

# Super Conductor Materials, Inc.

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Chemtrec: (800) 424-9300  
Poison Center: (800) 562-8236  
Revision Date: January 8<sup>th</sup>, 2019

## SAFETY DATA SHEET

Identity: Tantalum nitride

Formula: TaN

### SECTION I - GENERAL INFORMATION

Manufacturer: Super Conductor Materials, Inc.

The information below is believed to be accurate and represents the best information available to Super Conductor Materials, Inc. However, SCM makes no warranty, expressed or implied with respect to such information and assumes no liability resulting from its use.

### SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

Molecular weight: 194.95

CAS #	OSHA PEL	ACGIH TLV	%
12033-62-4	5mg (Ta)/m3	5mg (Ta)/m3	0.0-100.0%

### SECTION III – PHYSICAL/CHEMICAL CHARACTERISTICS

Physical States: Solid

Boiling Point: NE or NA

Vapor Pressure: NE

Melting Point: 3360.00°C

Vapor Density: NA

Solubility in water: Insoluble

Specific Gravity: (water=1) 16.30 gm/cc

Flash Point: N/A

*Appearance and odor:* Brown, bronze, or black pieces, no odor.

### SECTION IV - FIRE AND EXPLOSION HAZARD DATA:

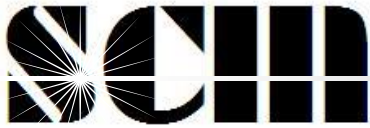
Method used: Non-flammable

*Explosive Limits:* LEL: NA UEL: NA

*Extinguishing Media:* Use: Not applicable. Use suitable extinguishing media for surrounding materials and type of fire.

*Special Fire Fighting Procedures:* Firefighters must wear full face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. Fumes from fire are hazardous. Isolate runoff to prevent environmental pollution.

*Unusual Fire and Explosion Hazards:* When heated to decomposition, tantalum nitride may emit toxic fumes of ammonia, which can form explosive mixtures with air.



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### SECTION V - REACTIVITY DATA

*Stability:* Stable

*Conditions to Avoid (instability):* None

*Incompatibility- Materials to Avoid:* Water, moisture and strong oxidizing agents.

*Hazardous Decomposition or Byproducts:* Ammonia gas, hydrogen gas and oxides of nitrogen

*Conditions to Avoid - Hazardous Polymerization:* Will not occur.

*Conditions to avoid (hazardous polymerization):*

### SECTION VI - HEALTH HAZARD DATA

*Routes of entry:* Inhalation? Yes    Skin? No    Eyes? No    Ingestion? Yes    Other? No

To the best of our knowledge the chemical, physical and toxicological properties of tantalum nitride have not been thoroughly investigated.

Some industrial skin injuries from tantalum have been reported. Systemic industrial poisoning however, is apparently unknown. Questionable carcinogen with experimental tumorigenic data. (Sax, Dangerous Properties of Industrial Materials, eighth edition)

The details of the toxicity of nitrides as a group are unknown. (Sax, Dangerous Properties of Industrial Materials, eighth edition)

*Signs and Symptoms of Overexposure:*

*Inhalation:* May cause a red, dry throat.

*Ingestion:* May cause redness.

*Skin:* May cause redness, itching.

*Eye:* May cause redness, itching.

*Health Hazards (Acute and Chronic):*

*Inhalation:*

Acute: May cause irritation to the respiratory system, nose, throat and lungs.

Chronic: No chronic health effects recorded.

*Ingestion:*

Acute: May cause irritation.

Chronic: No chronic health effects recorded.

*Skin:*

Acute: May cause irritation.

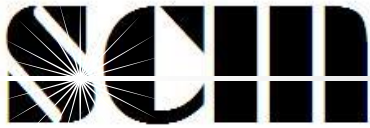
Chronic: No chronic health effects recorded.

*Eye:*

Acute: May cause irritation.

Chronic: No chronic health effects recorded.

*Target Organ:* May affect the respiratory system, skin, and eyes.



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*Carcinogenicity:* NTP? No                      IARC Monographs? No                      OSHA Regulated? No  
*Medical Conditions Generally Aggravated by Exposure:* Pre-existing respiratory and skin disorders.

### Emergency and First Aid Procedures:

*Inhalation:* Remove victim to fresh air, keep warm and quiet, and give oxygen if breathing is difficult; seek medical attention  
*Ingestion:* Do not induce vomiting, seek medical attention immediately.  
*Skin:* Remove contaminated clothing, brush material off skin, wash affected area with mild soap and water, and seek medical attention immediately.  
*Eye:* Flush eyes with lukewarm water, lifting upper and lower eyelids for at least 15 minutes and seek medical attention immediately.

## SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

### *Steps to be taken in case material is released or spilled:*

Wear appropriate respiratory and protective equipment specified in section VIII-Control Measures. Isolate spill area, provide ventilation. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for proper disposal. Take care not to raise dust.

### *Waste disposal method:*

Dispose of in accordance with state, local, and federal regulations.

### *Hazard Label Information:*

Store in cool, dry area and in tightly sealed container. Wash thoroughly after handling.

*Precautions:* Tantalum nitride may react in moist air. Handle and store in a controlled and inert gas such as argon.

## SECTION VIII - CONTROL MEASURES

### *Protective Equipment Summary (Hazard Label Information):*

NIOSH approved respirator, impervious gloves, safety glasses, clothes to prevent contact.

### *Ventilation:*

*Local Exhaust:* Local exhaust ventilation may be necessary to control any air contaminants to within their PEL or TLVs during the use of this product.

*Mechanical (General):* Good general ventilation is recommended.

### *Work/Hygienic/Maintenance Practices:*

Implement engineering and work practice controls to reduce and maintain concentration of exposure at low levels. Use good housekeeping and sanitation practices. Do not use tobacco or food in work area. Wash thoroughly before eating or smoking. Do not blow dust off clothing or skin with compressed air.

**Please be advised that N/A can either mean Not Applicable or No Data Has Been Established**