

15117 Washington Highway
P. O. Box 1055 Ashland VA

Phone: (804) 227-3381
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CHEMTREC: (800) 424-9300
Poison Center: (800) 562-8236

Safety Data Sheet

Section 1: Product and Company Information

Product Name: Indium
Company: Fine Metals Corporation
15117 Washington Hwy
Ashland, VA 23005

For more information call: 1-804-227-3381
(Monday - Friday 9-4:30)

In case of emergency: Transportation (Chemtrec) 1-800-424-9300
Poison Center: 1-800-562-8236
(24 hours/day, 7 days/week)

Section 2: HAZARD IDENTIFICATION

Emergency Overview

Emergency OSHA Hazards: Target Organ Effect, Toxic b inhalation, Harmful by ingestion, Harmful by skin absorption, Irritant TARGET ORGANS: Teeth, Gums GHS CLASSIFICATION: Acute toxicity, Inhalation (Category 4), Acute toxicity, Dermal (Category 4), Acute toxicity, Oral (Category 4) Skin irritation (Category 2) Eye irritation (Category 2A) Specific target organ toxicity - single exposure (Category 3)

Hazard Statements: H302+H312 (harmful if swallowed or in contact with skin), H315 (Causes skin irritation), H319 (Causes serious eye irritation) H332 (Harmful if swallowed), -H335 (May cause respiratory irritation)

Precautionary Statements:

Prevention: P261 (Avoid breathing dust/fume/gas/mist/vapours/spray). P280 (Wear protective gloves/protective clothing).
Response: P305+P351+P338 (IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing).

Appearance/Form:

Form: Solid
Color: Silver/grey metallic
Odor: None

Hazard Summary: Massive metal is not considered a fire or explosion hazard. Powdered material may form explosive dust-air mixture.

Acute Health Effects

Skin: May cause skin irritation.
Eyes: Contact may cause eye irritation.
Ingestion: Toxic if swallowed.
Inhalation: Toxic if inhaled. Causes respiratory tract irritation.

Chronic Exposure: Exposure to indium compounds may cause pain in the joints and bones, tooth decay, nervous and gastrointestinal disorders, heart pain and general debility. Experiments with animals also indicate that indium may cause reduced food and water consumption with weight loss, pulmonary edema, pneumonia, blood, liver and kidney damage, leg paralysis and damage to the brain, heart, adrenals and spleen.

Aggravated Medical Conditions: Breathing dust or fumes may aggravate lung disease.

Carcinogenicity: No known effect. Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

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Section 3: Composition/Information on Ingredients

Chemical Name	CAS-No.		Reach #	
Indium	7440-74-6	Not available	231-180-0	>99 wt%

Section 4: FIRST AID MEASURES

Eye Contact: Irrigate with water for at least 15 minutes. If irritation persists, seek medical attention.

Skin Contact: Wash affected area with soap and water. If irritation occurs seek medical attention

Inhalation: If symptoms of respiratory distress occur, or there has been a known exposure to dense fume, remove from exposure. Seek immediate medical attention.

Ingestion: Do not induce vomiting. Seek medical attention immediately.

Section 5: FIRE FIGHTING MEASURES

Suitable extinguishing Media: Use Class D extinguishing agents, dolomite, graphite, soda ash or dry sand on fire.

Unsuitable extinguishing media: Do not use water, carbon dioxide, sodium bicarbonate, halogenated extinguishing agents or foam.

Specific hazards during firefighting: Toxic metal fumes. Dusts at sufficient concentrations can form explosive mixtures in air. Hazardous decomposition products formed under fire conditions.

Special protective equipment for firefighters: Never use water on molten metal-danger of explosion. Use NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing if involved in fire

Section 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions: Practice good chemical hygiene during and after use. Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Avoid breathing dust.

Environmental Precautions: Do not release to the environment.

Methods for Cleaning Up: Control source of spillage if possible to do so safely. Clean up spilled material immediately, observing precautions. Molten metal should be allowed to cool and harden before cleanup. Once solidified, wear gloves, pick up and return to process. Powder or dust should be cleaned up using methods which minimize dust generation. Protective clothing, gloves, and a respirator are recommended for persons responding to an accidental release. Close fitting safety goggles may be necessary in some circumstances to prevent eye contact with indium metal dust or fume.

Section 7: HANDLING AND STORAGE

Handling: Avoid inhalation of dusts and fumes. Keep away from heat and flame. Solid metal suspected of containing moisture should be thoroughly dried before being added to a molten bath. Otherwise, entrained moisture could expand explosively and spatter molten metal out of the bath. When melted, the temperature should be kept as low as possible. Activities which generate dust or fume should be avoided. Wash hands before eating or smoking. Do not smoke, eat or apply cosmetics in work area. Avoid making dust. Do not wear contaminated clothing home. Do not use compressed air for blowing dust off of clothes. All contaminated clothing should be removed before leaving plant premises.

Storage: Store in cool, dry, well ventilated place away from incompatible substances.

Section 8: EXPOSURE CONTROL/PERSONAL PROTECTION

Engineering Controls: Use process enclosures, local exhaust ventilation or other means to maintain employee exposure as far below limits as possible

Component Exposure Limits

Component	Location	Value
Indium	ACGIH TLV TWA	0.1
	OSHA OEL TWA	0.1
	NIOSH REL TWA	0.1
	Canada - BC, ON TWA	0.1

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Europe TWA	0.1
Denmark STEL	0.2
UK WEL TWA	0.1
UK WEL STEL	0.3

Engineering Controls: Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

Respiratory Protection: Not normally needed. If ventilation is inadequate and this material is handled at elevated temperatures or dust/fumes/mists are generated a NIOSH/MSHA approved air purifying respirator with a manufacturers approved cartridge or canister may be permissible under certain circumstances.

Eye/Face: Wear safety glasses or goggles as appropriate to the task performed.

Skin Protection: Work clothes, non-flammable, without pockets and cuffs. Normal laboratory wear is recommended for any operation with significant skin contact or that exceeds the permissible exposure limit.

Work Hygienic Practices: Practice good chemical hygiene during and after use..

Comments: NA

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Solid

Odor: None

Color: Lusterous grey

Melting Point: 156° C

Boilling Point: 2072° C

Vapor Pressure: Not applicable

Vapor Density (air = 1): Not applicable

Evaporation Rate: Not applicable

Solubility In Water: Insoluble

Specific Gravity (water = 1): 7.31

Atomic Weight: 114.82

% Volatility By Volume: Not available

Density: 7.31

Section 10: STABILITY AND REACTIVITY

Stability: Stable under normal conditions and usage.

Incompatible Materials: Strong acids, Oxidizing agents, Halogens, Sulphur compounds

Hazardous Decomposition Products: Toxic metal fumes.

Products:

Possibility of Hazardous Reactions: Not available

Reactions:

Section 11: TOXICOLOGICAL INFORMATION

Acute Toxicity: The information available on the toxic properties of indium in humans is limited. It is known that soluble indium salts are extremely toxic when injected into laboratory animals with a direct effect on the heart, liver, kidneys and blood. However, indium salts are far less toxic when administered orally or by inhalation. Teratogenic effects have also been reported in laboratory animals injected with indium but its applicability to human exposure is unknown.

Chronic Toxicity: The inhalation route is by far the most significant route in the occupational setting.

Reproductive Toxicity: Not available

Mutagenicity: Not available

Carcinogenicity: Indium is not listed as a human carcinogen by OSHA, NTP, IARC, ACGIH, or the EU.

Other: NA

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity: As a metal, indium is very insoluble and therefore presents minimal environmental risk. However, there is limited information on the effects and fate of indium compounds and care should be taken to prevent environmental contamination.

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Persistence/Degradability: Not available

Bioaccumulation/Accumulation: Not available.

Mobility in Environment: Not available.

Section 13: DISPOSAL CONSIDERATIONS

Waste Classification: Contact a licensed waste disposal company. Recycling is disposal method of choice.

All disposal activities must comply with federal, state, provincial and local regulations.

Section 14: TRANSPORT INFORMATION

US DOT (ground): Not regulated

ICAO/IATA (air): Not regulated

IMO/IMDG (water): Not regulated

Special Provisions: None

Section 15: REGULATORY INFORMATION

UNITED STATES

SARA Title III (Superfund Amendments and Reauthorization Act) 313 Reportable Ingredients: No

TSCA (Toxic Substance Control Act) status: Not regulated

STATE REGULATIONS

The following components appear in one or more of the following states hazardous substances

Component	CAS #	CA	MA	MN	NJ
Indium	7440-74-6	No	No	Yes	Yes

California Proposition 65: This product is not known to contain any components for which the State of California has found to cause cancer, birth defects or other reproductive harm.

CANADA

WHMIS (Workplace Hazardous Materials Information System): Not regulated

Domestic Substance List (Inventory): All components of this product are included in inventory, exempt, or notified

GENERAL COMMENTS

None

Section 16: OTHER INFORMATION

Information Contact: sds@finemetalscorp.com

Issue Date: 7/6/1999

Revision Date: 1/1/2015

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HMIS® (II)		NFPA	
Health:	2		
Flammability:	0		0
Reactivity:	0	2	0
PPE:	C		

Ratings range from 0 (no hazard) to 4 (severe hazard)

The information contained in this SDS is believed to be correct, but is not all inclusive and shall be used only as a guide. Fine Metals Corporation shall not be liable for any damage resulting from handling or from contact with the product listed in the SDS. Any comments or questions should be directed to:

Safety Manager
Fine Metals Corporation
15117 Washington Highway
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Ashland VA 23005
(804) 227-3381

