



Indium Tin Oxide (ITO) (Pieces, Sputter Targets)

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1. Product Identification

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Trade Name: Indium tin oxide pieces  
Chemical Formula:  $\text{In}_2\text{O}_3\text{-SnO}_2$   
Recommended Use: Scientific research and development

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2. Hazards Identification

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Signal Word: Warning



Hazard Statements: H335 May cause respiratory irritation  
Precautionary Statements: P261 Avoid breathing dust/fume  
P304+P340 If inhaled, Remove person to fresh air  
P403+P405+P233 Store locked up, in a well-ventilated container,  
tightly closed  
P501 Dispose of according to local, regional, national,  
international regulations.

HMIS Health Ratings (0-4):

Health: 1  
Flammability: 0  
Reactivity: 0

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3. Composition

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Chemical Family: Ceramic  
Additional Names: None  
Indium tin oxide ( $\text{In}_2\text{O}_3\text{-SnO}_2$ ):  
Percentage: 0-100 wt%  
CAS #: NIL  
EC #: NIL

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4. First Aid Procedures

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General Treatment: Seek medical attention if symptoms persist.  
Special Treatment: None  
Important Symptoms: None  
Inhalation: Remove victim to fresh air. Supply oxygen if breathing is difficult.  
Ingestion: Give one to two glasses of water and induce vomiting. Never induce vomiting or give anything by mouth to an unconscious person.  
Skin: Wash affected area with mild soap and water. Remove any contaminated clothing.  
Eyes: Flush eyes with water, blinking often for ten minutes.

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5. Fire and Explosion Hazards Data

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Flammability:	Non-flammable
Flash Point:	N/A
Autoignition Temperature:	N/A
Extinguishing Media:	Use suitable extinguishing agent for surrounding material and type of fire.
Spec. Fire Fighting Procedure:	Use full-face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes.

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6. Accidental Release Measures

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If Material Is Released/Spilled:	Wear appropriate respiratory and protective equipment specified in special protection information. Isolate spill area and provide ventilation. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for disposal. Take care not to raise dust.
Environmental Precautions:	Isolate runoff to prevent environmental pollution.

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7. Handling and Storage

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Handling Conditions:	Wash thoroughly after handling.
Storage Conditions:	Store in a cool dry place in a tightly sealed container.
Work/Hygienic Maintenance:	Do not use tobacco or food in work area. Wash thoroughly before eating and smoking. Do not blow dust off clothing or skin with compressed air.
Ventilation:	Provide sufficient ventilation to maintain concentration at or below TLV.

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8. Exposure Controls and Personal Protection

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Permissible Exposure Limits:	0.1 mg/m <sup>3</sup> as In (OSHA)
Threshold Limit Value:	0.1 mg/m <sup>3</sup> as In (ACGIH)
Special Equipment:	None
Respiratory Protection:	Dust Respirator, NIOSH approved
Protective Gloves:	Rubber gloves
Eye Protection:	Safety glasses / goggles
Body Protection:	Protective work clothing. Wear close-toed shoes and long sleeves/pants.

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9. Physical and Chemical Characteristics

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Color	White
Form:	Pellets, Sputtering target, Custom parts
Odor:	Odorless
Water Solubility:	Insoluble
Boiling Point:	N/A
Melting Point:	N/A
Density:	N/A
Molecular weight:	N/A

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10. Reactivity

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Stability:	Stable under recommended storage conditions
Reacts With:	None
Incompatible Conditions:	None
Haz. Decomposition Products:	Metal oxide fume

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11. Toxicological Information

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Potential Health Effects:

Eyes:	May cause irritation
Skin:	May cause irritation
Ingestion:	May cause irritation
Inhalation:	May cause irritation
Chronic:	N/A
Routes of Entry:	None
Target Organs:	N/A
Signs & Symptoms of Exposure: Medical Conditions	N/A
Aggravated by Exposure:	N/A
Median Lethal Dose:	N/A
Carcinogen:	N/A

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12. Ecological Information

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Ecological data is not available.

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13. Disposal Considerations

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Dispose of in accordance with local, state and federal regulations.

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14. Transportation Data

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Hazardous:	The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, DOT). Not hazardous for transportation
Hazard Class:	N/A
Packing Group:	N/A
UN Number:	N/A
Proper Shipping Name:	N/A

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15. Regulatory Information

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Sec 302 Extremely Hazardous:	No
Sec 304 Reportable Quantities:	N/A
Sec 313 Toxic Chemicals:	No

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16. Other Information

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This safety data sheet should be used in conjunction with technical sheets. It does not replace them. No warranty, guarantee or representation is made to its accuracy, reliability or completeness. These materials should only be handled by, or under the direct supervision of a “technically qualified individual”, as defined in TSCA regulations 40 CFR 710.3(ee). The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.

Document Last Revised: 07/21/2015