



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

This safety data sheet represents a family grouping of all metal mixes that are blended with the same flux known as NC-SMQ 75A. A table is provided on page 3 that lists all metal groupings. To better serve all of our customers 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 NC-SMQ75A FLUX VEHICLE

SDS Number: SDS-IN 932

Revised Date: 17 JUNE 2015

Product Use: Industrial Use - No clean solder paste consisting of a flux vehicle blended with 83-92 weight percent pre-alloyed metal powder. Review alloy table for all alloy combinations with the same flux.

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2. HAZARDS IDENTIFICATION

PRIMARY ROUTES OF ENTRY:

XEye XInhalation XSkin XIngestion

Carcinogen listed in

NTP IARC OSHA XNot Listed

GHS:



applicable to lead containing products

Signal Word: Warning

Hazard statement(s)

- H303 May be harmful if swallowed
- H315 Causes skin irritation
- H319 Causes serious eye irritation
- H335 May cause respiratory irritation
- H333 May be harmful if inhaled
- H351 Suspected of causing cancer (lead)
- H361 Suspected of damaging fertility or the unborn child (applicable to lead containing product)
- 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 containing product)
- EUH201A Warning! Contains lead (applicable only to the products listed that contain lead) Review listing.

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 (15 mins)

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:** This product may contain metal alloy powders and organic chemicals. Harmful if swallowed. May cause burns to the digestive tract 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.

- 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 mild skin irritation. ANTIMONY has been known to cause dermatitis.

- Chronic:**
 - SILVER: Chronic skin contact or ingestion of silver powder, 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.

 - LEAD: Prolonged exposure to vapors or fumes at higher temperatures may cause respiratory irritation and systematic lead poisoning.

 - 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.

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

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

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#	PEL mg/m ³	TLV-TWA mg/m ³	TLV-STEL mg/m ³
TIN	*	7440-31-5/231-141-8			
		(US)	2	2	-
		(EU)	-	2	4
		(Canada)	-	2	4
		(Singapore)	2	-	-
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	-	-
GOLD	*	7440-57-5	N.E.	N.E.	N.E.	N.E.
ZINC	*	7440-66-6/231-175-3	N.E.	N.E.	N.E.	N.E.
COPPER	*	7440-50-8/231-159-6				
			(US)	0.1	0.2	-
			(EU)	-	0.2	2
			(Canada)	-	0.2	0.6
			(Mexico)	-	0.2	2
			(Singapore)	0.2(fume)	1(dust)	-
			(China)	-	1(dust)	2.5
					0.2(fume)	0.6
ANTIMONY	*	7440-36-0/231-146-5				
			(US)	0.5	0.5	-
			(EU)	0.5	-	-
			(Canada)	-	0.5	1.5
			(Mexico)	-	0.5	-
			(Singapore)	0.5	-	-
			(China)	-	0.5	-
LEAD	*	7439-92-1/231-100-4				
			(US)	0.05	0.05	-
			(EU)	-	0.15	-
			(Canada)	0.05	0.05	-
			(Mexico)	-	0.15	-
			(Singapore)	0.15	-	-
			(China)	-	0.05(dust)	-
					0.03(fume)	-
POLYGLYCOL ETHER	6.0-8.0	9038-95-3	N.E.	N.E.	N.E.	N.E.
PROPRIETARY	2-9		N.E.	N.E.	N.E.	N.E.

Symbol: X_n Risk Phrases: R20/21/22, R36/37/38 See Section 15 for additional information
 N.E. = Not established * See alloy table

Alloy Table

%Metal in Flux Mix

INDALLOY (METAL)	%TIN Sn	%SILVER Ag	%LEAD Pb	%GOLD Au	%COPPER Cu	%ANTIMONY Sb	%ZINC Zn	RoHS* 2 Compliance
104 (62.5Sn/36.1 Pb/1.4Ag)	51.9-57.5	1.2-1.8	29.9-33.2	-	-	-	-	NO
106 (63Sn/37Pb)	52.3-58.0	-	30.7-34.0	-	-	-	-	NO
121 (96.5Sn/3.5 Ag)	80.1-88.8	1.2-1.8	-	-	-	-	-	YES
128 (100Sn)	83-92	-	-	-	-	-	-	YES
151 (92.5Pb/5Sn /2.5Ag)	4.2-4.6	2.1-2.3	76.8-85.1	-	--	-	-	YES
159 (90Pb/10Sn)	8.3-9.2	-	74.7-82.8	-	-	-	-	YES
165 (97.5Pb/1.5 Ag/1Sn)	0.83-0.92	1.2-1.4	80.9-89.7	-	-	-	-	YES
171 (95Pb/5Sn)	4.2-4.6	-	78.9-87.4	-	-	-	-	YES
182 (80Au/20Sn)	16.6-18.4	-	-	66.4-73.6	-	-	-	YES
201 (91Sn/9Zn)	75.5-83.7	-	-	-	-	-	7.5-8.3	YES
209 (65Sn/25Ag/ 10Sb)	53.9-59.8	20.8-23	-	-	-	8.3-9.2	-	YES
228 (88Pb/10Sn/ 2Ag)	8.3-9.2	1.7-1.8	73-81	-	-	-	-	YES
241 (SAC387) 95.5Sn/3.8Ag/0.7Cu)	79.3-87.9	3.2-3.5	-	-	0.58-0.64	-	-	YES
244 (99.3Sn/0.7 Cu)	82.4-91.4	-	-	-	0.58-0.64	-	-	YES
256 (SAC305) 96.5Sn/3Ag/ 0.5Cu)	80-88	2.49-2.76	-	-	0.42-0.46	-	-	YES

*RoHS 2= Restriction on Hazardous Substances (review for applicable exemptions) (2011/65/EU)

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 extinguishers 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 (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 the exposure levels are not exceeded.

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:	Not applicable
Vapor Pressure:	Not applicable.	Solubility in Water:	water soluble (paste)
Vapor Density:	(air=1) Not applicable.		

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		
	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 substances that are harmful to the aquatic environment.

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 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 the hazard criteria of the Canadian Controlled Products Regulation (CPR).

WHMIS: D2A - Materials Causing Other Toxic Effects - Very Toxic Material (Chronic). Otherwise may not be classified.

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

This product has been classified in accordance with Mexican Standards NOM-018-STPS-2000 and NOM-010-STPS-1999.

This product has been classified in accordance with the Chinese Occupational Exposure Limit for Hazardous Agents in the Workplace GBZ2-2002.

California PROP 65(Safe Drinking Water Standard): WARNING : This product contains a chemical known to the State of California to cause cancer and/or birth defects (or other reproductive harm).

SARA 313 Listing - 40 CFR 372.65:

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

All ingredients are listed on the EPA TSCA Inventory.

Most of the ingredients are listed on the Canadian Domestic Substance List.

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

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)

R50/53	Very toxic to aquatic environment and may cause long-term adverse effects in the aquatic environment (lead)
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
S24/25	Avoid contact with skin and eyes
S28	After contact with skin wash immediately with plenty of soap and water
S36/37/39	Wear suitable protective clothing, gloves and eye/face protection
S7	Keep container tightly closed

16. OTHER INFORMATION

HMIS Hazard Rating:

Health:	2
Fire:	1
Reactivity:	0

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