Section 1: Identification

Product Name: Tungsten Titanium

Company: Angstrom Sciences, Inc.
40 South Linden Street
Duquesne, PA 15110
For more information call: 412-469-8466
(Monday - Friday 9:00 AM - 5:00 PM EST)

Section 2: HAZARD IDENTIFICATION

Signal Word: Warning

Hazard Statements: H228: Flammable solid (powder)

Precautionary Statements: P210: Keep away from heat/sparks/flame. No smoking

HMIS Health Ratings (0-4):

<table>
<thead>
<tr>
<th></th>
<th>Powder</th>
<th>Bulk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Flammability</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Physical</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

Section 3: Composition/Information on Ingredients

Chemical characterization: Metal Alloy

Additional Names: Tungsten-ti

Tungsten (W)

CAS# Description: 7440-33-7
Percentage: 90 wt% (typically)
EC number: 231-143-9
Titanium (Ti)

CAS# Description: 7440-32-6  
Percentage: 10 wt% (typically)  
EC number: 231-142-3

Section 4: FIRST AID MEASURES

General Treatment: Seek medical attention if symptoms persist.
Special Treatment: None
Important Symptoms: None

Eye Contact: Flush eyes with water, blinking often for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
Skin Contact: Wash affected area with mild soap and water. Remove any contaminated clothing.
Inhalation: Remove to fresh air. If required, give artificial respiration. Seek medical advice.
Ingestion: Seek medical attention

Section 5: FIRE FIGHTING MEASURES

Suitable extinguishing Media: No special restrictions - Use suitable extinguishing agent for surrounding material and type of fire.
Flammability: Non-flammable, except as powder
Special Fire Fighting Procedure: Use full-face, self contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. See section 10 for decomposition products.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions: Wear appropriate respiratory and protective equipment specified in special protection information. Isolate spill area and provide ventilation. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for disposal. Take care not to raise dust.
Environmental Precautions: Isolate runoff to prevent environmental pollution.

Section 7: HANDLING AND STORAGE

Handling Precautions for safe handling: Wash thoroughly after handling.
Conditions for safe storage, including any incompatibilities: Store in a cool dry place in a tightly sealed container. Store apart from materials and conditions listed in Section 10.
Work/Hygienic Maintenance: Do not use tobacco or food in work area. Wash thoroughly before eating and smoking. Do not blow dust off clothing or skin with compressed air.
Ventilation: Provide sufficient ventilation to maintain concentration at or below threshold limit.
Section 8: EXPOSURE CONTROL/PERSONAL PROTECTION

Permissible Exposure Limits:  
10 mg/m³ as W or W-insoluble compounds, short-term value  
5 mg/m³ as W or W-insoluble compounds, long-term value  
Threshold Limit Value:  
10 mg/m³ W, short-term value  
5 mg/m³ as W, long-term value  
Special Equipment:  
None  
Respiratory Protection:  
Dust respirator.  
Protective Gloves:  
Rubber Gloves  
Eye Protection:  
Safety glasses or goggles  
Body Protection:  
Protective work clothing. Wear close-toed shoes and long sleeves/pants.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES  
Appearance:  
Form: Powder, Granules, Pellets, Sputtering target, Custom parts  
Color: Metallic grey  
Odor: Odorless  
Water Solubility: Insoluble  
Boiling Point: N/A  
Melting Point: ~2000°C  
Flash Point: N/A  
Autoignition Temperature: N/A  
Density: 14.4 g/cc  
Molecular Weight: N/A

Section 10: STABILITY AND REACTIVITY  
Reactivity: Oxidizing agents, Acids  
Chemical Stability: Stable under recommended storage conditions  
Incompatible Conditions: None  
Hazardous Decomposition Products: Metal oxide fume

Section 11: TOXICOLOGICAL INFORMATION  
Potential Health Effects:  
Eyes: May cause irritation  
Skin: May cause irritation  
Ingestion: May cause irritation  
Inhalation: May cause irritation  
Chronic: N/A
TUNGSTEN TITANIUM
SAFETY DATA SHEET

Signs & Symptoms: N/A
Aggravated Medical Conditions: N/A
Median Lethal Dose: N/A
Carcinogen: N/A

Section 12: ECOLOGICAL INFORMATION

Aquatic Toxicity: Low
Persistence Bioaccumulation Toxicity: No
Very Persistent, Very Bioaccumulative: No
Notes: N/A

Section 13: DISPOSAL CONSIDERATIONS
Dispose of in accordance with local, state, national, and international regulations

Section 14: TRANSPORT INFORMATION

Hazardous: Hazardous as powder only

Hazard Class: 4.1 Flammable solids
Packing Group: III
UN Number: UN3089
Proper Shipping Name: Metal powders, flammable, n.o.s. (Tungsten titanium)

Section 15: REGULATORY INFORMATION

Sec 302 Extremely Hazardous: No
Sec 304 Reportable Quantities: N/A
Sec 313 Toxic Chemicals: No
Section 16: OTHER INFORMATION

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.