



SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: INDALLOY WITH FLUXCAKE-201 (CW-201)

SDS Number: SDS-CW 4541

Revised Date: 17 SEPTEMBER 2018

Product Use: Industrial Use - Flux cored wire (soldering applications). Review alloy table for metal mixtures with the same core flux.

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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



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
- EUH208 Contains rosin. May produce an allergic reaction

Precautionary statement(s)

- P233 Keep container tightly closed
- P261 Avoid breathing dust/fume/gas/mist/vapours/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 (15mins)

Lead containing



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 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/vapours/spray
- P270 Do not eat, drink or smoke when using this product
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| | |
|-------------|--|
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| P305 + 351 | IF IN EYES: Rinse continuously with water for several minutes (15mins) |

Classification:

Carcinogenicity (Category 2) (lead)

Reproductive toxicity (Category 2) (lead)

Skin sensitizer-Category 1B

Respiratory sensitizer-Category 1B

Acute aquatic toxicity – Category 1 for lead containing products (H400)

Chronic aquatic toxicity – Category 1 for lead containing products (H410)

POTENTIAL HEALTH EFFECTS:

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

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

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

Skin Contact: May cause skin irritation. Rosin may 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: Prolonged inhalation of fume may result in lung complications.

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.

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

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



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

WARNING: This product may contain lead. Lead may be harmful to your health. US Federal law prohibits the use of leaded solders in making of joints in any private or public potable (drinking) water supply system. Keep out of the reach of children.

Solid metal wire does not pose a danger as is.

3. COMPOSITION / INFORMATION ON INGREDIENTS

| Components | % wt | 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 | - | - |
| SILVER | * | 7440-22-4/231-131-3 | | | |
| | | (US) | 0.01 | 0.1 | - |
| | | (EU) | - | 0.1 | - |
| | | (Canada) | - | 0.1 | 0.3 |
| | | (Singapore) | 0.1 | - | - |
| (Mexico) | - | 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) |
| | | (Singapore) | 0.2(fume) | - | - |
| | | (Mexico) | - | 0.2(fume) | 2 |
| (China) | - | 0.2(fume) | 0.6 | | |
| LEAD | * | 7439-92-1/231-100-4 | | | |
| | | (US) | 0.05 | 0.05 | - |
| | | (EU) | - | 0.15 | - |
| | | (Canada) | 0.05 | 0.05 | - |
| | | (Singapore) | 0.15 | - | - |
| | | (Mexico) | N.E. | 0.15 | - |
| | | (China) | - | 0.05(dust) 0.03(fume) | - - |
| BISMUTH | * | 7440-69-9 | 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 |
| | | (Mexico) | - | 0.5 | - |
| | | (Singapore) | 0.5 | - | - |
| | | (China) | - | 0.5 | - |
| ROSIN MIX | 1.0-6.0 | 65997-05-9 (US) | N.E. | N.E. | N.E. |
| | | (EU) | 0.05 | N.E. | 0.15(sensitiser) |

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: Pick up solids and put in container for reuse or recycling. Do not sweep powder or small particulate. Use vacuum. Reduce airborne dust and prevent scattering by moistening with water. Dispose of following all Federal, State and Local regulations. If applicable follow standard lead work practices.

7. HANDLING AND STORAGE

Handling Keep containers tightly closed when not in use. Use care to avoid spills. Always thoroughly wash your hands after handling this product. DO NOT touch or rub eyes until hands are washed.

Storage Precautions: 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: Local exhaust ventilation is recommended to keep exposures below established limits and protect operators. Use proper ventilation when working with leaded products.

Personal protection:

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

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 may be required for certain applications. Hot gloves as needed for melting applications.

Other: Lab coat, eye-wash fountain in work area. Avoid the use of contact lenses in high fume areas. Follow standard lead work practices when working with lead containing products.

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. Follow applicable lead work practices.

9. PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|--------------------------|-------------------------|-----------------------------|-----------------|
| Appearance: | Solid metal | Boiling Point: | Not applicable. |
| Odor: | Odorless | Melting Point: | See table |
| Specific Gravity: | See table | 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: | 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. |

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

Avoid the entrance of metals into the environment, especially lead.

Product not 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.

14. TRANSPORT INFORMATION

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

UN- None

Not regulated – IATA.

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.).

SARA 313 Listing - 40 CFR 372.65
Silver Copper Lead Antimony

All ingredients are listed on the EPA TSCA Inventory.

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



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

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)



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

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 for Hazardous Agents in the Workplace, GBZ2-2007.

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 |
| | Reactivity: | 0 |

Revised Date: 17 SEPTEMBER 2018**Prepared by:** Nancy Swarts, Indium Corporation of America**Approved by:** Nancy Swarts, Indium Corporation of America

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ALLOY TABLE**Metal Alloy Mix with Flux Core (1-6%)**

| INDALLOY | Lead Pb | Tin Sn | Copper Cu | Bismuth Bi | Silver Ag | Antimony Sb | Specific Gravity | RoHS 2/3 Compliance |
|--|--------------------|-------------------|----------------------|-----------------------|----------------------|------------------------|-----------------------------|--------------------------------|
| 97 (43Sn/43Pb/14Bi) | 40.4-42.6 | 40.4-42.6 | - | 13.2-13.9 | - | - | 9.02 | No** |
| 106 (Sn63/Pb37) | 34.8-36.6 | 59-62.4 | - | | - | - | 8.40 | No** |
| 109 (Sn60/40Pb) | 37.6-39.6 | 56.4-59.4 | - | | - | - | 8.50 | No** |
| 121 (96.5Sn/3.5Ag) | - | 90.7-95.5 | - | - | 3.3-3.47 | - | 7.50 | Yes |
| 133 (95Sn/5Sb) | - | 89.3-94 | - | - | - | 4.7-4.95 | 7.25 | Yes |
| 241 (SAC387) (95.5Sn/3.8Ag/0.7Cu) | - | 89.7-94.5 | 0.66-0.69 | | 3.57-3.76 | - | 7.40 | Yes |
| 256 (SAC 305) (96.5Sn/3Ag/0.5Cu) | - | 90.7-95.5 | 0.47-0.495 | | 2.82-2.97 | - | 7.40 | Yes |
| 262 (Sn995) | - | 93.5-98.5 | 0.47-0.495 | - | - | - | 7.32 | Yes |
| Non Standard Mix (Pb62 Sn25/Bi10/Ag3) | 58.3 - 61.4 | 23.5 – 24.8 | - | 9.4-9.9 | 2.8-2.97 | - | 9.80 | No |

RoHS 2 = Restriction of Hazardous Substances **Review any exemptions that may apply. (2011/65/EU)

RoHS 3 = products do not contain any listed phthalates