SAFETY DATA SHEET

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

1.1 Product Identifier: INDALLOY WITH NC-9

SDS Number: SDS-CP 4105 **Revised Date:** 16 OCTOBER 2018

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

Product Use: Industrial Use (Mixture) – Flux Coated Metal Perform for industrial applications. Review alloy table for exact product identification. Note: this SDS covers various metal mixtures.

See alloy table at end of document for listing of products included under this SDS.

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:
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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

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

1.4 Emergency telephone number

FOR CHEMICAL EMERGENCY ONLY PHONE *:
CHEMTREC 24 hrs.
USA: 1 (800) 424-9300
Outside USA: +1 (703) 527-3887
*** 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: **Carcinogen listed in**

⊗Eye	⊗Inhalation	⊗Skin	⊗Ingestion	NTP	IARC	OSHA	⊗Not Listed

2.1 Classification: mixture

2.2 Label Elements

General GHS:
Lead free products:

Signal Word: Warning
Hazard statement(s)

H317	May cause an allergic skin reaction
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
EUH208	Contains rosin. May produce an allergic reaction

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 +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
P501	Dispose of in accordance with applicable local/state and federal regulations. Consider recycling metal.

For lead and or cadmium containing

Signal Word: Warning

Hazard statement(s)

H303	May be harmful if swallowed (lead/cadmium)
H317	May cause an allergic skin reaction
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H351	Suspected of causing cancer (lead) (cadmium)
H361	Suspected of damaging fertility or the unborn child (applicable to lead containing product)
H372 `	Causes damage to organs through prolonged or repeated exposure (cadmium)
H373	May cause damage to organs through prolonged or repeated exposure (applicable to lead containing product)
H410	Very toxic to aquatic life with long lasting effects (lead)
EUH201A	Warning! Contains lead (applicable only to the products listed that contain lead) Review listing.
EUH207:	Warning! Contains cadmium. Dangerous fumes are formed during use. Comply with the safety instructions. (applicable only to the products listed that contains cadmium) Review listing.
EUH208	Contains rosin. May produce an allergic reaction

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 +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
P501	Dispose of in accordance with applicable local/state and federal regulations. Consider recycling

Classification:

Sensitization- skin-Category 1B
Sensitization- respiratory-Category 1B
Reproductive toxicity- Category 2 (lead)
Specific target organ toxicity, repeated exposure- Category 2 (lead)
Carcinogenicity- Category 2 (lead/cadmium)
Hazardous to aquatic environment, long term hazard- Category 1 (lead/cadmium)

Review alloy table for product used. Review applicable health, safety and environmental information.

2.3 OTHER HAZARDS:

POTENTIAL HEALTH EFFECTS:

Eye Contact: Contact with powered metal alloy or 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.

Ingestion: Harmful if swallowed.

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

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. Protect skin when grinding/cutting, may cause irritation.

Chronic:

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

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. Signs and symptoms of exposure – anemia.

BISMUTH: May cause kidney damage

CADMIUM: Overexposure can cause damage to the lungs and kidneys. Cadmium is a toxic metal and ingestion or inhalation of fumes and dust can be harmful. Included effects may be obstructive lung disease such as emphysema, bone demineralization, micro-fractures and osteomalacia, gastrointestinal symptoms, rhinitis and discoloration of the teeth.

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.

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. Tissue damage of mucous membranes may follow chronic dust exposure

INDIUM: May cause damage to respiratory system if inhaled over long periods of time.

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.

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

3.2 Mixture:

Components	% wt.	CAS Registry #/ EINECS#
TIN	*	7440-31-5/231-141-8
LEAD	*	7439-92-1/231-100-4
BISMUTH	*	7440-69-9/231-177-4
CADMIUM	*	7440-43-9/231-152-8
SILVER	*	7440-22-4/231-131-3
COPPER	*	7440-50-8/231-159-6
INDIUM	*	7440-74-6/231-180-0
GOLD	*	7440-57-5/231-165-9

ZINC	*	7440-66-6/231-175-3
ANTIMONY	*	7440-36-0/231-146-5
ROSIN	*	65997-05-9
PROPRIETARY	*	-

* See Alloy Table at the end of the document for breakdown of percentages of alloy mixtures

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SECTION 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.

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:

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. Exposure to lead or cadmium fume may cause harm. Sign of overexposure is anemia. Rosin fume may cause respiratory irritation. May cause occupational asthma.

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_2, 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. Metal dust in air could pose a flammable issue. 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. Solid metal can easily be cleaned up. Do not sweep. Vacuum solids and avoid creating dust in air.

6.2 Environmental Precautions: Metals are not generally suited for release to any body of water including drains. Avoid release to environment.

6.3 Methods and material for containment and cleaning up:

Spill or leak procedures: Solid metal can be picked up and placed into metal container. If hot allow to cool then place into metal container. Recycle metal.

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

SECTION 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 when working or handling product. 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 contain metal fumes.

7.2 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.

7.3 Specific End Use(s): Soldering applications and other applications.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control Parameters:

			TWA	STEL
		CAS#/EINECS#	mg/m3	mg/m3
TIN	*	7440-31-5/231-141-8		
		(UK)	2	4
		(Belgium)	2	-
		(Germany)	2	-
		(Netherlands)	2	-
		(Spain)	2	-
		(Poland)	2	-

LEAD	*	7439-92-1/231-100-4		
		(UK)	0.15	-
		(France)	0.1	-
		(Spain)	0.15	-
		(Italy)	0.15	-
		(Portugal)	0.05	-
		(Finland)	0.1	-
		(Denmark)	0.05	-
		(Austria)	0.1	0.4
		(Switzerland)	0.1	0.8
		(Poland)	0.05	-
		(Norway)	0.05	-
		(Ireland)	0.15	-
SILVER	*	7440-22-4/231-131-3		
		(UK)	0.1	0.3
		(Belgium)	0.1	-
		(France)	0.1	-
		(Germany)	0.1	-
		(Netherlands)	0.1	-
		(Spain)	0.1	-
		(Poland)	0.05	-
INDIUM	*	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
BISMUTH	*	7440-69-9/231-177-4		
		(UK)	N.E.	N.E.
ANTIMONY	*	7440-36-0/231-146-5		
		(UK)	0.5	-
		(France)	0.5	-
		(Belgium)	0.5	-
		(Spain)	0.5	-
		(Portugal)	0.5	-
		(The Netherlands)	0.5	-
		(Finland)	0.5	-
		(Denmark)	0.5	-
		(Austria)	0.5	5
		(Switzerland)	0.5	-
		(Poland)	0.5	-
		(Norway)	0.5	-
		(Ireland)	0.5	-
COPPER	*	7440-50-8 /231-159-6		
		(UK)	0.2 (fume)	-
		(France)	2	0.2(fume)
		(Belgium)	1	-
			0.2(fume)	
		(Spain)	1	-
			0.2(fume)	
		(Portugal)	1	0.2(fume)
		(Netherlands)	0.1	-
		(Finland)	1	-
			0.1	
		(Denmark)	1	-
			0.1	

		(Austria)	1	4
			0.1(fume)	0.4
		(Switzerland)	0.1	0.2
		(Norway)	1	0.1
		(Ireland)	1	2
			0.2 (fume)	
		(Poland)	0.2	-
GOLD	*	7440-57-5/231-165-9	N.E.	-
CADMIUM	*	7440-43-9/231-152-8 (France)	0.05	-
		(Belgium)	0.002	0.01
		(Spain)	0.01	-
		(Portugal)	0.01	-
		(Finland)	0.02	-
		(Denmark)	0.005	-
		(Switzerland)	0.015	-
		(Poland)	0.01	-
		(Norway)	0.05	-
		(Ireland)	0.025	-
ZINC		7440-66-6/231-175-3	N.E.	N.E.

N.E. = Not established TWA= time weighted average STEL=short term exposure level

8.2 Exposure Controls:

Engineering Controls: Use with proper equipment with adequate exhaust ventilation and other safety features specifically designed for use with solder applications or other industrial uses. Control concentration of all components with established exposure limits so they are not exceeded. Use exhaust ventilation when heating product. Air emission control equipment may be necessary based on the local governmental requirements for contaminates entering the atmosphere. Emissions contain metal fumes.

Personal protection:

Eyes: Chemical safety glasses/goggles. Face shield for molten metal.

Respiratory: An approved or EU compliant CE 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. Recommend a nitrile disposable or other chemical glove. Hot gloves for handling molten metal.

Other: Lab coat, eye-wash fountain in work area. Avoid the use of contact lenses in high fume areas.

Work/Hygienic 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. Follow standard lead and cadmium work practices as established under governmental guidelines, when applicable.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

Appearance:	Solid metal	**Boiling Point/Range:**	Not determined
Odor:	None.	**Melting Point/Freezing Point:**	See alloy table
Odor Threshold:	Not established	**Evaporation Rate:**	Not applicable
Specific Gravity:	See alloy table	**pH:**	Not applicable
Vapour Pressure:	Not applicable.	**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		

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 acids, bases or oxidizing agents.

10.6 Hazardous Decomposition 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:

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

Symptoms related to the physical, chemical and toxicological characteristics:

May cause irritation or harm by inhalation.

Delayed and immediate effects as well as chronic effects from short and long-term exposure:
Exposure to lead fume, if applicable, may cause harm by inhalation and ingestion. Chronic exposures to lead fume, if applicable, can cause potential harm to the developing fetus. Lead exposure can be toxic. Cadmium may cause cancer.

Mixture verses substance information: None known

Other Information:

Carcinogenicity:
Listing
NTP: No (National Toxicity Program)
OSHA: Yes – cadmium is listed as a possible carcinogen (US Occupational Safety & Health Administration)
IARC: Yes - Lead and lead compounds and cadmium and cadmium compounds are listed as possible carcinogens. (International Agency for Research on Cancer)

Lead – Suspected human reproductive toxicant. May cause damage to organs through prolonged or repeated exposure. Reproductive toxicity – rat –inhalation, oral/ effects on newborn.

Cadmium can cause potential harm to the developing fetus. LD50 Oral 2330mg/kg (rat), LC50 inhalation 8mg/l (rabbit) 4h

SECTION 12. ECOLOGICAL INFORMATION

This section is subject to future development. Product mixtures not tested.

12.1 Toxicity: No information available

12.2 Persistence and degradability: No information available

12.3 Bio accumulative 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.

Lead – Toxicity to fish – mortality LOEC – rainbow trout – 1.19 mg/l – 96h. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Bioaccumulation – Oncorhynchus kisutch – 2 weeks
Bio concentration factor (BCF): 12

Copper – Toxicity to daphnia and other aquatic invertebrate's mortality NOEC – Daphnia 0.004 mg/l – 24h.

Antimony –. Toxicity to fish – mortality NOEC (sheepshead minnow) 6.2 mg/l – 96h. Toxic to aquatic organisms may cause long term adverse effects in the aquatic environment.

Cadmium – LC50 4.26mg/l 96h/ EC50 0.0244 mg/l – 48h

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): Product mixtures do not contain any PBB or PBDT brominated compounds. Note that product mixtures may contain lead and or cadmium and are not complaint with RoHS. Users should review their particular use for any applicable exemptions that may apply. Review alloy table for products.

SECTION 14. TRANSPORT INFORMATION

Transport in accordance with applicable regulations and requirements.
Not regulated/non - hazardous under US DOT (United States Department of Transportation).
Not regulated/non - hazardous under international shipping requirements. (Ground/IATA/Ocean)

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

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 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 2037/2000.

German Water Hazard WGK: VwVwS- Water Hazard Class- 1

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: 16 OCTOBER 2018

Prepared by: Nancy Swarts, The Indium Corporation of America, nswarts@indium.com

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).

The information and recommendations contained herein are, to the best of The Indium Corporation of America's knowledge and belief, accurate and reliable as of the date issued. The Indium Corporation of America does not warrant or guarantee their accuracy or reliability, and The Indium Corporation of America shall not be liable for any loss or damage arising out of the user thereof. The information and recommendations are offered for the user's consideration and examination, and it is the user's responsibility to satisfy itself that they are suitable and complete for its particular use. If buyer repackages this product, legal counsel should be consulted to insure proper health, safety and other necessary information is included on the container.

ALLOY TABLE

INDALLOY	RoHS 2** Compliance	%TIN Sn	%ANTIMONY Sb	%INDIUM In	%SILVER Ag	%COPPER Cu	%LEAD Pb	%CADMIUM Cd	GERMANIUM Ge	%BISMUTH Bi	%ZINC Zn	%GOLD Au	%SILICON Si
1E (In52/Sn48)	Yes	48	-	52	-	-	-	-	-	-	-	-	-
4 (100 In)	Yes	-	-	99.99	-	-	-	-	-	-	-	-	-
7 (50In/50Pb)	No	-	-	50	-	-	50	-	-	-	-	-	-
104 Sn62/Pb36/ Ag2)	No	62	-	-	2	-	36	-	-	-	-	-	-
106 (Sn63/Pb37)	No	63	-	-	-	-	37	-	-	-	-	-	-
109 (Sn60/Pb40)	No	60	-	-	-	-	40	-	-	-	-	-	-
121 (Sn96.5/ Ag3.5)	Yes	96.5	-	-	3.5	-	-	-	-	-	-	-	-
133 (92Sn/5Sb)	Yes	95	5	-	-	-	-	-	-	-	-	-	-
145 (Pb75/Sn25)	No	25	-	-	-	-	75	-	-	-	-	-	-
151 Pb 92.5/5Sn/ 2.5Ag)	Yes**	5	-	-	2.5	-	92.5	-	-	-	-	-	-
164 (Pb92.5/5In/ Ag2.5)	Yes**	-	-	5	2.5	-	92.5	-	-	-	-	-	-
165 (Pb97.5/Sn1 /Ag1.5)	Yes**	1	-	-	1.5	-	97.5	-	-	-	-	-	-
171 (Pb95/5Sn)	Yes**	5	-	-	-	-	95	-	-	-	-	-	-
181 (Sn51.2/30.6Pb /18.2Cd)	No	51.2	-	-	-	-	30.6	18.2	-	-	-	-	-

INDALLOY	**RoHS 2** Compliance**	**%TIN Sn**	**%ANTIMONY Sb**	**%INDIUM In**	**%SILVER Ag**	**%COPPER Cu**	**%LEAD Pb**	**%CADMIUM Cd**	**GERMANIUM Ge**	**%BISMUTH Bi**	**%ZINC Zn**	**%GOLD Au**	**%SILICON Si**
182 (80Au/20Sn)	Yes	20	-	-	-	-	-	-	-	-	-	80	-
201 (Sn91/9Zn)	Yes	91	-	-	-	-	-	-	-	-	9	-	-
206 (Pb60/In40)	No	-	-	40	-	-	60	-	-	-	-	-	-
227 (77.2Sn/20In/ Ag2.8)	Yes	77.2	-	20	2.8	-	-	-	-	-	-	-	-
238 (Sn90/10Au)	Yes	90	-	-	-	-	-	-	-	-	-	10	-
241 (95.5Sn/3.8Ag/ 0.7Cu)	Yes	95.5	-	-	3.8	0.7	-	-	-	-	-	-	-
243 (99Sn/1Cu)	Yes	99	-	-	-	1	-	-	-	-	-	-	-
246 (95.5Sn/4Ag /0.5Cu)	Yes	95.5	-	-	4	0.5	-	-	-	-	-	-	-
249 (91.8Sn/4.8Bi/ 3.4Ag)	Yes	91.8	-	-	3.4	-	-	-	-	4.8	-	-	-
256 (96.5Sn/3Ag/ 0.5Cu)	Yes	96.5	-	-	3	0.5	-	-	-	-	-	-	-
281 (Bi58/Sn42)	Yes	42	-	-	-	-	-	-	-	58	-	-	-
282 (Bi57/Sn42/ 1Ag)	Yes	42	-	-	1	-	-	-	-	57	-	-	-
290 (In97/Ag3)	Yes	-	-	97	3	-	-		-		-	-	-
NS (Bi48/Sn20/ 19Pb/13Cd)	No	18.6-19.8	-	-	-	-	17.7-18.8	12.1-12.9	-	44.6-47.5	-	-	-
NS (93Pb/5Sn /1.5Ag)	Yes**	4.7-4.9	-	-	1.40-1.48	-	87-92.5	-	-	-	-	-	-
NS (Sn91.98/Sb8	Yes	91.98	8	-	-	-	-	-	0.02	-	-	-	-

/0.02Ge)													
NS (96.8Au/3.2Si)	Yes	-	-	-	-	-	-	-	-	-	-	96.8	3.2

RoHS 2 **= falls under exemptions for high melting lead – 7a. RoHS 3 : no phthalates in products.