MATERIAL SAFETY DATA SHEET
OSHA HAZARD COMMUNICATION RULE

DATE OF LAST REVISION: 01-15-08

CHEMICAL IDENTITY

LABEL IDENTITY
CHEMICAL NAME/SYNONYMS
TIN OXIDE
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 incandescences 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
TIN OXIDE
MATERIAL SAFETY DATA SHEET

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 POLYMERZATION
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.
TIN OXIDE
MATERIAL SAFETY DATA SHEET

SPECIAL PROTECTIVE INFORMATION

RESPIRATORY PROTECTION
   NIOSH approved dust-mist-fume respirator

LOCAL EXHAUST
   Maintain below TLV
   Recommended

MECHANICAL (general)
   Handle in a controlled atmosphere

SPECIAL
   NA

OTHER
   Neoprene
   Safety glasses

PROTECTIVE GLOVES
   Wear protective clothing to prevent contamination of skin and clothes

EYE PROTECTION
   Safety glasses

OTHER PROTECTIVE EQUIPMENT
   NA

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

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