

# Antimony Tin Oxide Micropowder (ATO)

US Research Nanomaterials, Inc.

## Material Safety Data Sheet

acc. to OSHA and ANSI

### 1 Identification of substance:

- **Trade name:** Antimony tin oxide
- **Stock number:** US1005M
- **Manufacturer/Supplier:**  
US Research Nanomaterials, Inc.  
3302 Twig Leaf Lane  
Houston, Texas 77084, USA  
[www.us-nano.com](http://www.us-nano.com)

### 2 Composition/Data on components:

- **Chemical characterization:**  
**Description: (CAS#)**  
Antimony trioxide (CAS# 1309-64-4); 7-11 wt%  
Tin(IV) oxide (CAS# 18282-10-5); 89-93 wt%
- **Identification number(s):**  
**EINECS Number:**  
  
**Additional information:**

### 3 Hazards identification

- **Hazard description:**
- **OSHA Hazards:** Delayed target organ effects
- **Target Organs:** Lungs
- **HMIS Classification**  
Health hazard: 2  
Chronic Health Hazard: \*  
Flammability: 0  
Physical hazards: 0
- **NFPA Rating**  
Health hazard: 2  
Fire: 0  
Reactivity Hazard: 0
- **Potential Health Effects**  
**Inhalation:** May be harmful if inhaled. May cause respiratory tract

irritation.

**Skin:** May be harmful if absorbed through skin. May cause skin irritation.

**Eyes:** May cause eye irritation.

**Ingestion:** May be harmful if swallowed.

#### **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.

#### **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:**  
No special measures required.
- **Storage**
- **Requirements to be met by storerooms and receptacles:**  
No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**  
Keep container tightly sealed.  
Store in cool, dry conditions in well sealed containers.

#### **8 Exposure controls and personal protection**

- Contains no substances with occupational exposure limit values.
- **Personal protective equipment**
- **Respiratory protection**
- Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
- **Hand protection**
- Handle with gloves.
- **Eye protection**
- Safety glasses
- **Hygiene measures**
- General industrial hygiene practice.

#### **9 Physical and chemical properties:**

- **General Information**
- **Form:** Powder
- **Color:** blue
- **Odor:** Odorless
- |                    |             |               |
|--------------------|-------------|---------------|
| <u>Value/Range</u> | <u>Unit</u> | <u>Method</u> |
|--------------------|-------------|---------------|
- **Change in condition**
- **Melting point/Melting range:** 655 ° C

- **Boiling point/Boiling range:** Not determined
- **Sublimation temperature / start:** Not determined
- **Flash point:** Not applicable
- **Ignition temperature:** Not determined
- **Decomposition temperature:** Not determined
- **Explosion limits:**
- **Lower:** Not determined
- **Upper:** Not determined
- **Vapor pressure:** Not determined
- **Density:** at 20 ° C 5.2 g/cm<sup>3</sup>
- **Solubility in / Miscibility with**
- **Water:** Not determined

#### **10 Stability and reactivity**

- **Storage stability**  
Stable under recommended storage conditions.
- **Materials to avoid**  
Strong oxidizing agents, Potassium, Strong acids, Aluminum, Strong reducing agents, Sodium/sodium oxides, Magnesium
- **Hazardous decomposition products**  
Hazardous decomposition products formed under fire conditions. - Tin/tin oxides, Antimony oxide

#### **11 Toxicological information**

- **Acute toxicity:**
- **Primary irritant effect:**
- **Potential Health Effects**
- **Inhalation** May be harmful if inhaled. May cause respiratory tract irritation.
- **Skin** May be harmful if absorbed through skin. May cause skin irritation.
- **Eyes** May cause eye irritation.
- **Ingestion** May be harmful if swallowed.
- **Target Organs** Lungs,  
Subacute to chronic toxicity:

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.  
ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.  
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.  
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as

- a carcinogen or potential carcinogen by OSHA.

- **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**

- **Product:**

- **Recommendation**

Consult state, local or national regulations to ensure proper disposal.

- **Uncleaned packagings:**

- **Recommendation:**

Disposal must be made according to official regulations.

## **14 Transport information**

**DOT (US)**

UN-Number: 1549 Class: 6.1 Packing group: III  
Proper shipping name: Antimony compounds, inorganic, solid, n.o.s.  
Marine pollutant: No  
Poison Inhalation Hazard: No

**IMDG**

UN-Number: 1549 Class: 6.1 Packing group: III EMS-No: F-A, S-A  
Proper shipping name: ANTIMONY COMPOUND, INORGANIC, SOLID, N.O.S.  
Marine pollutant: No

**IATA**

UN-Number: 1549 Class: 6.1 Packing group: III  
Proper shipping name: Antimony compound, inorganic, solid, n.o.s.

## **15 Regulations**

**OSHA Hazards**

**Delayed target organ effects**

**DSL Status**

This product contains the following components that are not on the Canadian DSL nor NDSL lists.

Antimony trioxide

CAS-No.

1309-64-4

Tin(IV) oxide 18282-10-5

SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

Chronic Health Hazard

Massachusetts Right To Know Components

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components

Antimony trioxide

CAS-No.

1309-64-4

Revision Date

Tin(IV) oxide 18282-10-5 2007-03-01

New Jersey Right To Know Components

Antimony trioxide

CAS-No.

1309-64-4

Revision Date

Tin(IV) oxide 18282-10-5 2007-03-01

California Prop. 65 Components

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

**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.