hot) gloves for any handling of molten metal.

Body Protection:

The type of protective equipment must be selected according to the concentration and amount of any other substances used at the specific workplace. Handling of flux coated parts requires the use of gloves, eye protection and may require additional protection such as lab coat.

Respiratory protection:

Where risk assessment shows respirators are appropriate use a particle respirator type P100 (US) or half face respirator with multi-gas cartridges or type P3 (EN 143) respirator cartridges as a backup to engineering controls.

Work/Hygienic:

Maintain good housekeeping. Clean up spills immediately. Wash hands thoroughly with soap and water immediately upon leaving the work area and before eating. Refrain from eating or smoking in work areas. When applicable in US, review, OSHA lead worker requirements. Certain work practice and medical monitoring may be required.

Control of environmental exposure:

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

Appearance:	Lustrous silver-white metal, soft, malleable and ductile		
Boiling Point/Range:	2080C (3776F)		
Odor:	Odorless	Melting Point/Freezing Point:	156.7C (314F)
Odor Threshold:	Not established	Evaporation Rate:	Not applicable
Specific Gravity:	7.31 (H ₂ O=1).	pH:	Not applicable
Vapour Pressure:	<0.01 mmHg@25C	Solubility in Water:	Insoluble
Vapour Density:	(air=1) Not applicable.	Partition coefficient:	Not established
Relative Density:	Not established	Flammability:	Not applicable
Flash Point:	Not applicable	Method:	Not applicable
Auto-ignition Temperature:	Not applicable	Flammable Limits:	Limits not established
UEL/LEL Limits:	Not applicable	Decomposition Temp:	Not applicable
Viscosity:	Not established	Explosive properties:	Not applicable
Oxidizing Properties:	Not established		

*Indium Corporation has not conducted any testing in order to acquire this data

9.2 Other Information: MW 114.82

10. STABILITY AND REACTIVITY

- 10.1 Reactivity:** Stable.
- 10.2 Chemical Stability:** Stable
- 10.3 Possibility of Hazardous Reactions:** Not established
- 10.4 Conditions To Avoid:** Not established

10.5 Incompatible Materials: Avoid contact with strong acids, bases or oxidizing agents.

10.6 Hazardous Decomposition / Combustion: Harmful toxic oxide fumes may form at elevated temperatures.

Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects:

Acute toxicity: Not established

Irritation: Not established

Corrosivity: Not applicable

Sensitization: Not available

Repeated dose toxicity: Not established

Carcinogenicity: Not established

Likely Routes of Entry: eyes(serious irritation) /skin (irritation) /inhalation (irritation)

Interactive effects: None known

Mutagenicity: Not established

Toxicity for Reproduction: Not Established

Absence of specific data: None available (not tested)

11.2 Symptoms related to the physical, chemical and toxicological characteristics:

May cause irritation by skin and inhalation. Causes serious eye irritation.

11.3 Delayed and immediate effects as well as chronic effects from short and long-term exposure:

No information is available at this time.

Mixture verses substance information: None known

Other Information:

Carcinogenicity: NTP: No (National Toxicity Program)

Listing OSHA: No (US Occupational Safety & Health Administration)

IARC: No (U.N. International Agency for Research on Cancer)

See NIOSH RTECS (Registry of Toxic Effects of Chemical Substances) Number: NL1050000

12. ECOLOGICAL INFORMATION

12.1 Toxicity: No information available

12.2 Persistence and degradability: No information available

12.3 Bioaccumulative potential: No information available

12.4 Mobility in soil: No information available

12.5 Results of PBT and vPvB assessments: No data is available

12.6 Other adverse effects: No information is available. Avoid release to environment.

13. DISPOSAL CONSIDERATION

13.1 Waste treatment method:

Scrap indium metal has reclaim/recycle value. Contact recycler. Otherwise, dispose of in accordance with environmental regulations. Containerize material and classify according to applicable regulations. No pre-treatment on site is recommended. Do not dispose of down any drain or waterway. Utilize the same personal protective equipment as the user when handling for disposal.

RoHS2 (Restriction of Hazardous Substances): Compliant with RoHS 2. (2011/65/EU)

14. TRANSPORT INFORMATION

Transport in accordance with applicable international regulations and requirements.

Non - hazardous.

Not regulated/non- hazardous under US DOT (United States Department of Transportation).

Not regulated/non - hazardous under international shipping requirements. (IATA/Ocean)

14.1 **UN proper shipping name:** None

14.2 **Transport hazard class(s):** None

14.3 **Packing group:** None

14.4 **Environmental hazards:** None

14.5 **Special precautions for user:** None

14.6 **Transport in bulk:** Not applicable

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:

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.).

All ingredients are listed on the USEPA TSCA Inventory.

All ingredients are listed on EINECS.

Safety data sheet was developed using EC 1907/2006 amended as of February, 2020 EU No 453/2010 and information as stated under regulation EC No 1272/2008 CLP Regulation.

GHS = Global Harmonized System

CLP= Classification, labeling and packaging

Product does not contain any substances ozone depleting substances and therefore not subject to EC 2037/2000.

Poland: Act of 25 February 2011, No. 63 item 322, on the chemical substances and their mixtures as published in the Journal of Laws of the Republic of Poland (Dziennik Ustaw) and Dziennik Ustaw of 2015, item 1203.

15.2 **Chemical safety assessment:** None performed.

16. OTHER INFORMATION

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

Revised Date: 6 MARCH 2019

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Changes provided on this SDS were based on the requirements of EU 2020/171 as of amendments February 6, 2020 regarding EC No. 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH).

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