



A table is provided that lists all metal groupings with this flux. 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.

SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: INDALLOY WITH FLUXCAKE 988 (CW-988)

SDS Number: SDS-6040

Revised Date: 9 FEBRUARY 2018

Product Use: Industrial Use - solder flux cored wire (flux 1 – 4%)

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:



Signal Word: Warning

Hazard statement(s)

H319 Causes serious eye irritation

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)

Classification:

Serious eye irritation- Category 2A

POTENTIAL HEALTH EFFECTS:

Eye Contact: Contact with fume from material at typical re-flow temperatures over 100°C causes eye irritation. Molten metal may cause damage to the eyes.

Ingestion: This product contains metal alloys and organic chemicals. May be harmful if swallowed. May cause irritation if swallowed.

Inhalation: Vapors or fumes from this material at typical re-flow temperatures over 100°C may cause local irritation to the respiratory system. May be harmful if inhaled.

Skin Contact: If molten may cause skin irritation or may cause burns from hot material.

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.

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(s) known to the State of California to cause cancer and/or birth defects (or other reproductive harm). (trace amounts of lead)

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

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	-	-
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)	2.5
			0.2(fume)	0.6	
PROPRIETARY FLUX	1-4.0	-	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 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: Solid material may be picked up and recycled. Molten metal should not be allowed to flow to any drain. Contain and allow to solidify, pick up and recycle material. Wear protective clothing when handling molten materials. Follow all Federal, State and Local regulations regarding disposal of or recycling of product.

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. Wear appropriate personal protective equipment when working or handling solder. 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 sealed 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, adequate ventilation and other safety features specifically designed for use with solder activities. Control concentration of all components so that any permissible exposure limits are not exceeded. Ventilate areas where molten metal is used, by using exhaust ventilation. Keep exposures as low as possible. Avoid inhalation of fumes.

Personal protection:

Eyes:	Chemical safety glasses/goggles and face shield for molten metal.
Respirator:	An authority approved or compliant marked air-purifying respirator with a fume/organic chemical cartridge is recommended under certain circumstances where airborne concentrations are expected to be elevated or exceed exposure limits.
Skin:	Compatible chemical resistant gloves. Use 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Solid wire	Boiling Point:	Not applicable.
Odor:	No apparent odor	Melting Point:	Not applicable
Specific Gravity:	Not applicable.	pH:	Not applicable
Vapor Pressure:	Not applicable.	Solubility in Water:	Insoluble
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: No		
LD50:	Not established.	LC50:	Not established.

12. ECOLOGICAL INFORMATION

Product not tested. Contains a substance that is harmful to aquatic life.

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.

14. TRANSPORT INFORMATION

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

Non hazardous material under all shipping requirements and modes.

Not regulated under IATA.

UN - none

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).

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 the 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

California PROP 65 (Safe Drinking Water Standard):

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

Some ingredients are contained on the New Jersey State Right To Know List

SARA 313 Listing - 40 CFR 372.65
 Silver CAS# 7440-22-4 Copper CAS# 7440-50-8

All ingredients are listed on the EPA TSCA Inventory.

ALLOY TABLE

%Metal mix with 1-4% flux

INDALLOY (METAL MIX)	%COPPER Cu	%TIN Sn	%SILVER Ag	RoHS 2 Compliance
121 (96.5Sn/3.5Ag)	-	92.6-95.5	3.36-3.47	Yes
(99.3Sn/0.7Cu)	0.672-0.693	95.3-98.3	-	YES

RoHS 2 = Restriction of Hazardous Substances EU Directive 2011/65/EU
 Product does not contain any flame-retardants.
 Refer to <http://www.indium.com>

16. OTHER INFORMATION

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

Revised Date: 9 FEBRUARY 2018
Prepared by: Nancy Swarts, Indium Corporation of America
Approved by: Nancy Swarts, Indium Corporation of America

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