

MATERIAL SAFETY DATA SHEET

I. PRODUCT IDENTIFICATION

Manufacturer/Supplier:

Han Billion Metals and Chemicals Co., Ltd
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Trade Name: Indium
Chemical Nature: Element
Formula: In
CAS #: 7440-74-6

II. HAZARDOUS INGREDIENTS

Hazardous Component: Indium
%: 0-100
OSHA/PEL: 0.1 mg/m³
ACGIH/TLV: 0.1 mg/m³

HMIS Ratings(Powder): Health: 3 **Flammability:** 3 **Reactivity:** 0
HMIS Ratings(Solid): Health: 1 **Flammability:** 0 **Reactivity:** 0

III. PHYSICAL DATA

Boiling Point: 2080 °C
Melting Point: 156.6 °C
Specific Gravity: 7.31 g/cc at 20 °C
Vapor Density: N/A
Appearance and Odor: Soft silvery white metal, gray powder, no odor
Solubility in H₂O: Insoluble

IV. FIRE AND EXPLOSION HAZARDS DATA

Flash Point: N/A

Flammability: Flammable as a powder

Autoignition Temperature: N/A

Flammable Limits: Upper: N/A **Lower:** N/A

Extinguishing Media: Carbon dioxide, foam or dry chemical. Do not use water.

Special Fire Fighting Procedures: Firefighters must wear full face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes.

Unusual Fire & Explosion Hazard: Flammable in the form of dust when exposed to heat or flame. Indium has a violent reaction with mercury bromide at 350 °C. May have an explosive reaction with dinitrogen tetraoxide + acetonitrile. May react with halogens, sulfur, selenium, tellurium, arsenic, phosphorus, on heating. May slowly oxidize in moist air. May dissolve in mercury.

V. HEALTH HAZARD INFORMATION

Effects of Exposure:

To the best of our knowledge the chemical, physical and toxicological properties of indium have not been thoroughly investigated and recorded.

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.

Acute Effects:

Inhalation: Toxic by inhalation. May cause damage to the respiratory system.

Ingestion: May cause irritation to the gastrointestinal tract.

Skin: Highly toxic when administered subcutaneously. Severe irritant.

Eye: Severe irritant.

Chronic Effects:

Inhalation: May cause pneumonitis.

Ingestion: No chronic health effects recorded.

Skin: Severe irritant.

Eye: May cause irritation.

Target Organs: May affect the liver, heart, kidneys and blood.

Medical Conditions Generally Aggravated by Exposure: Pre-existing lung, skin and gastrointestinal disorders.

Carcinogenicity: NTP: No

IARC:

OSHA: No

EMERGENCY AND FIRST AID PROCEDURES:

INHALATION: Remove to fresh air, keep patient warm and quiet, give oxygen if breathing is difficult and seek immediate medical attention.

INGESTION: Give 1-2 glasses of milk or water and induce vomiting, seek medical attention. Never induce vomiting or give anything by mouth to an unconscious person.

SKIN: Remove contaminated clothing, brush material off skin, wash affected area with soap and water, seek medical attention immediately.

EYES: Flush eyes with lukewarm water, lifting upper and lower eyelids, for at least 15 minutes. Seek medical attention.

VI. REACTIVITY DATA

Stability: Stable

Conditions to Avoid: None

Incompatibility (Material to Avoid): Strong oxidizing agents, mercury bromide, dinitrogen tetraoxide, acetonitrile, halogens, sulfur, selenium, tellurium, arsenic, mercury, phosphorus.

Hazardous Decomposition Products: Metal oxide fume.

Hazardous Polymerization: Will not occur.

VII. SPILL OR LEAK PROCEDURES

Steps to be Taken in Case Material is Released or Spilled: Wear appropriate respiratory and protective equipment specified in section VIII. For powder spills, isolate spill area and provide ventilation. Scoop or vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for proper disposal. Take care not to raise dust.

Waste Disposal Method: Dispose of according to State, Federal and Local regulations.

VIII. SPECIAL PROTECTION INFORMATION

Respiratory Protection: NIOSH approved respirator when dust is involved.

Ventilation: Use local exhaust where dust is involved to maintain concentrations below PEL, TLV. General exhaust is recommended.

Protective Gloves: Rubber gloves

Eye Protection: Safety glasses. When working with powder, use tightly sealed goggles and full face protection.

Other Protective Clothing or Equipment: Protective work clothing.

IX. SPECIAL PRECAUTIONS

Precautions to Be taken in Handling and Storage: Store powders in tightly sealed containers in dry, cool place. Do not store together with oxidizing and acidic materials. Indium in solid form can be handled without any special precautions. Be sure solid material is dry before adding to molten material. Avoid making dust.

Work Practices: Implement engineering and work practice controls to reduce and maintain concentration of exposure. Use good housekeeping and sanitation practices. Do not use tobacco or food in work area. Wash thoroughly before eating or smoking. Do not blow dust off clothing or skin with compressed air. Maintain eyewash capable of sustained flushing, safety drench shower and facilities for washing.

TSCA Listed: Yes

DOT Regulations:

Solid Forms:

Hazard Class: None

Powder:

Hazard Class: 4.1

Identification Number: UN3089

Packing Group: II

Proper Shipping Name: Metal powder, flammable, n.o.s. (Indium Powder)

The above information is believed to be correct, but does not purport to be all inclusive and shall be used only as a guide. We shall not be held liable for any damage resulting from handling or from contact with the above product.

Issued by: S. Lee

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