MATERIAL SAFETY DATA SHEET

CHEMICAL NAME/SYNONYMS
TUNGSTEN-TITANIUM

FORMULA
VARIABLE WEIGHT % W-Ti

CHEMICAL FAMILY
METAL ALLOY

HAZARDOUS INGREDIENTS
TUNGSTEN-TITANIUM

%: 100  CAS: 58397-70-9  TLV: Not set 5mg/m3 (W)  OSHA/PEL: Not set 5mg/m3(w)

COLOR, FORM AND ODOR
Gray pieces, no odor

BOILING POINT
Varies

DENSITY (gm/cc)
Varies

VAPOR PRESSURE @ 20°C
NA

% VOLATILE BY VOLUME (%)
NA

REACTION WITH WATER
ND

EVAPORATION RATE (H2O=1)
NA

SOLUBILITY IN WATER
ND

MELTING POINT
Varies

FLASH POINT
NA

AUTOIGNITION TEMPERATURE (°C)
NA

FLAMMABILITY
Non-flammable

EXTINGUISHING MEDIA
Use dry chemical, CO₂ or graphite.

SPECIAL FIRE FIGHTING PROCEDURES
Wear a self-contained breathing apparatus and full protective clothing to prevent contact with skin and eyes.

UNUSUAL FIRE & EXPLOSION HAZARDS
Material decomposes when heated to emit toxic fumes of Cd.

TOXICITY DATA

W-DATA:
orl-rat TDLO: 1210ug/kg (35Wpre)  ipr-rat LD50: 5000mg/kg
Ti DATA:
ims-rat TDLO: 114mg/kg/77W-I TFX:ETA
ims-rat TD: 360mg/kg/69W-I TFX:ETA

HMIS RATING:
HEALTH: 2*  FLAMMABILITY: 0  REACTIVITY: 0  PERSONAL PROTECTION: E
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ROUTES OF ENTRY
INHALATION: Yes  
SKIN: No  
INGESTION: Yes

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE: Respiratory Disorders

EFFECTS OF OVEREXPOSURE (acute and chronic):
INHALATION: May cause sneezing, coughing, difficulty breathing, nausea and irritation of the respiratory tract.
DERMAL/EYE: Mild irritation, itching and burning/inflammation may result
OTHER: Ti Compounds: This material is considered to be physiologically inert. There are no reported cases in the literature where titanium as such has caused intoxication. The dusts of titanium or titanium compounds such as titanium oxide may be placed in the nuisance category.

CARCINOGENICITY: Experimental  
NTP: No  
IARC MONOGRAPHS: NO  
OSHA REGULATE: NO

EMERGENCY FIRST AID PROCEDURES:
INGESTION: Administer 1-2 cups of water and induce vomiting, seek medical attention.
INHALATION: Remove to fresh air, seek medical attention.
SKIN CONTACT: Wash affected area with soap and water, seek medical attention.
EYE CONTACT: Flush eyes for at least 15 minutes with lukewarm water, seek medical.

REACTIVITY DATA
STABILITY: Stable
CONDITIONS CONTRIBUTING TO UNSTABILITY: None
INCOMPATIBILITY (MATERIALS TO AVOID): ND
HAZARDOUS DECOMPOSITION PRODUCTS: W,Ti
HAZARDOUS POLYMERIZATION: Will Not Occur
CONDITIONS TO AVOID: None

SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
Wear self-contained breathing apparatus and full protective clothing, vacuum spill and place in container for proper disposal. Take care not to raise dust.

WASTE DISPOSAL METHOD:
Consult federal, state and local regulations for proper disposal.
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SPECIAL PROTECTIVE INFORMATION

RESPIRATORY PROTECTION
NIOSH approved dust-mist-fume respirator

LOCAL EXHAUST
Maintain below TLV for level W

MECHANICAL (general)
Not recommended

SPECIAL
NA

OTHER
NA

PROTECTIVE GLOVES
Neoprene

EYE PROTECTION
Safety glasses

OTHER PROTECTIVE EQUIPMENT
Wear protective clothing to prevent contamination of skin and clothes

SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING/STORAGE:
Store in tightly closed container, store away from heat and incompatible materials, wash hands and face thoroughly after handling and before meals.

TRANSPORTATION REQUIREMENTS

DOT CLASS: Not Classified
UN NUMBER: NC
IMCO CLASS: NC

OTHER: ---

PRECAUTIONARY LABELING
NONE

THE ABOVE INFORMATION IS ACCURATE TO THE BEST OF OUR KNOWLEDGE. HOWEVER, SINCE DATA, SAFETY STANDARDS AND GOVERNMENT REGULATIONS ARE SUBJECT TO CHANGE THE CONDITIONS OF HANDLING AND USE, OR MISUSE ARE BEYOND OUR CONTROL, ANGSTROM SCIENCES MAKE NO WARRANTY, EITHER EXPRESSED OR IMPLIED, WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN AND DISCLAIMS ALL LIABILITY FOR THE RELIANCE THEREON. USER SHOULD SATISFY HIMSELF THAT HE HAS ALL CURRENT DATA RELEVANT TO HIS PARTICULAR USE.

NA= NOT APPLICABLE
ND= NO DATA FOUND
W COMPOUNDS

Tungsten compounds are considered somewhat more toxic than those of molybdenum. However, industrially, this element does not constitute an important health hazard. There is very little published with reference to its toxicity. Recent studies have failed to indicate any serious toxic effect following the inhalation or the ingestion of various tungsten compounds, although heavy exposure to the dust or ingestion of large amounts of the soluble compounds produces a certain rate of motility in experimental animals.