



MATERIAL SAFETY DATA SHEET
COMPLIES WITH 29 CFR 1910.1200.
OSHA HAZARD COMMUNICATION RULE

DATE OF LAST REVISION: 05-06-96

CHEMICAL IDENTITY

| | |
|------------------------|------------------------------------------------|
| LABEL IDENTITY | INDIUM OXIDE |
| CHEMICAL NAME/SYNONYMS | INDIUM OXIDE |
| FORMULA | In₂O₃ |
| CHEMICAL FAMILY | METAL OXIDE |
| CAS REGISTRY NUMBER | 1312-43-2, LISTED IN THE TSCA INVENTORY |
| HAZARDOUS INGREDIENTS | INDIUM OXIDE |
| %: ND | TLV: ND |
| | OSHA/PEL: ND |

PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---------------------------------------|--------------------------------|
| COLOR, FORM AND ODOR | na |
| BOILING POINT | 850 (volatile) |
| DENSITY (gm/cc) | 7.179 |
| VAPOR PRESSURE @ 20° | NA |
| % VOLATILE BY VOLUME (%) | NA |
| REACTION WITH WATER | NA |
| EVAPORATION RATE (H ₂ O=1) | NA |
| SOLUBILITY IN WATER | Insoluble in cold water |
| MELTING POINT | ND |

FIRE AND EXPLOSION HAZARD DATA

| | |
|----------------------------------|----------------------------------------------------------------------------------------------------------------------|
| FLASH POINT | NA |
| AUTOIGNITION TEMPERATURE (°C) | NA |
| FLAMMABILITY | Non-flammable |
| EXTINGUISHING MEDIA | Use dry chemical, CO₂. |
| SPECIAL FIRE FIGHTING PROCEDURES | Wear a self-contained breathing apparatus and full protective clothing to prevent contact with skin and eyes. |
| UNUSUAL FIRE & EXPLOSION HAZARDS | Material may generate toxic fumes if involved in a fire. |



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HEALTH HAZARD INFORMATION

TOXICITY DATA: ***no data on this compound*** In data: scu-mus LDLO: 110mg/kg

HMIS RATING:

HEALTH: 3 FLAMMABILITY: 0 REACTIVITY: 0 PERSONAL PROTECTION: F

ROUTES OF ENTRY

INHALATION: **Yes**
SKIN: **Yes**
INGESTION: **Yes**

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE: **Respiratory Disorders**

EFFECTS OF OVEREXPOSURE (acute and chronic):

INHALATION: **May cause pulmonary irritation. Coughing or sneezing may occur.**
DERMAL/EYE: **May cause skin irritation/may cause watering, irritation, inflammation and risk of injury to the eyes**
OTHER: **When this material is injected into animals via inter-peritoneal or intravenous it is found to be highly toxic. It affects the liver, heart, kidneys and the blood. However, available data is scanty.**

CARCINOGENICITY: **None** NTP: **No** IARC MONOGRAPHS: **No** OSHA REGULATE: **No**

EMERGENCY FIRST AID PROCEDURES:

INGESTION: **Administer 1-2 glasses of milk or water & induce vomiting.**
INHALATION: **Remove victim to fresh air, administer oxygen if breathing is difficult.**
SKIN CONTACT: **Brush material off skin and wash affected area with soap and water.**
EYE CONTACT: **Flush eyes for at least 15 minutes with lukewarm water**
SEEK MEDICAL ATTENTION FOR ALL ABOVE SITUATIONS

REACTIVITY DATA

| | |
|----------------------------------------|---------------------------------------------------|
| STABILITY | Stable |
| CONDITIONS CONTRIBUTING TO UNSTABILITY | Heat |
| INCOMPATIBILITY (MATERIALS TO AVOID) | Strong acids & bases, no specific data |
| HAZARDOUS DECOMPOSITION PRODUCTS | In₂O₃ |
| HAZARDOUS POLYMERIZATION | Will Not Occur |
| CONDITIONS TO AVOID | Heat, incompatible materials |



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SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Wear self-contained breathing apparatus and full protective clothing. Isolate area where spill occurred, ensure proper ventilation, vacuum spill using a high efficiency unit and place in container for proper disposal. Take care not to raise dust.

WASTE DISPOSAL METHOD:

Consult federal, state and local regulations for proper disposal.

SPECIAL PROTECTIVE INFORMATION

| | |
|----------------------------|------------------------------------------------------------------------------|
| RESPIRATORY PROTECTION | NIOSH approved dust-mist-fume cartridge respirator |
| LOCAL EXHAUST | Maintain below TLV for Indium |
| MECHANICAL (general) | Recommended |
| SPECIAL | In controlled area |
| OTHER | NA |
| PROTECTIVE GLOVES | Neoprene |
| EYE PROTECTION | Safety glasses |
| OTHER PROTECTIVE EQUIPMENT | Wear protective clothing to prevent contamination of skin and clothes |

SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING/STORAGE:

Store in tightly closed containers in a cool, dry place. Wash hands and face thoroughly after handling and before meals.

| | | |
|-----------------------------|-------------|-----------------------|
| TRANSPORTATION REQUIREMENTS | DOT CLASS: | Not Classified |
| | UN NUMBER: | Not Classified |
| | IMCO CLASS: | Not Classified |
| | OTHER: | |

PRECAUTIONARY LABELING **NONE**

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, **ANGSTROM SCIENCES** MAKE NO WARRANTY, EITHER EXPRESSED OR IMPLIED, WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN AND DISCLAIMS ALL LIABILITY FOR THE RELIANCE THEREON. USER SHOULD SATISFY HIMSELF THAT HE HAS ALL CURRENT DATA RELEVANT TO HIS PARTICULAR USE.

NA= NOT APPLICABLE

ND= NO DATA FOUND