

MATERIAL SAFETY DATA SHEET

PRODUCT NAME : INDIUM METAL SEALS

1. Product and Company Identification

Product name: Indium metal seals
Synonyms: None
Item Numbers: D154-25-011, D154-25-012, D154-25-013, D154-25-014, C055-01-001.

European Contact Details

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2. Composition/Information on Ingredients

Ingredient	% Weight	CAS No	Hazard class*	Risk phrase*
Indium	100	7440-74-6	Not applicable	R20/21/22

*Hazard class & Risk phrase. These columns are only completed for ingredients which are classified as hazardous under EU Directive (67/548/EEC, as amended) and are present in sufficient concentration to make the overall substance hazardous. In all other situations, the column will be completed as "Not applicable".

3. Hazards Identification

EMERGENCY OVERVIEW

These products when properly handled according to good working and hygienic practices are not dangerous to human health and the environment.

Harmful by inhalation, skin contact and ingestion.

For short and long term exposure effects see Section 11 Toxicological data.

Eye Effects: May cause eye irritation and redness.
Skin Effects: May cause mild irritation at the site of contact.
Ingestion/Oral Effects: May cause soreness and redness of the mouth and throat.
Inhalation Effects: None anticipated for intact seals. Inhalation of indium dust may cause soreness and redness of the mouth and throat.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: None known for intact seals. Dusts/fumes may aggravate pre-existing respiratory conditions.

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NFPA Hazard codes		HMIS Hazard codes		Rating System
Health	0	Health	0	0 = No Hazard
Flammability	0	Flammability	0	1 = Slight Hazard
Instability	0	Reactivity	0	2 = Moderate Hazard
				3 = Serious Hazard
				4 = Severe Hazard

4. First Aid Measures

- Eyes: Bathe the eye with running water for at least 15 minutes. If irritation persists, seek medical attention.
- Skin: Wash the exposed area with plenty of soap and water. If irritation persists, seek medical attention.
- Ingestion/Oral: Wash out mouth with water. Seek medical attention.
- Inhalation: Remove the affected person to fresh air. If breathing problems occur, a qualified individual should administer oxygen or artificial respiration as indicated. Seek medical attention.
- Other Information: None.

5. Fire Fighting Measures

- Extinguishing Media: Use suitable extinguishing media for the surrounding fire.
- Fire and Explosion Hazard: Emits toxic fumes on combustion.
- Special Protective Equipment for Fire Fighters: Fire fighters should wear a self-contained breathing apparatus (SCBA) which meets appropriate standards operated in positive pressure mode, and protective clothing to prevent contact with skin and eyes.

For Flammability Properties - see Section 9

6. Accidental Release Measures

- Wear suitable protective clothing (see Section 8). Collect the spilled items and place in a closable, labelled container. Reuse or dispose of the items as in Section 13.
- Do not discharge into drains or rivers.

7. Handling and Storage

- Handling: Avoid the formation or spread of dust in the surrounding air. Avoid direct contact with the items.
- Storage: Store in tightly closed containers. Store in a cool, well-ventilated area.

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8. Exposure Controls/Personal Protection

Exposure Limits:

Ingredient	ACGIH - TLV -	OSHA - PEL	Occupational Exposure Limits EH40 (UK)
Indium	0.1 mg/m ³ - 8 H TWA	None Established	0.1 mg/m ³ -8 H TWA 0.3 mg/m ³ - STEL

Personal Protection:

Engineering Measures:	Provide local ventilation where there is the possibility of dust/fume generation. Provide eye-bath/eye-wash stations.
Respiratory Protection:	None required under normal conditions of use. When dust/fumes are present, wear suitable respiratory protection with a particle filter.
Hand/Skin Protection:	Wear suitable protective gloves and protective clothing to prevent skin contact.
Eye/Face Protection:	Wear safety glasses.
Hygiene Measures:	Wash hands before breaks and immediately after handling the products.
Other/General Protection:	Keep the items away from food, drink and tobacco products. Clean clothing which has been contaminated with dust before reuse.

9. Physical and Chemical Properties

Appearance and Odour	Silver coloured solid, odourless.	Boiling point	2080 /	°C/°F
pH (as supplied)	Not applicable	Freezing Point	156 / 312	°C/°F
Solubility in Water	Insoluble	Auto Ignition	Not applicable	°C/°F
Volatile Content by Volume	No data available	Flash Point	Not applicable	°C/°F
Specific Gravity	7.3			
Vapour Pressure (mbar)	< 10 ⁻¹¹	Vapour Pressure (Torr)	< 10 ⁻¹¹	

10. Stability and Reactivity

Stability:	Stable under normal conditions.
Material/Conditions to Avoid:	Strong oxidising agents, strong acids, high temperatures.
Hazardous Decomposition:	Emits toxic fumes on combustion.
Hazardous Polymerisation:	Will not occur.

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11. Toxicological Information

For a comprehensive description for the various toxicological (health) effects which may arise if the user comes into contact with the substance or preparation refer to Section 3 Hazards Identification.

Animal data:

LD50 value: 10 mg/kg, SCU MUS

LC50 value: No data available

Chronic toxicity:

There is a danger of cumulative effects through inhalation.

Carcinogenicity:

No data available.

12. Ecological Information

No information is available. Toxicity is expected to be low based on the product's insolubility in water.

13. Disposal Considerations

Recycle (reuse) items if possible. If items cannot be reused, hand over to disposers of hazardous waste.

Waste disposal key number according to the European waste catalogue, 12 01 03, 12 01 04.

14. Transport Information

This product is not regulated as dangerous under transport regulations.

PARAMETER	EUROPEAN	CANADIAN TDG	UNITED STATES DOT
Proper Shipping Name	Not applicable	Not applicable	Not applicable
Hazard Class	Not applicable	Not applicable	Not applicable
Identification Number	Not applicable	Not applicable	Not applicable
Shipping Label	Not applicable	Not applicable	Not applicable

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15. Regulatory Information

European Regulatory Information

This product has been classified in accordance with the Dangerous Substances Directive (67/548/EEC, as amended) and the Preparations Directive (88/379/EEC, as amended), implemented in the UK as the Chemical (Hazard Information and Packing) Regulations 1994 (CHIP, as amended).

Classified as dangerous to supply : No

Risk Phrases : R20/21/22: Harmful by inhalation, in contact with skin and if swallowed.

Safety Phrases : S22: Do not breathe dust.

Symbols : None

EINECS number : 231-180-0

United States Regulatory Information

Product is a manufactured article not subject to TSCA listing.

SARA TITLE III - SECTION 313 SUPPLIER NOTIFICATION:

This product constitutes an "article" and, as such is exempt from SARA 313 reporting requirements (40 CFR Part 372.38, Paragraph B).

California Proposition 65: This product does not contain chemicals known to the State of California to cause cancer or reproductive toxicity.

Canadian Regulatory Information

WHMIS Classification: Product is a manufactured article not subject to WHMIS regulations.

Product is a manufactured item not subject to DSL listing.

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16. Other Information

This MSDS is compiled in accordance with ANSI Z400.1 and the EU Safety Data Sheet Directive 91/155/EEC.

Sources of information for this data sheet:

- Mining & Chemical Products Limited "INDIUM" Safety Data Sheet, Issued: 04/07/2007, Revision No: 1.

Glossary:

ACGIH - American Conference of Governmental Industrial Hygienists; **Canadian TDG** - Canadian Transportation of Dangerous Goods; **CAS** - Chemical Abstracts Service; **Chemtrec** - Chemical Transportation Emergency Center (US); **CHIP** - Chemical (Hazard Information and Packing); **DSL** - Domestic Substances List; **EH40 (UK)** - HSE Guidance Note EH40 Occupational exposure limits; **EINECS** - European Inventory of Existing Chemical Substances; **HMIS** - Hazardous Material Information Service; **LC** - Lethal Concentration; **LD** - Lethal Dose; **MUS** - Mouse; **NFPA** - National Fire Protection Association; **OSHA** - Occupational Safety and Health Administration, US department of Labour; **PEL** - Permissible exposure limit; **SARA (Title III)** - Superfund Amendments and Reauthorization Act; **SARA 313** - Superfund Amendments and Reauthorization Act, Section 313; **SCBA** - Self-Contained Breathing Apparatus; **SCU** - Subcutaneous; **STEL** - Short Term Exposure Limit; **TLV** - threshold limit value; **TWA** - Time Weighted Average; **US DOT** - US Department of Transportation; **WHMIS** - Workplace Hazardous Materials Information System.

Revisions:

Nov 2007 - Data Sheet updated to reflect the latest supplier safety information.

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