



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

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: INDALLOY WITH RMA-SMQ05 FLUX VEHICLE

SDS Number: SDS-IN 370

Revised Date: 25 JANUARY 2015

Product Use: Industrial Use- Mildly activated solder paste consisting of a flux vehicle blended with an 83-92 % pre-alloyed metal powder.

MANUFACTURER:

In America:

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Singapore 628908
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2. HAZARDS IDENTIFICATION

PRIMARY ROUTES OF ENTRY:

*Eye *Inhalation *Skin *Ingestion

CARCINOGEN LISTED IN:

NTP IARC OSHA *Not Listed

GHS:



applicable to lead containing products

Signal Word: Warning

Hazard statement(s)

H303	May be harmful if swallowed
H315	Causes skin irritation
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 (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)
EUH201A	Warning! Contains lead (applicable only to the products listed that contain 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
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)

Classification:

Skin irritant- Category 2

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 may cause eye irritation.

Ingestion: This product contains alloy powder and organic chemicals.

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 contains a chemical 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.

ALLOY TABLE

INDALLOY	%TIN Sn	%SILVER Ag	%LEAD Pb	RoHS2 Compliance
104 (Sn62/Pb36/Ag2)	51.9-57.5	1.2-1.8	29.9-33.2	No
106 (Sn63/Pb37)	52.3-58	-	30.7-34	No
121 (96.5Sn/3.5Ag)	80.1-88.8	2.9-3.2	-	Yes

RoHS 2- (2011/65/EU)

2. COMPOSITION / INFORMATION ON INGREDIENTS

Components	% wt	CAS Registry #	PEL mg/m ³	TLV-TWA mg/m ³	TLV-STEL mg/m ³
TIN	*	7440-31-5 (US)	2	2	-

		(EU)	-	2	4
		(Singapore)	2	-	-
		(Canada)	-	2	4
LEAD	*	7439-92-1 (US)	0.05	0.05	-
		(EU)	-	0.15	-
		(Singapore)	0.15	-	-
		(Mexico)	-	0.15	-
		(China)	-	0.05(dust) 0.03(fume)	-
		(Canada)	0.05	0.05	-
SILVER	*	7440-22-4 (US)	0.01	0.1	-
		(EU)	-	0.1	-
		(Singapore)	0.1	-	-
		(Mexico)	-	0.1	-
		(Canada)	-	0.1	0.3
ROSIN	4.0-5.0	65997-05-9 (US)	N.E.	N.E.	N.E.
		(EU)	0.05	-	0.15 (sensitiser)
PROPRIETARY	4.0-12.0	-	N.E.	N.E.	N.E.

Symbol: X_n Risk Phrases: R20/21/22, R36/37/38, R42/43
N.E. = Not established EU = European Union Occupational Exposure Limits

PRODUCT DOES NOT CONTAIN ANY EU REACH SUBSTANCES OF VERY HIGH CONCERN

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.
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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 exhaust ventilation and other safety features specifically designed for use with solder paste. Control concentration of all components so that they're PEL/TLVs are not exceeded.
Personal protection:	
Eyes:	Chemical safety glasses/goggles. Face shield for any splash hazards.
Respirator:	A NIOSH 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.
Other:	Lab coat, eyewash 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:	Not applicable
Vapor Pressure:	Not applicable.	Solubility in Water:	Insoluble (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 (National Toxicology Program)
OSHA: No (Occupational Safety & Health Administration)
IARC: Yes (International Agency for Research on Cancer)
 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.

RTECS: OF7525000 (lead)

Lead
 reproductive toxicity – rat –inhalation
 reproductive toxicity – rat – oral
 reproductive toxicity – mouse-oral

Teratogenicity
 Developmental toxicity – rat- inhalation
 Developmental toxicity- rat- oral
 Suspected human reproductive toxicant

GHS- Specific target organ toxicity- repeated exposure
 May cause damage to organs through prolonged or repeated exposure

Lead- OSHA Hazards- carcinogen/target organ effect/harmful by ingestion/teratogen.

12. ECOLOGICAL INFORMATION

Product not tested.

Lead:

Toxicity to fish:

Rainbow trout- 1.19mg/l-96h

LC50 micropterus dolomieu- 2.2 mg/l-96h

Mortality NOEC-salvelinus fontinalis-1.7 mg/l-10d

Toxicity to algae

Mortality EC50-skeletonema costatum-7.94mg/l-10d

An environmental hazard cannot be excluded in the event of unprofessional handling, use and or disposal of this product.

Contains a substance (lead) that is very toxic to aquatic life with long lasting effects.

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 (Department of Transportation).

Non-hazardous under shipping. UN-NONE

Marine Pollutant: No

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 insufficient information.

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

California PROP 65: WARNING:

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

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

This product has been classified in accordance with the Mexican regulations: NOM-180-STPS-2000 and NOM-010-STPS-1999.

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.

All ingredients are listed on the Canadian Domestic Substance List.

EC Classification, Packaging and Labeling Requirements:

Symbol and Hazard Classification of Product

X_n**Risk Phrases:**

- R20/21/22 Harmful by inhalation and if swallowed
 R36/37/38 Irritating to eyes, respiratory system and skin
 R42/43 May cause sensitization by inhalation and skin contact
 R33 Danger of cumulative effects (lead)
 R40 Limited evidence of carcinogenic effect (lead)
 R48 Danger of serious damage to health by prolonged exposure (lead)
 R61 May cause harm to the unborn child (lead)
 R50/53 Very toxic to aquatic organisms and may cause long-term effects in the aquatic environment (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
 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:

Health:	2
Fire:	1
Reactivity:	0

Revised Date: 25 JANUARY 2015

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