Material Safety Data Sheet

acc. to OSHA and ANSI

1 Identification of substance:

- **Product details**

  SnO_2 Nanopowder, Purity: 99.5%, Size: 50 nm

- **Trade name**

  Tin (IV) oxide

- **Stock number**

  5010FY

- **Manufacturer/Supplier**

  MTI Corporation

  860 South 19 Street

  Richmond, CA 94804, USA

  Tel: +1 510-525-3070 Fax: +1 510-525-4705

2 Composition/Data on components:

- **Description:(CAS#)**

  Tin (IV) oxide (CAS# 18282-10-5)

- **EINECS Number**

  242-159-0

3 Hazards identification

- **Classification of the substance**

  Not a hazardous substance

- **GHS Label elements, including precautionary statements**
  Not a hazardous substance

- **Hazards not otherwise classified (HNOC) or not covered by GHS**

  None

4 First aid measures

- **After inhalation**
  Supply fresh air. If required, provide artificial respiration. Keep patient warm. Seek immediate medical advice.

- **After skin contact**
  Immediately wash with water and soap and rinse thoroughly. Seek immediate medical advice.

- **After eye contact**
  Rinse opened eye for several minutes under running water. Then consult a doctor.

- **After swallowing**

  Seek medical treatment.

- **The following symptoms may occur**

  Nausea

5 Fire fighting measures

- **Suitable extinguishing agents**
  Product is not flammable. Use fire fighting measures that suit the surrounding fire.

- **Protective equipment**
  Wear self-contained respirator.
  Wear fully protective impervious suit.

6 Accidental release measures

- **Person-related safety precautions**
  Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation

- **Measures for environmental protection**
  Do not allow material to be released to the environment without proper governmental permits.

- **Measures for cleaning/collecting**

Pick up mechanically.

- **Additional information:**
  See Section 7 for information on safe handling
  See Section 8 for information on personal protection equipment.
  See Section 13 for disposal information.

7 Handling and storage

➢ **Handling**

- **Information for safe handling**
  Keep container tightly sealed.
  Store in cool, dry place in tightly closed containers.
  No special precautions are necessary if used correctly.

- **Information about protection against explosions and fires**
  The product is not flammable

➢ **Storage**

- **Requirements to be met by storerooms and receptacles**
  No special requirements.

- **Information about storage in one common storage facility**
  Do not store together with oxidizing and acidic materials, Interhalogens, Alkali metals.

- **Further information about storage conditions**
  Keep container tightly sealed.
  Store in cool, dry conditions in well sealed containers.

8 Exposure controls and personal protection

- **Additional information about design of technical systems**
  Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Components with limit values that require monitoring at the workplace

Tin metal, oxide and inorganic compounds, except tin hydride, as Sn

	mg/m^3
ACGIH TLV	2; 2 (metal)
Belgium TWA	2
Denmark TWA	2
Finland TWA	2

Germany	2 (inhalable fraction of the aerosol)
Hungary TWA	1; 2-STEL
Ireland TWA	2; 4-STEL
Netherlands TWA	2
Switzerland TWA	2; 4-STEL
United Kingdom TWA	2; 4-STEL
USA PEL (respirable)	2 (inorganic compounds except oxide); 2 (metal)

- **Additional information**

No data

➢ **Personal protective equipment**

- **General protective and hygienic measures**
The usual precautionary measures for handling chemicals should be followed.
Keep away from foodstuffs, beverages and feed.
Remove all soiled and contaminated clothing immediately.
Wash hands before breaks and at the end of work.

- **Breathing equipment**
Use suitable respirator when high concentrations are present.

- **Protection of hands**

Impervious gloves

- **Eye protection**

Safety glasses

- **Body protection**

Protective work clothing

9 Physical and chemical properties:

- **Form:** Powder
- **Color:** White
- **Odor:** Odorless
- **Value/Range Unit Method**
- **Change in condition**

- **Melting point/Melting range:** 1630°C
- **Boiling point/Boiling range:** 1800-1900°
- **Sublimation temperature / start:** Not determined
- **Flash point:** Not applicable
- **Flammability (solid, gaseous):** Product is not flammable
- **Ignition temperature:** Not determined
- **Decomposition temperature:** Not determined
- **Danger of explosion:**
  Product does not present an explosion hazard
- **Explosion limits:**

  Lower: Not determined
  Upper: Not determined
- **Vapor pressure:** Not determined
- **Density:** 6.95 g/cm³ at 20°C
- **Solubility in / Miscibility with**

  Water: Insoluble

10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided**
  Decomposition will not occur if used and stored according to specifications.
- **Materials to be avoided**
  Acids
  Oxidizing agents
  Alkali metals
  Interhalogens
  Magnesium
- **Dangerous reactions**

  No dangerous reactions known
- **Dangerous products of decomposition**

Not known

11 Toxicological information

- **Acute toxicity:**
  LD/LC50 values that are relevant for classification:

  Oral: LD50: >20000 mg/kg (mus)
  LD50: >20000 mg/kg (rat)

- **Primary irritant effect:**

  on the skin: Powder: irritant effect

  on the eye: Powder: irritant effect

- **Sensitization**

  No sensitizing effects known

- **Subacute to chronic toxicity**
  Tin metal dust/fumes and inorganic tin compounds may cause nausea, vomiting, diarrhea, irritation and pneumoconiosis. Most inorganic tin compounds are poorly absorbed by the body when ingested or inhaled.

- **Additional toxicological information**
  To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.
  No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

12 Ecological information

- **General notes**
  Do not allow material to be released to the environment without proper governmental permits.

13 Disposal considerations

- **Recommendation**
  Consult state, local or national regulations for proper disposal.

- **Uncleaned packagings, Recommendation**
  Disposal must be made according to official regulations.

14 Transport information

Not a hazardous material for transportation.

- **DOT regulations**

  Hazard class: None

- **Land transport ADR/RID (cross-border)**

  ADR/RID class: None

- **Maritime transport IMDG**

  IMDG Class: None

- **Air transport ICAO-TI and IATA-DGR**

  ICAO/IATA Class: None

- **Transport/Additional information**
  Not dangerous according to the above specifications.

15 Regulations

- **Product related hazard informations:**

Observe the general safety regulations when handling chemicals

- **National regulations**
  All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical Substance Inventory.

- **Information about limitation of use**
  For use only by technically qualified individuals.

16 Other information

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.