



Advanced Materials Technologies & Services

Material Safety Data Sheet Titanium Nitride Product

WAMTF-0136

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Section 1: Product and Company Identification

PRODUCT NAME: Titanium Nitride Product
CHEMICAL FAMELY: Metal
CHEMICAL NAME: TiN
MANUFACTURER: Materion Brewster LLC
PO Box 1950
Brewster, NY 10509-8950

EMERGENCY TELEPHONE: 845-279-0900
hour)

CHEMTREC 800-424-9300 (24

Section 2: Composition/Ingredients

MATERIAL	CAS No	% at.
Titanium Nitride	25583-20-4	99+

Section 3: Hazard Identification

HAZARD OVERVIEW:

We do not consider this product in the form (solid) it is sold to constitute a physical hazard or a health hazard. Subsequent operations such as abrading, melting, welding, cutting or processing in any other fashion may produce potentially hazardous dust or fumes which can be inhaled, swallowed, or come in contact with the skin or eyes.

PRIMARY ROUTES OF ENTRY: Inhalation, Skin contact. TARGET ORGANS: Respiratory tract

HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE:

Listed below are certain potential health hazards, which apply to the hazardous ingredients, found in the subject material.

TITANIUM: Inhalation - Dust may cause irritation of upper respiratory tract, tightness in chest and coughing.
Eye/Skin - Dust may have irritating effect
Chronic - Titanium compounds are considered to be physiologically inert

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

Individuals who may have had allergic reactions to metals or sensitivity, may encounter skin rash or dermatitis, if skin contact with this product occurs. Persons with impaired pulmonary functions, may incur further impairment if dust or fumes are inhaled

CARCINOGENIC REFERENCES: Components are -

Not recognized by OSHA as a carcinogen; Not listed in the National Toxicology Program;
Not listed as a carcinogen by the International Agency on Research on Cancer

Section 4: First Aid Measures

FIRST AID FOR EYES: Dust or powder should be flushed from the eyes with running water for 15 minutes. If irritation persists obtain medical assistance.

FIRST AID FOR SKIN: Skin cuts and abrasions can be treated by standard first aid. Skin contamination with dust or powder can be removed with soap and water. If irritation persists obtain medical assistance.



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FIRST AID FOR INGESTION: Obtain medical assistance at once.

FIRST AID FOR INHALATION: Breathing difficulty, caused by inhalation of dust or fume requires removal to fresh air. If breathing has stopped perform artificial respiration and seek medical assistance at once.

Section 5: Fire Fighting Measures

FLAMMABILITY: Highly flammable. Dust may explode if exposed to sparks

EXTINGUISHING MEDIA: Ordinary extinguishers are often in effective against metal fires; use Class "D" extinguishing agents, never use water.

SPECIAL FIRE FIGHTING PROCEDURES: Self-contained breathing apparatus should be worn when fighting metal dust fires. High levels of dust or fine particles in the air may ignite or explode.

Section 6: Accidental Release Measures

SPILL OR LEAK PROCEDURES: In solid form this material poses no special clean-up problems. Use normal clean up procedures; wet sweeping or HEPA vacuum, for clean up of dust or powder. Do not use compressed air for cleaning.

Section 7: Storage and Handling

In solid form this material poses no special problems. Store metal in a dry area away fro moisture. Do not store adjacent to acids.

Section 8: Exposure Control/Personal Protection

EXPOSURE LIMIT VALUES:

Not established for product as whole.

TLV, ACGIH: N/A mg/m³ PEL, OSHA: N/A mg/m³

PERSONAL PROTECTIVE EQUIPMENT:

Eye protection requirements:

Safety glasses are recommended.

Skin protection requirements:

Protective gloves are recommended, to prevent mechanical irritation.

Respiratory protection:

Not normally required, use an appropriate NIOSH approved respirator if airborne dust concentration exceed the OSHA, PEL or ACGIH, TLV

Other protective equipment:

Eye wash fountain should be readily available in areas of use or handling.

VENTILATION REQUIREMENTS:

Local Exhaust:

Recommended, when cutting, grinding or melting or any other operation where dust or fumes are created

General Exhaust:

Recommended.

ENVIRONMENTAL SURVEILLANCE:

If the operation generates dust or fumes, exposure to airborne materials should be determined by having air samples taken in the employees breathing zone and work area.

Section 9: Physical and Chemical Properties



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PHYSICAL FORM:	Solid metal	COLOR:	Gray
ODOR:	None	MELT POINT:	2950°
SOLUBILITY IN WATER:	Insoluble	SPECIFIC GRAVITY:	N/A
VOLATILE BY WEIGHT:	Essentially zero	DENSITY:	5.22 g/cm ³

Section 10: Reactivity

STABILITY: This is a stable material. HAZARDOUS POLYMERIZATION: Will not occur.

INCOMPATIBILITIES: : Oxidizing agents
DECOMPOSITION PRODUCTS: None under proper usage conditions.
CONDITIONS TO AVOID: Conditions which create dust or fumes. High heat and flame

Section 11: Toxicological Information

Under normal use of the solid form of this material there are few health hazards. Welding, cutting grinding or any process creating dust, fume or oxide may cause hazardous levels of certain elements, as addressed in Section 3.

Section 12: Ecological Information

In solid form this material poses no special environmental problems. Metal powder or dust may have significant impact on air and water quality. Emissions, spills and releases to the environment should be controlled immediately.

Section 13: Disposal Considerations

Because of its high intrinsic value this material should be reclaimed. Dispose of in accordance with all applicable Federal, State and Local Regulations.

Section 14: Transportation Information

GROUND TRANSPORTATION:
D.O.T. SHIPPING NAME: Flammable solid, inorganic, n.o.s.
(Titanium nitride)
D.O.T. HAZARD CLASS: 4.1
UN/NA NUMBER: 3178
PACKING GROUP; III
AIR TRANSPORT:
ICAO-TI & IATA- DGR: Same as DOT

Section 15: Regulatory Information

OSHA STATUS:
No specific regulations. The Hazard Communication Standard of the Occupational Safety and Health Administration 29 CFR 1910.1200 considers components of this product a Hazardous Substance.

TSCA STATUS:
Components of these products are listed on the TSCA Chemical Substance Inventory of Existing Chemical Substances.

SARA TITLE III:
The constituents of this alloy contain hazardous substances, above one (1) percent, and are subject to the reporting



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requirements of section 313 of the Emergency Planning and Community Right to Know act of 1986 and 40CFR372.

SUBSTANCE	CAS No.	PERCENT MAXIMUM
None		

INTERNATIONAL REGULATIONS:

CANADA – WHMIS Disclosure List:

Material falls into - Subdivision A of Division 4 of Class 4, as defined by Section 39, of SOR/DORS-88-66

EUROPEAN UNION

Risk Phrase:

R-11- Highly flammable

Section 16: Other Information

PREPARED BY: Lee Oman, CECM

DATE OF REVISION: November 2006

This MSDS has been revised following the guidelines outlined in the American National Standard for Hazardous Materials Z400.1.1393 “ Material Safety Data Sheets – Preparation”

DISCLAIMER:

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