



## SAFETY DATA SHEET

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

1.1 **Product Identifier:** INDALLOY 281

**SDS Number:** SDS-6119

**Revised Date:** 6 OCTOBER 2020

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

**Product Use:** Industrial Use (Mixture) – Metal alloy consisting of bismuth mixed with tin

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

**MANUFACTURER/SUPPLIER/IMPORTER:**

**In America:**

The Indium Corporation of America  
1676 Lincoln Ave., Utica NY 13502  
Technical & Safety Information: (315) 853-4900  
Safety & SDS Information: [nswarts@indium.com](mailto:nswarts@indium.com)  
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**FOR CHEMICAL EMERGENCY ONLY PHONE \*:**

**CHEMTREC 24 hrs.**

**USA: 1 (800) 424-9300**

**Outside USA: +1 (703) 527-3887**

**France: 33-975181407**

**In France emergency information (French poison center): INRS (ORFILA) +33 (0) 1 45 42 59 59**

**Germany: toll free- 0800-181-7059 or (Frankfurt) 49-69643508409**

**Italy: toll free- 800-789-767**

**Poland: (Warsaw) 48-223988029**

**Portugal: 351-308801773**

**Hungary: (Budapest) 36-18088425**

**Romania: 40-37-6300026**

**Sweden: (Stockholm) 46-8522503403**

**United Kingdom: (London) 44-870-8200418 and 44-2038073798**

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

**SECTION 2. HAZARDS IDENTIFICATION**

**PRIMARY ROUTES OF ENTRY:**

Eye    Inhalation    Skin    Ingestion    NTP    IARC    OSHA    Not Listed

**Carcinogen listed in**

**2.1 Classification:**

No classification

**2.2 Label Elements**

**Labeling according to Regulation (EC) No. 1272/2008**

No GHS hazard statements

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	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 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. Dusts may

**Ingestion:** Ingestion of dust/vapor/fume may cause irritation or harm.

**Inhalation:** Inhalation of fume or dust may cause local irritation.

**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.

**Chronic:**

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

BISMUTH: May cause kidney damage.

### **SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS**

#### **3.2 Mixture:**

<b>Components</b>	<b>% wt</b>	<b>CAS Registry #/ EINECS#</b>
TIN	*	7440-31-5/231-141-8
BISMUTH	*	7440-69-9/231-177-4

### **SECTION 4. FIRST AID MEASURES**

#### **4.1 Description of first aid measures:**

**Eye Contact:** Hold eyelids apart and flush eyes with plenty of 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.

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

Skin contact may cause irritation. Long term contact may cause dermatitis.

Inhalation of decomposed rosin fume may cause irritation or occupational asthma.

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.

#### **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.

## **SECTION 5. FIRE FIGHTING MEASURES**

- 5.1 Extinguishing Media:** Use extinguishers appropriate for the surrounding fire conditions. Water, CO<sub>2</sub>, foam media.
- 5.2 Special hazards arising from the substance or mixture:** May produce toxic fumes of carbon monoxide if burning or metal oxide fumes.
- 5.3 Advice for Firefighters** Fire fighters must wear approved self-contained breathing apparatus and full protective clothing.

Material product is not flammable. No other information is available.

## **SECTION 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.

**6.2 Environmental Precautions:** Dispose contaminated cloth rags or paper towels following all applicable governmental regulations. Material may have reclaim value. Material is non - hazardous. It however does contain metals and organic chemicals which may not be suited for release to any body of water including drains.

### **6.3 Methods and material for containment and cleaning up:**

Spill or leak procedures: Using a spatula, scoop up paste and place in a plastic or glass jar and tightly cap. Remove traces of paste residue using cloth rags or paper towels moistened with ethyl or isopropyl alcohol.

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

## **SECTION 7. HANDLING AND STORAGE**

**7.1 Precautions For Safe Handling:** Keep containers tightly closed when not in use. Use care to avoid spills. Use only with production equipment specifically designed for use with solder paste. Wear appropriate personal protective equipment when working or handling solder paste. 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 when heating product. Emissions may contain metal fumes, rosin and organic compounds.

### **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):** Soldering applications

## SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control Parameters:

			<u>TWA</u>	<u>STEL</u>
	%	<u>CAS#/EINECS#</u>	mg/m3	mg/m3
<b>TIN</b>	42	7440-31-5/231-141-8		
		(UK)	2	4
		(Belgium)	2	-
		(Germany)	2	-
		(Netherlands)	2	-
		(Spain)	2	-
		(Poland)	2	-
		(Finland)	2	-
<b>BISMUTH</b>	58	7440-69-9/231-177-4	N.E.	N.E.

N.E. = Not established

TWA = time weighted average

STEL = short term exposure limit

### 8.2 Exposure Controls:

**Engineering Controls:** Exhaust ventilation is recommended to control any air contaminants. Control concentration of all components so that their exposure levels are not exceeded. Use ventilation for example especially during heating, grinding, cutting, sanding, melting and any other types of work where exposure is possible.

#### Personal protection:

**Eyes:** Chemical safety glasses/goggles. Face shield for splash hazards.

**Respiratory:** An approved or EU compliant CE marked air-purifying respirator with a fume/particulate chemical cartridge is recommended under certain circumstances where airborne concentrations are expected to be elevated or exceed exposure limits.

**Skin:** Recommend a nitrile disposable or other chemical glove or hot glove for melting/molten metal applications.

**Other:** Lab coat, 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.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

**9.1 Information on basic physical and chemical properties:**

<b>Appearance:</b>	Silver-Grey solid metal	<b>Boiling Point/Range:</b>	Not determined
<b>Odor:</b>	Odorless	<b>Melting Point:</b>	281F (138C)
<b>Odor Threshold:</b>	Not established	<b>Evaporation Rate:</b>	Not applicable
<b>Specific Gravity:</b>	8.56	<b>pH:</b>	Not applicable
<b>Vapour Pressure:</b>	Not applicable.	<b>Solubility in Water:</b>	Insoluble
<b>Vapour Density:</b>	(air=1) Not applicable.	<b>Partition coefficient:</b>	Not established
<b>Relative Density:</b>	Not established	<b>Flammability:</b>	Not applicable
<b>Flash Point:</b>	Not applicable	<b>Method:</b>	Not applicable
<b>Auto-ignition Temperature:</b>	Not applicable	<b>Flammable Limits:</b>	Limits not established
<b>UEL/LEL Limits:</b>	Not applicable	<b>Decomposition Temp:</b>	Not applicable
<b>Viscosity:</b>	Not established	<b>Explosive properties:</b>	Not applicable
<b>Oxidizing Properties:</b>	Not established		

**9.2 Other Information:** Above data for the whole mixture.

**SECTION 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:** None known
- 10.5 Incompatible Materials:** Avoid contact with mineral acids.
- 10.6 Hazardous Decomposition / Combustion:** Harmful organic fumes and toxic oxide fumes may form at elevated temperatures. Metal oxide fumes.
- 10.7 Hazardous Polymerization:** Will not occur.

**SECTION 11. TOXICOLOGICAL INFORMATION****11.1 Information on toxicological effects:**

<b><u>Acute toxicity:</u></b>	Not established	<b><u>Mutagenicity:</u></b>	Not established
<b><u>Irritation:</u></b>	Not established	<b><u>Toxicity for Reproduction:</u></b>	Not Established
<b><u>Corrosivity:</u></b>	Not applicable	<b><u>Absence of specific data:</u></b>	None available (not tested)
<b><u>Sensitization:</u></b>	Not available		
<b><u>Repeated dose toxicity:</u></b>	Not established		
<b><u>Carcinogenicity:</u></b>	Not established		
<b><u>Likely Routes of Entry:</u></b>	eyes (irritation) /inhalation (irritation ingestion (may be harmful)		
<b><u>Interactive effects:</u></b>	None known		

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

Dust may cause irritation.

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

**Mixture verses substance information:** None known

**Other Information:**

**Carcinogenicity:** NTP: No (National Toxicity Program)  
**Listing** OSHA: No (US Occupational Safety & Health Administration)  
IARC: No (International Agency for Research on Cancer).

Bismuth – LD50 oral-rat 5,000 mg/kg

**SECTION 12. ECOLOGICAL INFORMATION**

Product mixture not tested.

- 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 for mixture. Avoid release to environment.

**SECTION 13. DISPOSAL CONSIDERATION**

**13.1 Waste treatment method:** Scrap metal alloy usually has value. Contact a commercial reclaimer for recycling. 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.

**RoHS (Restriction of Hazardous Substances):** Complies.

**SECTION 14. TRANSPORT INFORMATION**

Transport in accordance with applicable 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.

- 14.1 **UN Number** None
- 14.2 **UN proper shipping name:** None
- 14.3 **Transport hazard class(s):** None
- 14.4 **Packing group:** None
- 14.5 **Environmental hazards:** None
- 14.6 **Special precautions for user:** None
- 14.7 **Transport in bulk:** Not applicable

**SECTION 15. REGULATORY INFORMATION**

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

### **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. Note Rosin was recently listed under the No Longer Polymer List, Notification of New Chemical Substances in Accordance with Directive 67/548/EEC.

Safety data sheet was developed using EC 1907/2006 amended as of 20 May 2010 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 1005/2009.

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

## **SECTION 16. OTHER INFORMATION**

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

**Revised Date:**           6 OCTOBER 2020

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**Approved by:**           Nancy Swarts, The Indium Corporation of America

Changes provided on this SDS were based on the requirements of EU No. 453/2010 of May 20, 2010 regarding amendments to 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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