



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

SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT IDENTIFIER: INDALLOY 4 (INDIUM)

SDS NUMBER: SDS-IN 001

REVISED DATE: 29 DECEMBER 2015

PRODUCT USE: INDUSTRIAL USE - PURE METAL INDIUM. Available in various styles/forms:
bar/performs/purity/powder.

MANUFACTURER:

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<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)

H335 May cause respiratory irritation

Precautionary statement(s)

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 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)

Classification:

Acute toxicity-inhalation (Category 4)

Specific target organ toxicity- single exposure (Category 3)

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. Causes skin irritation. Hot molten metal may cause burns to the skin. Wear protective equipment when handling molten metal.

Chronic: Indium may cause damage to respiratory system. Kidney and liver damage from injection of indium compounds has been reported based on limited animal testing. Target organs: teeth and gums

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

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

3. COMPOSITION / INFORMATION ON INGREDIENTS

| Components | % wt | CAS Registry # | PEL mg/m ³ | TLV-TWA mg/m ³ | TLV-STEL mg/m ³ |
|------------|------|---------------------|--------------------------|------------------------------|-------------------------------|
| INDIUM | 100 | 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 |

N.E. = Not established

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. | | |
| Special Fire Fighting Procedures: | Firefighters must wear NIOSH approved self-contained breathing apparatus and full protective clothing. | | |
| Explosion Data - Sensitivity to: | Mechanical Impact: | Not established | |
| | Static Discharge: | Not established | |

6. ACCIDENTAL RELEASE MEASURES

Spill or Leak Procedures: Contain spill. If molten, cool to allow metal to solidify. If solid metal wear gloves, pick up and return to process. If dust, wear recommended personal protective equipment. Do not sweep powder form. Use a vacuum, place in barrels and return to process if possible. Do not dispose of to any drain.

7. HANDLING AND STORAGE

Handling Only dry metals should be added to molten bath. If working with molten metal, or exposed to fume or dust, use appropriate personal protective equipment. Always thoroughly wash your hands after handling this product. DO NOT touch or rub eyes until hands are washed.

Storage Precautions: Store product in a cool, dry area away from incompatible materials.

8. EXPOSURE CONTROLS / 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.

*Additional personal protective equipment may be required based on the type of work being performed. Dusty areas will require additional protection including respiratory protection. Do not grind material without proper engineering controls: ventilation equipment. Respiratory protection may be required if ventilation is not adequate or in addition to controls.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Lustrous silver-white metal, soft, malleable and ductile

Boiling Point: 2080°C (3776°F)

Odor: Odorless.

Melting Point: 156.7°C (314°F)

Specific Gravity: 7.31 g/cm³

pH: Not applicable

Vapor Pressure: <0.01 mmHg @25C

Solubility in Water: Insoluble

Vapor Density: (air=1) Not applicable.**Molecular Weight:** 114.82

10. STABILITY AND REACTIVITY

General: Stable.**Conditions to Avoid:** Not established.**Incompatible Materials:** Avoid contact with acids, sulfur or oxidizing agents. Ignites and incandesces on heating with sulfur.**Hazardous Decomposition / Combustion:** Harmful organic fumes and toxic oxide fumes may form at elevated temperatures.**Hazardous Polymerization:** Will not occur.

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

See NIOSH RTECS Number: NL1050000

12. ECOLOGICAL INFORMATION

Product not tested.

13. DISPOSAL CONSIDERATION

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.).

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

WHMIS: Not specifically classified.

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-2000 and NOM-010-STPS-1999.

Information on exposure levels in China is from regulation document GBZ2-2002 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

SARA 313 Listing - 40 CFR 372.65 None

All ingredients are listed on the US EPA TSCA Inventory.

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

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).

Ingredients are listed on the Canadian Domestic Substance List.

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

16. OTHER INFORMATION

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

Revised Date: 29 DECEMBER 2015

Prepared by: Nancy Swarts, Indium Corporation of America

Approved by: Nancy Swarts, Indium Corporation of America

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