



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

DATE OF LAST REVISION: 03-04-07

CHEMICAL IDENTITY

LABEL IDENTITY	INDIUM-TIN OXIDE
CHEMICAL NAME/SYNONYMS	INDIUM-TIN OXIDE
FORMULA	In₂O₃-SnO₂
CHEMICAL FAMILY	METAL OXIDE BLEND
CAS REGISTRY NUMBER	50926-11-9, LISTED IN THE TSCA INVENTORY
HAZARDOUS INGREDIENTS	CADMIUM OXIDE
Indium: %: varies	TLV: 0.1mg/m³ (as In) OSHA/PEL: Not set
Tin Oxide: %: varies	2mg/m³ (as Sn) Not set

PHYSICAL AND CHEMICAL PROPERTIES

COLOR, FORM AND ODOR	White to pale yellow pieces, odorless
BOILING POINT	varies (In₂O₃): 850, SnO₂: 1800-1900)
DENSITY (gm/cc)	varies (In₂O₃): 7.179, SnO₂: 6.95)
VAPOR PRESSURE @ 20°	NA
% VOLATILE BY VOLUME (%)	NA
REACTION WITH WATER	None
EVAPORATION RATE (H ₂ O=1)	NA
SOLUBILITY IN WATER	Insoluble
MELTING POINT	varies (SnO₂: 1630)

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 emit toxic fumes if involved in a fire.



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HEALTH HAZARD INFORMATION

TOXICITY DATA: In₂O₃ data SnO₂ data
ipl-rat MLD: **546mg/kg** imp-mus TDLO: **840gm/kg**
ipl-rat LD100: **955mg/kg** imp-rat TDLO: **395gm/kg**
ivn-rat MLD: **100mg/kg**

HMIS RATING:
HEALTH: **2** FLAMMABILITY: **0** REACTIVITY: **0** PERSONAL PROTECTION: **E**

ROUTES OF ENTRY INHALATION: **Yes**
SKIN: **Yes**
INGESTION: **Yes**

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE: **Respiratory Disorders**
EFFECTS OF OVEREXPOSURE (acute and chronic):

INHALATION: **In₂O₃: inhalation of dusts of insoluble In₂O₃ for 4 hours daily for 3mo.**

By
rats caused only inflammatory reaction with no fibrosis. SnO₂: inhalation of SnO₂
dusts

may cause irritation to the respiratory tract.

DERMAL/EYE: **may be mechanically irritating to the skin and eyes. May cause redness and watering of the eyes.**

OTHER: **Ingested In₂O₃ is harmless to rats. However, the ingestion of Indium salt can be fatal. Metallic Sn and its inorganic salts are generally of low toxicity due to their**

poor
alimentary absorption. Dust of tin oxide have cause pneumoconiosis, which is
relatively
benign.

CARCINOGENICITY: **No** NTP: **No** IARC MONOGRAPHS: **No** OSHA REGULATE: **No**

EMERGENCY FIRST AID PROCEDURES:

INGESTION: **give 1-2 glasses of milk or water & induce vomiting.**

INHALATION: **remove to fresh air, give oxygen if breathing is difficult**

SKIN CONTACT: **brush 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



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CONDITIONS CONTRIBUTING TO UNSTABILITY
INCOMPATIBILITY (MATERIALS TO AVOID)

None
Strong acids & bases (SnO₂: ClF₃,
HS₃, Al, K, Mg, Na)
In, Sn, SnO
Will Not Occur
Heat, incompatible materials

HAZARDOUS DECOMPOSITION PRODUCTS
HAZARDOUS POLYMERIZATION
CONDITIONS TO AVOID

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 Sn and In

MECHANICAL (general)

Recommended

SPECIAL

Handle in a controlled atmosphere

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



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NA= NOT APPLICABLE

ND= NO DATA FOUND