SAFETY DATA SHEET

This safety data sheet represents a family grouping of all metal mixes that are blended with the same flux. A table is provided at the end of this document that lists all metal groupings. To better serve all of our customers and reduce the paperwork burden, the Indium Corporation has generated one SDS, for this product, to be used within the United States as well as internationally. Some of the regulatory information contained within may not be applicable to the customer's individual state or country. Unless otherwise stated the health and safety information provided within is applicable to all products.

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: **INDALLOY WITH INDIUM 9.15 FLUX VEHICLE**

SDS Number: SDS-6735 **Revised Date:** 28 AUGUST 2018

Product Use: Industrial Use - Rosin-based mildly activated solder paste consisting of a flux vehicle blended with 83-92 weight percent of pre-alloyed metal powder. Used in soldering applications. Review alloy table for metal mixtures with the same flux.

MANUFACTURER:

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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:

Lead free:

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
H335	May cause respiratory irritation
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 +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)

Lead containing:

Signal Word: Warning

Hazard statement(s)

H303	May be harmful if swallowed
H317	May cause an allergic skin reaction
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335	May cause respiratory irritation
H351	Suspected of causing cancer
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, will long lasting effects
EUH201A	Warning! Contains lead. 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
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P305 + 351	IF IN EYES: Rinse continuously with water for several minutes (15 mins)

Classification:
Specific target organ toxicity- repeated exposure – Category 2
Carcinogenicity (Category 2) (lead)
Reproductive toxicity (Category 2) (lead)
Skin sensitization – Category1B
Respiratory sensitization- Category1B
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 may cause eye irritation.

Ingestion: Contains metal alloy and organic chemicals. May be harmful.

Inhalation: Vapors or fumes from this material at typical re-flow temperatures over 100°C may cause local irritation to the respiratory system. Lead fumes, where applicable, may be harmful. Rosin may cause occupational asthma.

Skin Contact: May cause skin irritation. ANTIMONY has been known to cause dermatitis.

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.

BISMUTH: May cause kidney damage.

INDIUM: May cause damage to respiratory system.

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.

ZINC: Fresh fume inhaled may cause a disease known as "brass founders", throat dryness, cough, weakness, generalized aching, fever, nausea and vomiting.

WARNING: This product can expose you to chemicals including [lead] which is known to the State of California to cause cancer,and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov

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 solder in making joints or fittings of any private or public water supply system. Keep out of the reach of children. Not intended for household use.**

3. COMPOSITION / INFORMATION ON INGREDIENTS

Components	%	CAS Registry #/EINECS#	PEL mg/m³	TLV-TWA mg/m³	TLV-STEL mg/m³
TIN	*	7440-31-5/231-141-8			
		(US)	2	2	-
		(EU)	-	2	4
		(Canada)	-	2	4
		(Singapore)	2	-	-
LEAD	*	7439-92-1/231-100-4			
		(US)	0.05	0.05	-
		(EU)	N.E.	0.15	-
		(Canada)	0.05	0.05	-
		(China)	-	0.05(dust) 0.03(fume)	-
		(Mexico)	-	0.15	-
		(Singapore)	0.15	-	-
SILVER	*	7440-22-4/231-131-3			
		(US)	0.01	0.1	-
		(EU)	-	0.1	-
		(Canada)	-	0.1	0.3
		(Mexico)	-	0.1	-
		(Singapore)	0.1	-	-

INDIUM	*	7440-74-6/231-180-0			
		(US)	0.1	0.1	-
		(EU)	-	0.1	0.3
		(Canada)	-	0.1	0.3
		(China)	-	0.1	0.3
		(Mexico)	-	0.1	0.3
		(Singapore)	0.1	-	-
GOLD	*	7440-57-5/231-165-9	N.E.	N.E.	N.E.
GERMANIUM	*	7440-56-4/231-164-3	N.E.	N.E.	N.E.
BISMUTH	*	7440-69-9 /231-177-4	N.E.	N.E.	N.E.
ANTIMONY	*	7440-36-0/231-146-5			
		(US)	0.5	0.5	-
		(EU)	0.5	-	-
		(Canada)	-	0.5	1.5
		(China)	-	0.5	-
		(Mexico)	-	0.5	-
		(Singapore)	0.5	-	-
COPPER	*	7440-50-8/231-159-6			
		(US)	0.1 (fume)	0.2 (fume)	-
		(EU)	-	0.2 (fume)	-
		(Canada)	-	0.2 (fume)	0.6 (fume)
		(Mexico)	-	0.2(fume)	2
		(China)	-	0.2	0.6
		(Singapore)	0.2(fume)	1(dust)	-
ZINC	*	7440-66-6/231-175-3	N.E.	N.E.	N.E.
ROSIN	5.0-6.0	65997-05-9 (US)	N.E.	N.E.	N.E.
		(EU)	0.05	N.E.	0.15 (sensitiser)
POLYGLYCOL ETHER	2.0 -4.0	9038-95-3	N.E.	N.E.	N.E.
MODIFIED CASTER OIL	1.0 – 7.0	61788-85-0	N.E.	N.E.	N.E.

*See alloy table at the end of document

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.

Extinguishing Media: Use extinguisher appropriate for the surrounding fire conditions.

Special Fire Fighting Procedures: Firefighters must wear NIOSH approved self-contained breathing apparatus and full protective clothing.

6. ACCIDENTAL RELEASE MEASURES

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. Dispose contaminated cloth rags or paper towels 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

Engineering Controls: Use only with production equipment (such as stencil printers and re-flow furnaces) with adequate ventilation and other safety features specifically designed for use with solder paste. Control concentration of all components so that they're permissible exposure levels are not exceeded. Protect workers from potential exposures.

Personal protection:

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

Respirator: An 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 hot plate instead of a ventilated re-flow furnace) where airborne concentrations are expected to exceed exposure limits. Lead containing products require that ventilation be provided to ensure workers are protected from potential exposures.

Skin: Compatible chemical resistant gloves. Latex gloves are 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Grey colored paste.	**Boiling Point:**	Not applicable.
Odor:	Mild characteristic odor.	**Melting Point:**	Not applicable
Specific Gravity:	Not applicable.	**pH:**	5 – 8 (flux)
Vapor Pressure:	Not applicable.	**Solubility in Water:**	Insoluble (paste)
Vapor Density:	(air=1) Not applicable.	**Volatile Organics:**	<132,700 ug/kg

10. STABILITY AND REACTIVITY

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

11. TOXICOLOGICAL INFORMATION

Carcinogenicity:

NTP:	No	
OSHA:	No	29CFR1910.1025
IARC:	Yes	Lead and lead compounds are listed as possible carcinogens.

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

Other: Chronic Toxicity: Prolonged or repeated exposure to rosin flux fume may cause workers to develop occupational asthma. Lead can cause potential harm to the developing fetus.

12. ECOLOGICAL INFORMATION

Product has not been tested.

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.

14. TRANSPORT INFORMATION

Transport in accordance with applicable regulations and requirements. Not regulated under US DOT (United States Department of Transportation).

` Non hazardous for shipping (ground / IATA/ Ocean).

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.).

WARNING: This product can expose you to chemicals including [lead] which is known to the State of California to cause cancer,and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov

USEPA -SARA 313 Listing - 40 CFR 372.65

Lead CAS# 7439-92-1	Silver CAS# 7440-22-4	Antimony CAS# 7440-36-0
Copper CAS# 7440-50-8	Zinc CAS# 7440-66-6	

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

All ingredients are listed on the EPA TSCA Inventory.

This product has been classified in accordance with the Mexican regulations, NOM-018-STPS-2015 and NOM-010-STPS-2014.

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

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

D2B -Materials Causing Other Toxic Effects –skin irritation

Ingredients are listed on the Canadian Domestic Substance List.

This product has been classified in accordance with the guidelines set by the Dept of Industrial Health of the Republic of Singapore.

For compliance with EU directive 2011/65/EU, Restriction of Hazardous Substances (RoHS) 2 see alloy table.
Regulatory Information China:
GB/T 16483-2008, GB/T 17519-2013, Safety Data Sheets for Chemical Products
GB 30000.2-29-2013, Rules for classification and labeling of chemicals (GHS)
Decree No. 591: Regulations on the Control Over Safety of Hazardous Chemicals.
This product has been classified using the Chinese Occupational Exposure Limit of Hazardous Agents in the Workplace, GBZ2-2007.

Malaysia:
This product has been classified in accordance with: Malaysian – OCCUPATIONAL SAFETY AND HEALTH (CLASSIFICATION, LABELING AND SAFETY DATA SHEET OF HAZARDOUS CHEMICALS) REGULATION OCTOBER 2013 – (CLASS)

16. OTHER INFORMATION

HMIS Hazard Rating:	**Health:**	2
	Fire:	1
	Physical Hazard:	0
Revised Date:	28 AUGUST 2018	
Prepared by:	Nancy Swarts, Indium Corporation of America	
Approved by:	Nancy Swarts, Indium Corporation of America	

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 Metal Alloy Mix	%Sn Tin	%Pb Lead	%Ag Silver	%In Indium	%Bi Bismuth	%Sb Antimony	%Cu Copper	%Zn Zinc	%Au Gold	%Ge Germanium	RoHS 2/3 Compliance
9 (Sn70/Pb18/In12)	58.1-64.4	14.9-16.6	-	10-11	-	-	-	-	-	-	NO
10 (Pb75/In25)	-	63.3-69	-	20.8-23	-	-	-	-	-	-	NO
42 Bi46/Sn34/Pb20)	28-31.3	17-18.4	-	-	38-42.3	-	-	-	-	-	NO
97 Sn43/Pb43/Bi14)	35.7-39.6	35.7-39.6	-	-	11.6-12.9	-	-	-	-	-	NO
100 (Sn62.6/Pb37/ Ag0.4)	52.0-57.6	30.7-34.0	.33-.37	-	-	-	-	-	-	-	NO
104 (Sn62/Pb36/Ag2)	51.9-57.5	29.9-33.2	1.2-1.8	-	-	-	-	-	-	-	NO
106 (Sn63/Pb37)	52.3-58	30.7-34	-	-	-	-	-	-	-	-	NO
109 (Sn60/Pb40)	49.8-55.2	33.2-36.8	-	-	-	-	-	-	-	-	NO
111 (Pb55.5/Sn40.5/ Bi4)	33.6-37.3	46-51	-	-	3.3-3.7	-	-	-	-	-	NO
116 (Sn50/Pb50)	41.5-46	41.5-46	-	-	-	-	-	-	-	-	NO
118 (Sn90/Pb10)	74.7-82.8	8.3-9.2	-	-	-	-	-	-	-	-	NO
121 Sn96.5/Ag3.5)	80.1-88.8	-	2.9-3.2	-	-	-	-	-	-	-	YES
122 (Sn95/Pb5)	78.9-87.4	4.2-4.6	-	-	-	-	-	-	-	-	NO
127 Pb60/Sn37/Ag3)	30.7-34	49.8-55.2	2.5-2.8	-	-	-	-	-	-	-	NO
128 (Sn100)	83-92	-	-	-	-	-	-	-	-	-	YES
129 (Sn99/Sb1)	82.2-91.1	-	-	-	-	083-0.92	-	-	-	-	YES

INDALLOY Metal Alloy Mix	%Sn Tin	%Pb Lead	%Ag Silver	%In Indium	%Bi Bismuth	%Sb Antimony	%Cu Copper	%Zn Zinc	%Au Gold	%Ge Germanium	RoHS 2/3 Compliance
130 (Pb60/Sn40)	33.2-36.8	49.8-55.2	-	-	-	-	-	-	-	-	NO
131 (Sn97/Sb3)	80.5-89.2	-	-	-	-	2.5-2.8	-	-	-	-	YES
132 (Sn95/Ag5)	78.9-87.4	-	4.2-4.6	-	-	-	-	-	-	-	YES
133 (Sn95/Sb5)	78.9-87.4	-	-	-	-	4.2-4.6	-	-	-	-	YES
141 (Pb70/Sn30)	24.9-27.6	58.1-64.4	-	-	-	-	-	-	-	-	NO
143 (Pb90/Sb10)	-	74.7-82.8	-	-	-	8.3-9.2	-	-	-	-	YES with exemption
145 Pb75/Sn25)	20.8-23	62.3-69	-	--	-	-	-	-	-	-	NO
149 (Pb80/Sn20)	16.6-18.4	66.4-73.6	-	-	-	-	-	-	-	-	NO
150 (Pb81/In19)	-	67.2-74.5	-	15.8-17.5	-	-	-	-	-	-	NO
151 (Pb92.5/Sn5/ Ag2.5)	4.2-4.6	76.8-85	2-2.3	-	-	-	-	-	-	-	YES with exemption
152 (Pb92/Sn5/Sb3)	4.2-4.6	76.4-85.6	-	-	-	2.5-2.8	-	-	-	-	YES with exemption
155 (Pb90/Ag5/Sn5)	4.2-4.6	74.7-82.8	4-4.6	-	-	-	-	-	-	-	YES with exemption
159 (Pb90/Sn10)	8.3-9.2	74.7-82.8	-	-	-	-	-	-	-	-	YES with exemption
160 (Sn97/Cu3)	80.5-89.2	-	-	-	-	-	2.5-2.8	-	-	-	YES
161 (Pb97.5/Ag2.5)	-	80.9-89.7	2-2.3	-	-	-	-	-	-	-	YES with exemption

INDALLOY Metal Alloy Mix	%Sn Tin	%Pb Lead	%Ag Silver	%In Indium	%Bi Bismuth	%Sb Antimony	%Cu Copper	%Zn Zinc	%Au Gold	%Ge Germanium	RoHS 2/3 Compliance
163 (Pb95.5/Ag2.5/ Sn2)	1.7- 1.9	79.3-87.9	2.1-2.3		-	-	-	-	-	-	YES with exemption
164 (Pb92.5/In5/Ag2.5)	-	76.8-85.1	2.1-2.3	4.2-4.6	-	-	-	-	-	-	YES with exemption
165 (Pb97.5/Ag1.5/ Sn1)	0.8-0.9	80.9-89.7	1.2-1.4	-	-	-	-	-	-	-	YES with exemption
171 (Pb95/Sn5)	4.2-4.6	78.9-87.4	-	-	-	-	-	-	-	-	YES with exemption
175 (Pb95/Ag5)	-	78.9-87.4	4.2-4.6	-	-	-	-	-	-	-	YES with exemption
182 (Au80/Sn20)	16.6-18.4	-	-	-	-	-	-	-	66.4-73.6	-	YES
183 (Au88/Ge12)	-	-	-	-	-	-	-	-	73-81	10-11	YES
201 (Sn91/Zn9)	75.5-83.7	-	-	-	-	-	-	7.5-8.3	-	-	YES
206 (Pb60/In40)	-	49.8-55.2	-	33.2-36.8	-	-	-	-	-	-	NO
209 (Sn65/Ag25/Sb10)	54-59.8	-	20.8-23	-	-	8.3-9.2	-	-	-	-	YES
227 (Sn77.2/In20/ Ag2.8)	64-71	-	2.3-2.6	16.6-18.4	-	-	-	-	-	-	YES
228 (Pb88/Sn10/Ag2)	8.3-9.2	73-81	1.7-1.8	-	-	-	-	-	-	-	YES with exemption
233 (Pb85/Sb10/Sn5)	4.2-4.6	70.6-78.2	-	-	-	8.3-9.2	-	-	-	-	YES with exemption
236 (Pb83/Sb10/Sn5/ Ag2)	4.2-4.6	68.9-76.4	1.7-1.8	-	-	8.3-9.2	-	-	-	-	NO

INDALLOY Metal Alloy Mix	%Sn Tin	%Pb Lead	%Ag Silver	%In Indium	%Bi Bismuth	%Sb Antimony	%Cu Copper	%Zn Zinc	%Au Gold	%Ge Germanium	RoHS 2/3 Compliance
238 (Sn90/Au10)	74.7-82.8	-	-	-	-	-	-	-	8.3-9.2	-	YES
Indalloy Metal Alloy Mix	**%Sn**	**%Pb**	**%Ag**	**%In**	**%Bi**	**%Sb**	**%Cu**	**%Zn**	**%Au**	**%Ge**	RoHS 2 Compliance
240 (Sn46/Pb46/Bi8)	38.2-42.3	38.2-42.3	-	-	6.6-7.4	-	-	-	-	-	NO
241 (Sn95.5/Ag3.8/ Cu0.7)	79-87.9	-	3.2-3.5	-	-	-	0.58-0.64	-	-	-	YES
244 (Sn99.3/Cu0.7)	82.4-91.4	-	-	-	-	-	0.58-0.64	-	-	-	YES
249 (Sn91.8/Bi4.8/ Ag3.4)	76.2-84.5	-	2.8-3.1	-	4-4.4	-	-	-	-	-	YES
255 (Bi55.5/Pb44.5)	-	36.9-40.9	-	-	46-51	-	-	-	-	-	NO
256 (96.5Sn/3Ag/ 0.5Cu)	80-88.8	-	2.5-2.8	-	-	-	0.42-0.46	-	-		YES
259 (Sn90/Sb10)	74.7-82.8	-	-	-	-	8.3-9.2	-	-	-	-	YES
264 (91.5Sn/8.5Sb)	75.9-84.2	-	-	-	-	7.06-7.8	-	-	-	-	YES
266 (93.5Pb/5Sn/1.5Ag)	4.2-4.6	77.6-86	1.2-1.4	-	-	-	-	-	-	-	YES with exemption
281 (Bi58/Sn42)	34.9-38.6	-	-	-	48.1-53.4	-	-	-	-	-	YES
281-338 (Sn60/Bi40)	49.8-55.2	-	-	-	33.2-36.8	-	-	-	-	-	YES
NS (Sn25/Au75)	20.8-23	-	-	-	-	-	-	-	62-69	-	YES

INDALLOY Metal Alloy Mix	%Sn Tin	%Pb Lead	%Ag Silver	%In Indium	%Bi Bismuth	%Sb Antimony	%Cu Copper	%Zn Zinc	%Au Gold	%Ge Germanium	RoHS 2/3 Compliance
NS (Sn30/Au70)	24.9-27.6	-	-	-	-	-	--	-	58-64.4	-	YES
NS (Sn5/Pb93.5/Ag1.5)	4.2-4.6	77.6-86	1.2-1.4	-	-	-	-	-	-	-	YES with exemption
NS (Sn15/Pb82.5/ Ag2.55)	12.5-13.8	68.5-75.9	2.1-2.3	-	-	-	-	-	-	-	NO
NS (Sn20/Pb77/Ag3	16.6-18.4	63.9-70.8	2.5-2.8	-	-	-	-	-	-	-	NO
NS (Sn96/Ag4)	79.7-88.3	-	3.3-3.7	-	-	-	-	-	-	-	YES
NS (Sn3.5/Pb84.5/ Sb12)	2.9-3.2	70.1-78.2	-	-	-	9.5-10.6	-	-	-	-	NO

NS = Non Standard Alloy Mix

RoHS2 = Restriction of Hazardous Substances (2011/65/EU). Please review any applicable exemptions that may apply. This information is provided as information only. It is the responsibility of the customer to determine compliance with their particular specifications and restrictions.
***RoHS 3-products do not contain any of the listed phthalates**