



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

**SAFETY DATA SHEET**

**1. PRODUCT AND COMPANY IDENTIFICATION**

**Product Identifier:** INDALLOY 151 WITH NC-SMQ75RPC FLUX VEHICLE

**SDS Number:** SDS-5622

**Revised Date:** 10 JANUARY 2015

**Product Use:** Industrial Use - solder paste consisting of a flux vehicle blended with 83-92 % pre-alloyed metal powder. (mixture)

**MANUFACTURER:**

**In America:**

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## 2. HAZARDS IDENTIFICATION

### PRIMARY ROUTES OF ENTRY:

Eye    Inhalation    Skin    Ingestion

### Carcinogen listed in

NTP IARC\* OSHA Not Listed

\* See Section 11

GHS:



Signal Word: Warning

#### Hazard statement(s)

H302 Harmful if swallowed  
 H351 Suspected of causing cancer (lead)  
 H361 Suspected of damaging fertility or the unborn child  
 H373 May cause damage to organs through prolonged or repeated exposure  
 H410 Very toxic to aquatic life with long lasting harmful effects  
 EUH201A Warning! Contains lead (applicable only to the products listed that contain lead)

#### 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 + P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell  
 P302 + P352 IF ON SKIN: Wash with plenty of soap and water  
 P304 + P341 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing  
 P305 + P351 IF IN EYES: Rinse continuously with water for several minutes (15 mins)

#### Classification:

Skin irritant- Category 2  
 Acute toxicity,- Category 4 (lead)  
 Specific target organ toxicity- repeated exposure – Category 2  
 Carcinogenicity (Category 2) (lead)  
 Reproductive toxicity (Category 2 ) (lead)  
 Acute aquatic toxicity – Category 1 for lead containing products  
 Chronic aquatic toxicity – Category 1 for lead containing products  
 For product containing both lead and antimony the Acute and Chronic Classification is (Category 2)

**POTENTIAL HEALTH EFFECTS:**

**Eye Contact:** Contact with material at room temperature or fume from material at typical re-flow temperatures over 100°C can cause serious eye irritation.

**Ingestion:** This product may contain lead alloy powder and organic chemicals. Harmful if swallowed. May cause systematic lead poisoning and burns to the digestive tract. Symptoms of lead poisoning include headache, nausea, abdominal pain, muscle and joint pain and damage to the nervous system, blood system and kidneys.

**Inhalation:** Vapors or fumes from this material at typical re-flow temperatures over 100°C may cause local irritation to the respiratory system.

**Skin Contact:** May cause skin irritation.

**Chronic:** LEAD: Prolonged exposure to vapors or fumes at higher temperatures may cause respiratory irritation and systematic lead poisoning. Symptoms of lead poisoning include headache, nausea, abdominal pain, muscle and joint pain and damage to the nervous system, blood system and kidneys.

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.

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

**WARNING:** This product may contain a chemical(s) known to the State of California to cause cancer and/or birth defects (or other reproductive harm). (lead)

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

**WARNING:** This product may contain lead. Lead may be harmful to your health. US Federal law prohibits the use of leaded solders in making joints or fittings in any private or public water supply system. Keep out of the reach of children.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

Components	% wt	CAS Registry #/EINECS#
TIN	4.15-4.6	7440-31-5/231-141-8
LEAD	76.8-85.1	7439-92-1/231-100-4
SILVER	2.1-2.3	7440-22-4/231-131-3
POLYGLYCOL ETHER	5-13	9038-95-3
CARBOXYLIC ACID	0.5-1.0	-
PROPRIETARY	2.5-3	-

**PRODUCT DOES NOT CONTAIN ANY REPORTABLE EU SUBSTANCES OF VERY HIGH CONCERN (SVHC)**

### 4. FIRST AID MEASURES

<b>Eye Contact:</b>	Hold eyelids apart and flush eyes with plenty of tepid water for at least 15 minutes. Seek medical attention if irritation persists.
<b>Ingestion:</b>	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.
<b>Inhalation:</b>	Remove to fresh air. If not breathing, give artificial respiration or oxygen by trained personnel. Seek immediate medical attention.
<b>Skin Contact:</b>	Remove contaminated clothing. Wash affected area with soap and water. Wash clothing before reuse. If irritation persists, obtain medical attention.

### 5. FIRE FIGHTING MEASURES

<b>Flash Point:</b>	Not established.	<b>Method:</b>	Not established.
<b>Auto-ignition Temperature:</b>	Not established.		
<b>Flammable Limits:</b>	Limits not established, not flammable.		
<b>Extinguishing Media:</b>	Use extinguishers appropriate for the surrounding fire conditions.		
<b>Special Fire Fighting Procedures:</b>	Firefighters must wear NIOSH approved self-contained breathing apparatus and full protective clothing.		

### 6. ACCIDENTAL RELEASE MEASURES

<b>Spill or Leak Procedures:</b>	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. Dispose of contaminated cloth rags or paper towels
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following all Federal, State and Local regulations. In the EU refer to the Special Waste Regulations.

### 7. HANDLING AND STORAGE

**Handling Precautions:** 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.

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

### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Components	% wt	CAS Registry #/EINECS#	PEL mg/m <sup>3</sup>	TLV-TWA mg/m <sup>3</sup>	TLV-STEL mg/m <sup>3</sup>	
<b>TIN</b>	4.15-4.6	7440-31-5/231-141-8	(US)	2	2	-
			(EU)	N.E.	2	4
			(Canada)	N.E.	2	4
			(Singapore)	2	-	-
<b>LEAD</b>	76.8-85.1	7439-92-1/231-100-4	(US)	0.05	0.05	-
			(EU)	N.E.	0.15	N.E.
			(Canada)	0.05	0.05	N.E.
			(Singapore)	0.15	-	-
			(Mexico)	0.15	-	-
			(China)	-	0.05(dust) 0.03(fume)	-
<b>SILVER</b>	2.1-2.3	7440-22-4/231-131-3	(US)	0.01	0.1	N.E.
			(EU)	N.E.	0.1	N.E.
			(Canada)	N.E.	0.1	0.3
			(Singapore)	0.1	-	-
<b>POLYGLYCOL ETHER</b>	5-13	9038-95-3	N.E.	N.E.	N.E.	

<b>CARBOXYLIC ACID</b>	0.5-1.0	-	N.E.	N.E.	N.E.
<b>PROPRIETARY</b>	2.5-3	-	N.E.	N.E.	N.E.

**PRODUCT DOES NOT CONTAIN ANY REPORTABLE EU SUBSTANCES OF VERY HIGH CONCERN (SVHC)**

N.E. = Not established

**Engineering Controls:** Use only with production equipment (such as stencil printers and re-flow furnaces) with adequate exhaust ventilation and other safety features specifically designed for use with solder paste. Control concentration of all components so that the exposure levels are not exceeded. For other uses use exhaust ventilation.

**Personal protection:**

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

**Respirator:** An authority approved or compliant marked air-purifying respirator with a fume/organic chemical cartridge is recommended under certain circumstances (i.e. when re-flowing manually on a plate instead of a ventilated re-flow furnace) where airborne concentrations are expected to be elevated or exceed exposure limits.

**Skin:** Compatible chemical resistant gloves. Latex gloves not recommended

**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. Do not allow rags or paper towels contaminated with solder paste to accumulate in the work area. 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. When working with lead containing product observe OSHA/EU or other countries established lead work practices.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	Grey colored paste.	<b>Boiling Point:</b>	Not applicable.
<b>Odor:</b>	Mild characteristic odor.	<b>Melting Point:</b>	Not applicable
<b>Specific Gravity:</b>	0.92	<b>pH:</b>	4 – 8 (flux)
<b>Vapor Pressure:</b>	Not applicable.	<b>Solubility in Water:</b>	Insoluble (paste)
<b>Vapor Density:</b>	(air=1) Not applicable.	<b>Flash Point:</b>	Not applicable
<b>Evaporation Rate:</b>	N/D	<b>Flammability:</b>	No Information
<b>Vapor Pressure:</b>	N/D	<b>Vapor Density:</b>	N/D
<b>Viscosity:</b>	Not available see product data sheet		
<b>Decomposition Temp:</b>	Not available	<b>Partition coefficient, n-octanol/water:</b> N/D	
<b>Relative Density:</b>	N/D		

## 10. STABILITY AND REACTIVITY

<b>General:</b>	Stable.
<b>Conditions to Avoid:</b>	Not established.
<b>Incompatible Materials:</b>	Avoid contact with acids, bases or oxidizing agents.
<b>Hazardous Decomposition / Combustion:</b>	Harmful organic fumes and toxic oxide fumes may form at elevated temperatures.
<b>Hazardous Polymerization:</b>	Will not occur.

## 11. TOXICOLOGICAL INFORMATION

**Carcinogenicity:** NTP: 2B-reasonably anticipated as a human carcinogen  
OSHA: 1910-1025  
IARC: Yes Lead and lead compounds are listed as possible carcinogens.

**LD50:** Not established. **LC50:** Not established.

**Other:** Chronic Toxicity: Lead can cause potential harm to the developing fetus.

## 12. ECOLOGICAL INFORMATION

Contains ingredients that are harmful to aquatic organisms. Product not tested.  
Contains 5.6-11.9% of a substance rated as a severe marine pollutant

## 13. DISPOSAL CONSIDERATION

**Waste Disposal Method:** Scrap metal alloy usually 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. Product may have some reclaim value. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.  
Contains: 5.6-11.9% of a substance rated as a severe marine pollutant. Product not tested.

## 14. TRANSPORT INFORMATION

Transport in accordance with applicable regulations and requirements.

Not regulated under USDOT or IATA per 49 CFR 171.4 ( c ).

IMDG:

UN 3077, Environmentally Hazardous Substances, Solid, N.O.S., 9, PG III (alkylphenol)

Marine Pollutant: contains a severe marine pollutant.



## 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 Mexican regulations, NOM-018-STPS-2000 and NOM-101-STPS-1999.

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

WHMIS: D2A-Materials Causing Other Toxic Effects-Very Toxic Material (Chronic) (lead)



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 using the Chinese Occupational Exposure Limit for Hazardous Agents in the Workplace, GBZ2-2002.

For compliance with EU Directive 2002/95/EC, Restriction of Hazardous Substances (RoHS) see Alloy Table.

Philippines Inventory of Chemicals and Chemical Substances – 2000 [ $< 5\%$  ingredients not listed]

California PROP 65 Safe Drinking Water Standard: WARNING:

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

SARA 313 Listing - 40 CFR 372.65

Lead CAS# 7439-92-1

Silver CAS# 7440-22-4

EPA Genetic Toxicology Program – Lead CAS# 7439-92-1

All ingredients are listed on the EPA TSCA Inventory.

Some ingredients are listed on the Canadian Domestic Substance List. No more than 2.2 % by weight is listed on the Non-domestic substance list.

EC Classification, Packaging and Labeling Requirements:

Symbol and Hazard Classification of Product

$X_n$

### Risk Phrases:

R20/22 Harmful by inhalation and if swallowed

R36/37/38 Irritating to eyes, respiratory system and skin

R33 Danger of cumulative effects (lead)

R40 Limited evidence of carcinogenic effect (lead)

R48 Danger of serious damage to health by prolonged exposure (lead)



R52/53 Harmful to aquatic environment and may cause long-term adverse effects in the aquatic environment

R61 May cause harm to the unborn child (lead)

**Safety Phrases:**

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

S23 Do not breathe fumes/gas/vapor/spray

S24/25 Avoid contact with skin and eyes

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

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

S62 If swallowed, do not induce vomiting seek medical advice immediately and show container or label

S7 Keep container tightly closed

## 16. OTHER INFORMATION

**HMIS Hazard Rating:**

<b>Health:</b>	2
<b>Fire:</b>	1
<b>Reactivity:</b>	0

**Revised Date:** 10 JANUARY 2015

**Prepared by:** Nancy Swarts, Indium Corporation of America

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

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