



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 that lists all metal groupings. To better serve all of our customers and reduce paperwork 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 CW 901 ACID CORE FLUX

SDS Number: SDS- 5821

Revised Date: 1 February 2018

Product Use: Industrial Use - Flux Cored Wire and other designs for soldering applications

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2. HAZARDS IDENTIFICATION

PRIMARY ROUTES OF ENTRY:

*Eye *Inhalation *Skin *Ingestion NTP

Carcinogen listed in

IARC OSHA *Not Listed
See Section 11

GHS

Lead free products



Signal Word: Warning

Hazard statement(s)

H317 May cause an allergic skin reaction
H319 Causes serious eye irritation
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled

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 products



Signal Word: Warning

Hazard statement(s)

H303 May be harmful if swallowed
H317 May cause an allergic skin reaction
H319 Causes serious eye irritation
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled
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 with long lasting harmful effects
EUH201A Warning! Contains lead. Review listing.

Precautionary statement(s)

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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

POTENTIAL HEALTH EFFECTS:

In General: Normal handling of wire should not cause any adverse health effects.

Eye Contact: Irritating to the eyes and if not removed promptly, may result in serious injury. Do not allow material to come in contact with eyes. Contact with fume from molten metal may cause irritation.

Ingestion: May be harmful if swallowed.

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

Skin Contact: Normal handling should not cause any adverse health effects. May cause skin irritation. Hot molten metal may cause burns to the skin. Wear protective equipment when handling molten metal. Antimony can cause irritation or dermatitis.

Chronic:

LEAD: Prolonged exposure to vapors and/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 dusts, 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.

COPPER: Overexposure to fumes of copper 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 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.

Warning: This product contains 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
LEAD	*	7439-92-1/231-100-4	0.05	0.05	N.E.
		(EU)	N.E.	0.15	N.E.
		(Canada)	N.E.	0.05	N.E.
		(Mexico)	0.15	N.E.	N.E.
		(China)	-	0.05(dust) 0.03(fume)	-
		(Singapore)	0.15	N.E.	N.E.
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	-	-		
TIN	*	7440-31-5/231-141-8			
		(US)	2	2	-
		(EU)	-	2	4
		(Canada)	-	2	4
(Singapore)	2	-	-		
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
		(Singapore)	0.2	-	-
(China)	-	1(dust) 0.2(fume)	2.5 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	-
AMMONIUM CHLORIDE	0.1 -1	12125-02-9/235-186-4				
			(US)	N.E	10(fume)	20(fume)
			(Canada)	-	10(fume)	20(fume)
			(EU)	-	10(fume)	20(fume)
			(Singapore)	10(fume)	-	20(fume)
			(Mexico)	-	10(fume)	20(fume)
PROPRIETARY	1.5 - 5	-	-	N.E.	N.E.	N.E.

N.E. = Not established * See Alloy Table

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 applicable

Flammable Limits: Not flammable

Extinguishing Media: Use extinguishers appropriate for the surrounding fire conditions. Use water spray, carbon dioxide, or foam. Do not allow water run-off to enter sewers or waterways.

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

6. ACCIDENTAL RELEASE MEASURES

Spill or Leak Procedures: Wear HEPA (high efficiency particulate filter) filter respirator and other personal

protective clothing. (See Exposure Controls/Personal Protection Section). Clean up spill without generating or dispersing dust into the air. Vacuum solids instead of sweeping. Reduce airborne dust and prevent scattering by moistening with water. Place spilt material in a container and dispose of in accordance with applicable regulations.

7. HANDLING AND STORAGE

Handling Precautions: Avoid breathing vapors from heated material. Avoid contact with eyes, skin and clothing. Follow routine safe handling procedures. Use with adequate ventilation.

Storage Precautions: Keep away from heat and flame. Store in suitable, tightly capped, and labeled containers in cool dry, well-ventilated area. Empty containers may be hazardous as they contain product residue.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls: Local exhaust ventilation is recommended to control any fume or dust air contaminants. Avoid exposure to lead containing fume.

Personal protection:

Eyes: Chemical safety glasses/goggles and face shield with molten metal.

Respirator: A NIOSH approved or EU compliant CE marked air-purifying respirator with a fume/dust HEPA type Chemical cartridge is recommended under certain circumstances where airborne concentrations are expected to be elevated. Warning: Air purifying respirators do not protect the worker in oxygen-deficient atmospheres. Follow applicable lead work practices as established under OSHA or other comparable safety standards.

Skin: Wear protective gloves, clothing such as lab coat, coveralls, apron and boots.

Other: Eye-wash fountain/shower in work area. Avoid the use of contact lenses in high fume and dust areas. Regular shower facilities and industry laundry service may be required. When working with lead containing product follow proper lead work practices.

Work/Hygienic Maintain good housekeeping. Clean up spills immediately. Good personal hygiene is essential. Avoid eating, smoking or drinking in the lead work areas. Wash hands and face thoroughly with soap and water immediately upon leaving the work area and before eating.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Solid, gray metal wire	Boiling Point:	Not available
Odor:	Odorless/mild	Melting Point:	Varies
Specific Gravity:	Varies	pH:	Not applicable
Vapor Pressure:	Not established	Solubility in Water:	Insoluble
Vapor Density:	(air=1) Not applicable.		

10. STABILITY AND REACTIVITY

General:	Stable.
Conditions to Avoid:	Not established
Incompatible Materials:	Not established
Hazardous Decomposition / Combustion:	Toxic fumes are emitted at elevated temperatures.

Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Carcinogenicity: **NTP(National Toxicity Program):** No
 OSHA (Occupational Safety & Health Administration): No
 IARC (International Agency for Research on Cancer): Yes (Lead and its compounds)

LD50: Not established. **LC50:** Not established.
 Lead can cause potential harm to the developing fetus.

12. ECOLOGICAL INFORMATION

Product not tested
 Some products contain lead a substance that is 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 US DOT (United States Department of Transportation. Non - hazardous for shipping (ground/IATA/Ocean).

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.).

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

SARA 313 Listing - 40 CFR 372.65 – Lead, Antimony and Silver

Ingredient is listed on the EPA TSCA Inventory.

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 in accordance with Mexican regulations NOM-018-STPS-2015 and NOM-010-STPS-2014.

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). (GHS)

In China:

Decree No. 591: Regulations on the Control over Safety of Hazardous Chemicals

GB 30000.2-29-2013, Rules for classification and labeling of chemicals. (GHS)

GB/T 16483-2008, GB/T 17517-2013

This product has been classified using the Chinese Occupational Limit for Hazardous Agents in the Workplace, GBZ2-2007.

16. OTHER INFORMATION

HMIS Hazard Rating:	Health:	2
	Fire:	1
	Reactivity:	0

Revised Date: 1 February 2018

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ALLOY TABLE

% Metal mixed with 2 - 6% flux

Indalloy Metal Mix	% Tin Sn	% Lead Pb	% Silver Ag	% Copper Cu	% Antimony Sb	RoHS 2 Compliance
116 (50Sn/50Pb)	46.5 - 49	46.5 - 49	-	-	-	No
121 (96.5Sn/3.5Ag)	90.7 - 94.6	-	3.36 - 3.4	-	-	Yes
161 (97.5Pb/2.5Ag)	-	91.7-95.6	2.35—2.45	-	-	Yes**
241 (SAC387) (95.5Sn/3.8Ag/0.7Cu)	89.8-93.6	-	3.6-3.7	0.66-0.69	-	Yes
256 (SAC 305) (96.5Sn/3Ag/0.5Cu)	90.5-94.5	-	2.82-2.94	0.47-0.49	-	Yes
NS (91.5Sn/8.5Sb)	86 - 89.7	-	-	-	8 - 8.33	Yes
NS (96Sn/4Ag)	90 - 94	-	3.8 – 3.9	-	-	Yes

** High lead exemptions , if taking the exemption
NS= non standard mix

RoHS 2- (2011/65/EU) amended by directive (2015/863/EU)