



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

DATE OF LAST REVISION: 01-15-08

CHEMICAL IDENTITY

LABEL IDENTITY	TIN OXIDE
CHEMICAL NAME/SYNONYMS	TIN MONOXIDE, TIN (II) OXIDE
FORMULA	SnO
CHEMICAL FAMILY	METAL OXIDE
HAZARDOUS INGREDIENTS	TIN OXIDE
%: 100	CAS: 21651-19-4 TLV: 2mg/m3 OSHA/PEL: Not set

PHYSICAL AND CHEMICAL PROPERTIES

COLOR, FORM AND ODOR	Brown powder, odorless
BOILING POINT	ND
DENSITY (gm/cc)	6.446
VAPOR PRESSURE @ 20°	NA
% VOLATILE BY VOLUME (%)	NA
REACTION WITH WATER	None
EVAPORATION RATE (H2O=1)	NA
SOLUBILITY IN WATER	Insoluble
MELTING POINT	1080 (decomposes)

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. On heating at 300 °C in air, oxidation proceeds incandescently. The oxide ignites in nitrous oxide at 400°C, and incandesces when heated in sulfur dioxide.

HEALTH HAZARD INFORMATION

TOXICITY DATA	imp-mus TDLO: 840gm/kg
	imp-rat TDLO:395gm/kg

HMIS RATING:
HEALTH: **1*** FLAMMABILITY: **0** REACTIVITY: **1** PERSONAL PROTECTION: **E**



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ROUTES OF ENTRY

INHALATION:	Yes
SKIN:	Yes
INGESTION:	Yes

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

INHALATION: **Respiratory irritant. Sneezing, coughing, difficulty breathing, headache and bronchitis may occur.**

DERMAL/EYE: **Mild irritation, redness & inflammation may result.**

INGESTION: **Elemental tin is not generally considered toxic. Some inorganic tin salts are irritating and can liberate toxic fumes on decomposition. Dust of tin oxides have caused a pneumoconiosis, which is relatively benign.**

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

EMERGENCY FIRST AID PROCEDURES:

INGESTION: **Administer 1-2 cups of water and induce vomiting, seek medical attention.**

INHALATION: **Remove to fresh air; give oxygen if breathing is difficult & seek medical attention.**

SKIN CONTACT: **Wash affected area with soap and water, seek medical attention**

EYE CONTACT: **Flush eyes for at least 15 minutes with lukewarm water, seek medical.**

REACTIVITY DATA

STABILITY	Stable
CONDITIONS CONTRIBUTING TO UNSTABILITY	Heat
INCOMPATIBILITY (MATERIALS TO AVOID)	Strong acids, strong bases, non-metal oxides.
HAZARDOUS DECOMPOSITION PRODUCTS	Sn, SnO₂
HAZARDOUS POLYMERIZATION	Will Not Occur
CONDITIONS TO AVOID	High heat, incompatible materials

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 the area where the spill occurred and insure proper ventilation is available. Vacuum up the spill using a high efficiency unit and place in a container for proper disposal. Take care not to raise dust.

WASTE DISPOSAL METHOD:

Consult federal, state and local regulations for proper disposal.



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SPECIAL PROTECTIVE INFORMATION

RESPIRATORY PROTECTION	NIOSH approved dust-mist-fume respirator
LOCAL EXHAUST	Maintain below TLV
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 container, store away from heat and incompatible materials, wash hands and face thoroughly after handling and before meals.

TRANSPORTATION REQUIREMENTS	DOT CLASS:	Not Classified
	UN NUMBER:	NC
	IMCO CLASS:	NC
	OTHER:	---
PRECAUTIONARY LABELING	NONE	

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NA= NOT APPLICABLE

ND= NO DATA FOUND