

Plasmaterials, Inc.  
 2268 Research Drive  
 Livermore, CA 94550  
 Ph: (925) 447-4030 Fx: (925) 447-4031  
 http://plasmaterials.com

## SAFETY DATA SHEET

Section 1- IDENTIFICATION		
COMPOSITION <b>In</b>		PRODUCT NAME <b>Indium</b>
SUPPLIER: <b>Plasmaterials, Inc. 2268 Research Drive Livermore, CA 94550 Ph: 925-447-4030</b>	RECOMMENDED USE: <b>Laboratory Chemicals Scientific Research</b>	EMERGENCY TELEPHONE NUMBERS <b>US: 001-800-424-9300 Europe: 001-703-527-3887</b>

Section 2- HAZARD(S) IDENTIFICATION		
<b>Classification:</b> This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)		
<b>Acute Oral Toxicity:</b> Category 4		<b>Acute Dermal Toxicity:</b> Category 4
<b>Acute Inhalation Toxicity:</b> Category 4		<b>Skin Irritation:</b> Category 2
<b>Eye Irritation:</b> Category 2A		
<b>Specific Target Organ Toxicity-Single Exposure:</b> Category 3, Respiratory System		
<b>LABEL ELEMENTS:</b> <b>Signal Word: Warning</b>		<b>Hazard Statements:</b>
		-Harmful if swallowed -Harmful if inhaled
		-Harmful in contact with skin



### PRECAUTIONARY STATEMENTS

**Prevention:**

- Wash face, hands and any exposed skin thoroughly after handling
- Do not eat, drink or smoke when using this product
- Wear protective gloves, protective clothing, eye protection and face protection
- Avoid breathing dust/fume/gas/mist/vapors/spray
- Use only outdoors or in a well ventilated area

**Inhalation:**

-IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a Poison Center or doctor/physician if you feel unwell.

**Ingestion:**

-IF SWALLOWED: Call a Poison Center or doctor/physician if you feel unwell. Rinse mouth.

**Skin Contact:**

-IF ON SKIN: Wash with plenty of soap and water

**Eye Contact:**

-IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.

**Disposal:**

-Dispose of contents/containers to an approved waste disposal plant.

**Hazards not otherwise classified (HNOC):**

-None identified.

### Section 3- COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENT	CAS-No	Weight%
Indium	7440-74-6	100

### Section 4- FIRST AID MEASURES

**INHALATION:** Remove victim from exposure to fresh air; lie down and keep warm and quiet. Give oxygen if breathing is difficult. If not breathing, give artificial respiration. Obtain medical attention.

**SKIN CONTACT:** Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Obtain medical attention.

**EYE CONTACT:** Flush eyes with lukewarm water, lifting upper and lower lids, for at least 15 minutes. Obtain medical attention.

**INGESTION:** Rinse mouth with water. Never give anything by mouth to an unconscious person. Get medical attention if symptoms persist.

**MOST IMPORTANT SYMPTOMS/EFFECTS:** No information available

**NOTES TO PHYSICIAN:** Treat symptomatically

### Section 5- FIREFIGHTING MEASURES

**Suitable Extinguishing Media:**

Carbon Dioxide (CO<sub>2</sub>); Dry Chemical, Water Spray, alcohol-resistant foam

**Unsuitable Extinguishing Media:**

No Information Available

**Flash Point:** No Information Available

**Method:** No Information Available

**Auto Ignition Temperature:** No Information Available

**Explosion Limits:**

**Upper:** No Data Available

**Lower:** No Data Available

**Sensitivity to Mechanical Impact:** No Information Available

**Sensitivity to Static Discharge:** No Information Available

**Specific Hazards Arising from the Chemical:**

No data available.

**Hazardous Combustion Products:**

No data available

**Protective Equipment & Precautions for Firefighters:**

As in any fire, Firefighters must wear full face, self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective clothing to prevent contact with skin and eyes.

### Section 6- ACCIDENTAL RELEASE MEASURES

**Personal Precautions:** Ensure adequate ventilation. Use personal protective equipment. Avoid dust formation. Avoid breathing dust, vapors, mist or gas. Evacuate personnel to safe areas.

**Environmental Precautions:** Should not be released into the environment. See Section 12 for additional ecological information.

**Methods for Containment & Clean Up:** Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal. Do not let this chemical enter the environment.

### Section 7- HANDLING AND STORAGE

**Handling:** Ensure adequate ventilation. Wear personal protective equipment. Avoid contact with eyes and skin. Avoid ingestion and inhalation. Avoid formation of dust and aerosols.

**Storage:** Keep in a dry, cool and well ventilated place. Keep container tightly closed.

## Section 8- EXPOSURE CONTROLS/PERSONAL PROTECTION

### Exposure Guidelines:

Component	CAS-No.	Value	Control Parameters	Basis
Indium	7440-74-6	TWA	0.100000mg/m3	USA.ACGIH Threshold Limit Values (TLV)
	Remarks	Pulmonary edema, Pneumonitis, Dental erosion, Malaise		
		TWA	0.100000mg/m3	USA.NIOSH recommended exposure limits
		TWA	0.100000mg/m3	USA.ACGIH Threshold Limit Values (TLV)
			Pulmonary edema, Pneumonitis, Dental erosion, Malaise	
		TWA	0.1 mg/m3	USA.NIOSH recommended exposure limits
		TWA	0.1 mg/m3	USA.ACGIH Threshold Limit Values (TLV)
			Pulmonary edema, Pneumonitis, Dental erosion, Malaise	
		PEL	0.1 mg/m3	California permissible exposure limits for chemical contaminants(Title 8, Article 107)

**Engineering Measures:** Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of the workday.

### Personal Protective Equipment:

**Eye/Face Protection:** Wear appropriate protective eyeglasses or chemical safety goggles with side shields as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin and Body Protection:** Wear appropriate protective gloves and long sleeved clothing to prevent skin exposure.

**Respiratory Protection:** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Wear a NIOSH/MSHA or European Standard EN 149 approved respirator.

**Hygiene Measures:** Handle in accordance with good industrial hygiene and safety practice.

## Section 9- PHYSICAL AND CHEMICAL PROPERTIES

**Physical State:** Solid

**Appearance:** Silver white

**Odor:** Odorless

**Odor Threshold:** No information available

**pH:** No information available

**Melting Point/Range:** 156.6°C / 313.9°F

**Boiling Point/Range:** 2000°C / 3632°F at 1013 hPa (760 mmHg)

**Flash Point:** No information available

**Evaporation Rate:** Not applicable

**Flammability (solid,gas):** No information available

**Flammability or Exposure Limits:**

**Upper:** No data available

**Lower:** No data available

**Vapor Pressure:** No information available

**Vapor Density:** Not applicable

**Relative Density:** 7.3 g/cm<sup>3</sup> at 25°C (77°F)

**Solubility:** Insoluble

**Partition coefficient; n-octanol/water:** No data available

**Auto Ignition Temperature:** No information available

**Decomposition Temperature:** No information available

**Viscosity:** Not applicable

**Molecular Formula:** In

**Molecular Weight:** 114.82 g/mol

## Section 10- STABILITY AND REACTIVITY

**Reactive Hazard:** None known, based on information available.

**Stability:** Stable under recommended storage conditions.

**Conditions to Avoid:** Incompatible products. Avoid dust formation.

**Incompatible Materials:** Strong oxidizing agents, sulfur compounds, strong acids, halogens, acetonitrile, tellurium, arsenic powder, phosphorus

**Hazardous Decomposition Products:** Hazardous decomposition products formed under fire conditions-Indium/Indium Oxide. Other decomposition products-No information available

**Hazardous Polymerization:** No information available

**Hazardous Reactions:** No information available

## Section 11- TOXICOLOGICAL INFORMATION

### **Acute Toxicity:**

#### **Product Information/Component Information:**

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Indium	Not available	Not available	Not available

**Toxicological Synergistic Products:** No information available

### **Delayed and immediate effects as well as chronic effects from short and long term exposure:**

**Skin Corrosion/Irritation:** No information available

**Serious eye damage/irritation:** No information available

**Respiratory or Skin Sensitization:** No information available

**Carcinogenicity:** The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS-No	IARC	NTP	OSHA
In	7440-74-6	Not Listed	Not Listed	Not Listed

**Mutagenic Effects:** No information available

**Reproductive Effects:** No information available

**Development Effects:** No information available

**Teratogenicity:** No information available

**STOT – single exposure:** Inhalation-May cause respiratory irritation

**STOT – repeated exposure:** None known

**Aspiration Hazard:** No information available

**Symptoms/effects, both acute & delayed:** Stomach irregularities-Based on Human evidence

**Other Adverse Effects:** The chemical, physical and toxicological properties have not been fully investigated.

## Section 12- ECOLOGICAL INFORMATION

**Ecotoxicity:** No information available. Do not empty into drains

**Persistence and Degradability:** No information available

**Bioaccumulation/Accumulation:** No information available

**Mobility in Soil:** No information available

**Other Adverse Effects:** No information available

### Section 13- DISPOSAL CONSIDERATIONS

**Waste Disposal Methods:** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional and national hazardous waste regulations to ensure complete and accurate classification.

### Section 14- TRANSPORT INFORMATION

**DOT:** Not regulated

**IATA:** Not regulated

**IMDG/IMO:** Not regulated

### Section 15- REGULATORY INFORMATION

**US Federal Regulations:** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**TSCA 12(b):** Not applicable

**SARA 302:** Not applicable

**SARA 313:** Not applicable

**SARA 311/312 Hazardous Categorization:**

**Acute Health Hazard:** Yes

**Chronic Health Hazard:** Yes

**HMIS (USA):**

**Health Hazard:** 2

**Fire Hazard:** 0

**Personal Protection:** E

**Reactivity:** 0

**National Fire Protection Association (USA):**

**Health Hazard:** 2

**Flammability:** 0

**Reactivity:** 0

**US California Proposition 65:** California Safe Drinking Water and Toxic Enforcement Act of 1986: This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

**US Massachusetts RTK – Substance List:** Indium (CAS 7440-74-6)

**US New Jersey Worker & Community Right-to-Know Act:** Indium (CAS 7440-74-6)

**US Pennsylvania RTK – Hazardous Substances:** Indium (CAS 7440-74-6)

### Section 16- OTHER INFORMATION

The above information is accurate to the best of our knowledge. However, since data, safety standards and government regulations are subject to change, the conditions of handling and use, or misuse are beyond our control, Plasmaterials, Inc. makes no warranty, either expressed or implied, with respect to the completeness or continuing accuracy of the information contained herein and disclaims all liability for reliance thereon. Users should satisfy themselves that they have all current data relevant to their particular use.

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