



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

SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: INDALLOY 220 (SILVER/COPPER AND NICKEL MIXTURE)

SDS Number: SDS-5970

Revised Date: 18 NOVEMBER 2014

Product Use: INDUSTRIAL USE – Metal alloy (mixture) of silver, copper and nickel metal. Use is strictly based on the individual customer needs and requirements.

MANUFACTURER:

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2. HAZARDS IDENTIFICATION**PRIMARY ROUTES OF ENTRY:**

*Eye *Inhalation *Skin *Ingestion

CARCINOGEN LISTED IN:

NTP IARC OSHA *Not Listed

GHS:

Not a dangerous mixture

No pictograms

Precautionary Statement(s)

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)

POTENTIAL HEALTH EFFECTS:

Eye Contact: Severe damage may result from hot molten metal being splashed into the eyes. Wear proper protection when working with molten metal. May cause irritation.

Ingestion: Ingestion may be harmful. May cause irritation.

Inhalation: Inhalation of vapors may result in irritation or harm.

Skin Contact: Contact may cause irritation. Hot molten metal may cause burns to the skin. Wear proper protective equipment when handling hot molten metal. Nickel is known to be a skin sensitizer.

Chronic:

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.

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.

NICKEL: Suspected of causing cancer. Causes damage to organs with prolonged or repeated exposures. May cause allergic skin reaction.

WARNING: This product contains a chemical known to the State of California to cause cancer and/or birth defects (or other reproductive harm). (nickel and trace levels of lead). This is applicable within the State of California. This statement is not used outside of California.

NOTE: The Indium Corporation does not recommend, manufacturer, 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		
SILVER	71.5	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	28	7440-50-8/231-159-6	(US)	0.1 (fume)	0.2 (fume)	-	
			(EU)	-	0.2 (fume)	-	
			(Singapore)	0.2(fume)	1(dust)	-	
			(Mexico)	-	0.2(fume)	2	
			(China)	-	0.2(fume)	0.6	
						1(dust)	2.5
			(Canada)	-	0.2 (fume)	0.6 (fume)	
NICKEL	0.5	7440-02-0	1	0.015	-		

PRODUCT DOES NOT CONTAIN ANY REPORTABLE EU SUBSTANCES OF VERY HIGH CONCERN (SVHC)

N.E. = Not established

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. Massive metal is not flammable.		
Extinguishing Media:	Use extinguishers appropriate for the surrounding fire conditions. Do Not Direct Water at or onto the heated metal.		
Special Fire Fighting Procedures:	Firefighters must wear NIOSH approved self-contained breathing apparatus and full protective clothing.		
	Thermal decomposition can lead to release of irritating gases and vapors.		

6. ACCIDENTAL RELEASE MEASURES

Spill or Leak Procedures: Solid metal should be clean up without generating dust. Do not sweep. Dispose of following all Federal, State and Local regulations. Metal may have reclaim value. Wear personal protective equipment and avoid breathing any dust or fume.

7. HANDLING AND STORAGE

Handling Precautions:

User should review their own workplace situations and uses and determine the best guidelines for handling. PPE should be assessed based on the particular use or uses. Melting or grinding of mixed alloys should be reviewed. Ventilation is recommended when there is a potential for work place exposures to metal fume or particulate. Permissible exposure levels in high fume or particulate tasks should be assessed so that they are not exceeded. Ensure engineering controls are used to protect the worker.

Safety glasses or goggles shall be worn. A face shield should be added when handling metal where there is a potential for splash hazards. Additional personal protective equipment should be used when handling molten metals: face shield, hot gloves for handling hot metals, sleeve protector for splash hazards if handling large volumes where there is a potential for splash and burns from hot metal. Additional protection includes apron.

Keep unauthorized personnel away when handling molten metals.

Exhaust ventilation should be provided for any metal fume when heating is being conducted.

Store materials in the proper container. Hot metals should be placed into a compatible container.

Storage Precautions: Store product in a cool, dry area away from incompatible materials (metals and moisture). Close container when not in use, where applicable.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls: Exhaust ventilation is recommended to control any air contaminants and keep exposures as low as possible.

Personal protection:

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

Respirator: An authority approved or compliant marked air-purifying respirator with a fume/dust chemical cartridge is recommended under certain circumstances where airborne concentrations are expected

Skin: to be elevated.
Gloves-leather or impervious (vinyl) type.
Heat resistant gloves if handling hot metal. Safety type boots. Personal protective equipment is recommended when working with molten metal to avoid burns.

Other: Lab coat, safety shower and eyewash fountain in work area. Avoid the use of contact lenses.

Work/Hygienic Practices: 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 Metal	
Boiling Point:	No information available	
Odor:	Odorless	Melting Point: 785C (1,445F)
Vapor Pressure:	Not available	Solubility in Water: Insoluble
Vapor Density:	Not available	Molecular Weight: Not available
Specific Gravity:	10.01gm/cm ³	

10. STABILITY AND REACTIVITY

General: Stable in dry air.

Conditions to Avoid: Dusts, metals, exposure to moisture

Incompatible Materials: Potentially explosive reaction with hydrogen peroxide and hydrochloric acid. Violent or vigorous reaction with halogens.

Hazardous Decomposition / Combustion: toxic gases

Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Carcinogenicity: National Toxicity Program (NTP): No

Occupational Safety & Health Administration (OSHA): No

U.N. International Agency for Research on Cancer (IARC): No

Nickel is a potential occupational carcinogen
Product mixture not tested.

RTECS# QR5950000 (nickel) VW3500000 (silver) GL5325000 (copper)

12. ECOLOGICAL INFORMATION

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 regulations and requirements.
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).

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulation (CPR).

Canadian WHMIS: none

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

California PROP 65 (Safe Drinking Water Standard): WARNING: This product contains a chemical known to the State of California to cause cancer and/or birth defects (or other reproductive harm). (nickel/trace lead). Applicable within the state.

SARA 313 Listing - 40 CFR 372.65: Silver, Nickel

All ingredients are listed on the EPA TSCA Inventory, Philippines Inventory, Japan Existing and New Chemical Substances, China Inventory of Existing Chemical Substances, Canadian Domestic Substances List

EC Classification, Packaging and Labeling Requirements:

Symbol and Hazard Classification of Product

Safety Phrases:

S20/21 When using do not eat, drink or smoke
S22 Do not breathe dust
S23 Do not breathe fumes
S24/25 Avoid contact with skin and eyes

S27	Take off immediately all contaminated clothing
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

16. OTHER INFORMATION

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

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Approved by: Nancy Swarts, Indium Corporation of America

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