

Tin Nanoparticles (Sn)

US Research Nanomaterials, Inc.

Material Safety Data Sheet

acc. to OSHA and ANSI

1 Identification of substance:

Product details:

Product name: Tin powder

Stock number: US1136

Manufacturer/Supplier:

US Research Nanomaterials, Inc.

3302 Twig Leaf Lane

Houston, Texas 77084, USA

www.us-nano.com

2 Composition/Data on components:

Chemical characterization:

Description: (CAS#)

tin (CAS# 7440-31-5), 100%

Identification number(s):

EINECS Number: 231-141-8

3 Hazards identification

Hazard description: Irritant

Information pertaining to particular dangers for man and environment
Irritant.

Classification system

HMIS ratings (scale 0-4)

(Hazardous Materials Identification System)

Health (acute effects) =

2 Flammability = 0

Reactivity = 0

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 immediate medical advice.

5 Fire fighting measures

Suitable extinguishing agents

Special powder for metal fires. Do not use water.

For safety reasons unsuitable extinguishing agents Water

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
Keep away from ignition sources

Measures for environmental protection:

Do not allow material to be released to the environment without proper governmental permits.

Measures for cleaning/collecting:

Ensure adequate ventilation. Keep away from ignition sources.

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.
 Ensure good ventilation at the workplace.
 Prevent formation of dust.
- Information about protection against explosions and fires:**
 Keep ignition sources away.
 Protect against electrostatic charges.
 Fumes can combine with air to form an explosive mixture.
- Storage**
- Requirements to be met by storerooms and receptacles:**
 Store in a cool location.
- Information about storage in one common storage facility:**
 Do not store together with oxidizing and acidic materials.
- 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:

Tantalum and compounds (as W)	
	mg/m ³
USA TWA	2

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:

General Information

Form: Powder

Color: Black

Odor: Odorless

Change in condition

	<u>Value/Range</u>	<u>Unit</u>	<u>Method</u>
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Melting point/Melting range: 231.9 ° C

Boiling point/Boiling range: 2270 ° C

Sublimation temperature / start: Not determined

Flash point: Not applicable

Flammability (solid, gaseous) None

Ignition temperature: Not determined

Decomposition temperature: Not determined

Explosion limits:

Lower: Not determined

Upper: Not determined

Vapor pressure: Not determined

Density: at 20 ° C 7.31 g/cm³

Solubility in / Miscibility with

No data
availablee

Water:

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: Oxidizing agents

Dangerous reactions Reacts with oxygen

Dangerous products of decomposition:

No dangerous decomposition products known

11 Toxicological information

Acute toxicity:

Primary irritant effect:

on the skin: Irritant to skin and mucous membranes.

on the eye: Irritating effect.

Sensitization: No sensitizing effects known.

Subacute to chronic toxicity:

Tungsten compounds may be irritating to the eyes and respiratory tract. Animal studies suggest that soluble tungsten compounds have the potential for causing adverse health effects involving the gastrointestinal tract and central nervous system. These effects have not been observed in humans. Chronic exposure to tungsten compounds may result in permanent lung damage.

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 regulations: Not dangerous goods

IMDG: Not dangerous goods

IATA: Not dangerous goods

• **15 REGULATORY INFORMATION**

Risk phrases:

Safety phrases:

22 Do not breathe dust.

33 Take precautionary measures against static discharges.

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.
