

ACC# 25123

### Section 1 - Chemical Product and Company Identification

**MSDS Name:** Indilloy 117

**Catalog Numbers:** AC388550000, AC388551000, AC388555000

**Synonyms:** Metal Alloy, S80243.

**Company Identification:**

United Nuclear Scientific

125 N. 8th Street

Klamath Falls, OR 97601

**For information call:** (541) 205-6855

**24 HR EMERGENCY Telephone Number**

VelocityEHS (USA): 800-255-3924

### Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
7440-69-9	Bismuth	44.7%	231-177-4
7439-92-1	Lead	22.6%	231-100-4
7440-31-5	Tin	8.3%	231-141-8
7440-43-9	Cadmium	5.3%	231-152-8
7440-74-6	Indium	19.1%	231-180-0

### Section 3 - Hazards Identification

#### EMERGENCY OVERVIEW

Appearance: grey metal solid.

**Danger!** Danger of serious damage to health by prolonged exposure through inhalation and if swallowed. May be fatal if inhaled. Harmful if swallowed. May cause harm to the unborn child. Possible risks of irreversible effects. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Cancer hazard. Possible risk of impaired fertility. May cause cancer in humans. Danger of cumulative effects.

**Target Organs:** Blood, kidneys, central nervous system, liver, skeletal structures.

#### Potential Health Effects

**Eye:** May cause eye irritation.

**Skin:** May cause skin irritation. May be harmful if absorbed through the skin.

**Ingestion:** Harmful if swallowed. May cause irritation of the digestive tract. Contains lead and cadmium. Ingestion may cause adverse effects on the bones, blood-forming organs and central nervous system as

**Inhalation:** May be fatal if inhaled. May cause respiratory tract irritation.

**Chronic:** May cause cancer in humans. There is a danger of cumulative effects. Possible risk of irreversible effects. Possible risk of harm to the unborn child. May impair fertility.

### Section 4 - First Aid Measures

**Eyes:** Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

**Skin:** Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

**Ingestion:** Do not induce vomiting. Get medical aid immediately. Call a poison control center.

**Inhalation:** Get medical aid immediately. Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

**Notes to Physician:** Treat symptomatically and supportively.

### Section 5 - Fire Fighting Measures

**General Information:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Substance is noncombustible.

**Extinguishing Media:** Substance is noncombustible; use agent most appropriate to extinguish surrounding fire.

**Flash Point:** Not applicable.

**Autoignition Temperature:** Not applicable.

**Explosion Limits, Lower:** Not available.

**Upper:** Not available.

**NFPA Rating:** (estimated) Health: 4; Flammability: 0; Instability: 0

## Section 6 - Accidental Release Measures

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Vacuum or sweep up material and place into a suitable disposal container. Wear a self contained breathing apparatus and appropriate personal protection. (See Exposure Controls, Personal Protection section). Avoid generating dusty conditions. Provide ventilation. Do not let this chemical enter the environment.

## Section 7 - Handling and Storage

**Handling:** Minimize dust generation and accumulation. Do not get in eyes, on skin, or on clothing. Do not ingest or inhale. Use only in a chemical fume hood.

**Storage:** Store in a cool, dry place. Store in a tightly closed container.

## Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use only under a chemical fume hood.

### Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Bismuth	none listed	none listed	none listed
Lead	0.05 mg/m3 TWA	0.050 mg/m3 TWA 100 mg/m3 IDLH	50 æg/m3 TWA; 50 æg/m3 TWA (as Pb); 30 æg/m3 Action Level (as Pb, Poison - see 29 CFR 1910.102.5)
Tin	2 mg/m3 TWA	2 mg/m3 TWA 100 mg/m3 IDLH	none listed
Cadmium	0.01 mg/m3 TWA; 0.002 mg/m3 TWA (respirable fraction)	9 mg/m3 IDLH (dust)	5 æg/m3 TWA; 0.1 mg/m3 TWA (fume, applies to any operations or sectors for which the Cadmium standard is stayed or otherwise not in effect); 0.2 mg/m3 TWA (dust, applies to any operations or sectors for which the Cadmium standard is stayed or otherwise not in effect); 0.3 mg/m3 Ceiling (fume, applies to any operations or sectors for which the Cadmium standard is stayed or otherwise not in effect); 0.6 mg/m3 Ceiling (dust, applies to any operations or sectors for which the Cadmium standard is stayed or otherwise not in effect); 2.5 æg/m3 Action Level; 5 æg/m3 TWA (Do not eat, drink or chew tobacco or gum or apply cosmetics in regulated areas. Carcinogen - dust can cause lung and kidney disease. See 29 CFR 1910.1027)
Wood's Metal	none listed	none listed	none listed

**OSHA Vacated PELs:** Bismuth: No OSHA Vacated PELs are listed for this chemical. Lead: No OSHA Vacated PELs are listed for this chemical. Tin: 2 mg/m3 TWA Cadmium: No OSHA Vacated PELs are listed for this chemical. Wood's Metal: No OSHA Vacated PELs are listed for this chemical.

### Personal Protective Equipment

**Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin:** Wear appropriate protective gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

## Section 9 - Physical and Chemical Properties

**Physical State:** Solid

**Appearance:** grey metal

**Odor:** odorless

**pH:** Not available.

**Vapor Pressure:** Not available.

**Vapor Density:** Not available.

**Evaporation Rate:** Not available.

**Viscosity:** Not available.

**Boiling Point:** Not available.

**Freezing/Melting Point:** 70 deg C

**Decomposition Temperature:** Not available.

**Solubility:** Insoluble in water  
**Specific Gravity/Density:** Not available.  
**Molecular Formula:** Bi.Cd.Pb.Sn  
**Molecular Weight:** Not available.

## Section 10 - Stability and Reactivity

**Chemical Stability:** Stable under normal temperatures and pressures.  
**Conditions to Avoid:** Incompatible materials, dust generation.  
**Incompatibilities with Other Materials:** Strong oxidizing agents.  
**Hazardous Decomposition Products:** Tin/tin oxides, lead/lead oxides, bismuth oxide, toxic chromium oxide fumes.  
**Hazardous Polymerization:** Will not occur.

## Section 11 - Toxicological Information

**RTECS#:**

**CAS#** 7440-69-9: EB2600000

**CAS#** 7439-92-1: OF7525000

**CAS#** 7440-31-5: XP7320000

**CAS#** 7440-43-9: EU9800000

**CAS#** 76093-98-6 unlisted.

**LD50/LC50:**

**CAS#** 7440-69-9:

Oral, mouse: LD50 = 10 gm/kg;

Oral, rat: LD50 = 5000 mg/kg;

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**CAS#** 7439-92-1:

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**CAS#** 7440-31-5:

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**CAS#** 7440-43-9:

Inhalation, rat: LC50 = 25 mg/m<sup>3</sup>/30M;

Oral, mouse: LD50 = 890 mg/kg;

Oral, rat: LD50 = 2330 mg/kg;

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**CAS#** 76093-98-6:

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**Carcinogenicity:**

**CAS#** 7440-69-9: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

**CAS#** 7439-92-1:

- **ACGIH:** A3 - Confirmed animal carcinogen with unknown relevance to humans
- **California:** carcinogen, initial date 10/1/92
- **NTP:** Suspect carcinogen
- **IARC:** Group 2A carcinogen

**CAS#** 7440-31-5: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

**CAS#** 7440-43-9:

- **ACGIH:** A2 - Suspected Human Carcinogen
- **California:** carcinogen, initial date 10/1/87
- **NTP:** Known carcinogen
- **IARC:** Group 1 carcinogen

**CAS#** 76093-98-6: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

**Epidemiology:** IARC Group 1: Proven human carcinogenic substance. Experimental tumorigenic data has been reported.

**Teratogenicity:** Teratogenic effects have occurred in experimental animals.

**Reproductive Effects:** Adverse reproductive effects have occurred in experimental animals.

**Mutagenicity:** Mutagenic effects have occurred in humans.

**Neurotoxicity:** No information found

**Other Studies:**

## Section 12 - Ecological Information

**Ecotoxicity:** No data available. No information available.

**Environmental:** No information available.

**Physical:** No information available.

**Other:** Do not empty into drains.

## Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

**RCRA P-Series:** None listed.

**RCRA U-Series:** None listed.

## Section 14 - Transport Information

	US DOT	Canada TDG
<b>Shipping Name:</b>	CADMIUM COMPOUND	CADMIUM COMPOUND
<b>Hazard Class:</b>	6.1	6.1
<b>UN Number:</b>	UN2570	UN2570
<b>Packing Group:</b>	II	II

## Section 15 - Regulatory Information

### US FEDERAL

#### TSCA

CAS# 7440-69-9 is listed on the TSCA inventory.

CAS# 7439-92-1 is listed on the TSCA inventory.

CAS# 7440-31-5 is listed on the TSCA inventory.

CAS# 7440-43-9 is listed on the TSCA inventory.

CAS# 76093-98-6 is not listed on the TSCA inventory. It is for research and development use only.

#### Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

#### Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

#### Section 12b

None of the chemicals are listed under TSCA Section 12b.

#### TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

#### CERCLA Hazardous Substances and corresponding RQs

CAS# 7439-92-1: 10 lb final RQ (no reporting of releases of this hazardous substance is required) CAS# 7440-43-9: 10 lb final RQ (no reporting of releases of this hazardous substance is required)

#### SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

#### SARA Codes

CAS # 7440-69-9: immediate, fire.

CAS # 7439-92-1: immediate, delayed.

CAS # 7440-43-9: immediate, delayed, fire.

#### Section 313

This material contains Lead (CAS# 7439-92-1, 25%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

This material contains Cadmium (CAS# 7440-43-9, 12.5%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

#### Clean Air Act:

CAS# 7440-43-9 (listed as Cadmium compounds) is listed as a hazardous air pollutant (HAP).

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

#### Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA. CAS# 7439-92-1 is listed as a Priority Pollutant under the Clean Water Act. CAS# 7440-43-9 is listed as a Priority Pollutant under the Clean Water Act. CAS# 7439-92-1 is listed as a Toxic Pollutant under the Clean Water Act. CAS# 7440-43-9 is listed as a Toxic Pollutant under the Clean Water Act.

#### OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

#### STATE

CAS# 7440-69-9 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

CAS# 7439-92-1 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

CAS# 7440-31-5 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

CAS# 7440-43-9 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

CAS# 76093-98-6 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

#### California Prop 65

WARNING: This product contains Lead, a chemical known to the state of California to cause cancer. WARNING: This product contains Lead, a chemical known to the state of California to cause male reproductive toxicity. WARNING: This product contains Cadmium, a chemical known to the state of California to cause cancer. WARNING: This product contains Cadmium, a chemical known to the state of California to cause male reproductive toxicity. WARNING: This product contains Lead, a chemical known to

the state of California to cause developmental reproductive toxicity.

California No Significant Risk Level: CAS# 7439-92-1: 15 æg/day NSRL (oral) CAS# 7440-43-9: 0.05 æg/day NSRL (inhalation)

## **European/International Regulations**

### **European Labeling in Accordance with EC Directives**

#### **Hazard Symbols:**

T+ N

#### **Risk Phrases:**

- R 22 Harmful if swallowed.
- R 26 Very toxic by inhalation.
- R 33 Danger of cumulative effects.
- R 45 May cause cancer.
- R 48/23/25 Toxic : danger of serious damage to health by prolonged exposure through inhalation and if swallowed.
- R 61 May cause harm to the unborn child.
- R 62 Possible risk of impaired fertility.
- R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- R 68 Possible risk of irreversible effects.

#### **Safety Phrases:**

- S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
- S 53 Avoid exposure - obtain special instructions before use.
- S 60 This material and its container must be disposed of as hazardous waste.
- S 61 Avoid release to the environment. Refer to special instructions /safety data sheets.

#### **WGK (Water Danger/Protection)**

- CAS# 7440-69-9: No information available.
- CAS# 7439-92-1: No information available.
- CAS# 7440-31-5: No information available.
- CAS# 7440-43-9: No information available.
- CAS# 76093-98-6: No information available.

#### **Canada - DSL/NDSL**

- CAS# 7440-69-9 is listed on Canada's DSL List.
- CAS# 7439-92-1 is listed on Canada's DSL List.
- CAS# 7440-31-5 is listed on Canada's DSL List.
- CAS# 7440-43-9 is listed on Canada's DSL List.

#### **Canada - WHMIS**

This product has a WHMIS classification of D1A, D2A, D2B.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

#### **Canadian Ingredient Disclosure List**

- CAS# 7439-92-1 is listed on the Canadian Ingredient Disclosure List.
- CAS# 7440-31-5 is listed on the Canadian Ingredient Disclosure List.
- CAS# 7440-43-9 is listed on the Canadian Ingredient Disclosure List.

## **Section 16 - Additional Information**

**MSDS Creation Date:** 12/12/1997

**Revision #7 Date:** 2/15/2008

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall United Nuclear Scientific be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if United Nuclear Scientific has been advised of the possibility of such damages.