Section 1: Identification

Product Name: Tungsten Carbide  
CAS Number: 12070-12-1 / EC Number: 235-123-0  
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

Precautionary Statements:  
P210: Keep away from heat/sparks/flame. No smoking  
P280: Wear protective gloves/protective clothing/eye protection/face protection  
P240: Ground/bond container and receiving equipment  
P241: Use explosion-proof electrical/ventilating/lighting/equipment.  
P370 + P378: In case of fire, use CO₂ or powder for metal fires for extinction.

HMIS Health Ratings (0-4):  
Health: 1  
Flammability: 2  
Physical: 1

Section 3: Composition/Information on Ingredients

Chemical characterization: Ceramic  
Additional Names: Tungsten (IV) carbide, Tungsten tetracarbide
TUNGSTEN CARBIDE
SAFETY DATA SHEET

CAS# Description: 12070-12-1
Percentage: 100 wt%
EC number: 235-123-0

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: Wash affected area with mild soap and water. Remove any contaminated clothing. Seek medical advice.
Ingestion: Remove to fresh air. If required, give artificial respiration. Seek medical advice.

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: N/A
Threshold Limit Value: 5 mg/m³ 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
- Color: Black
- Odor: N/A
- Water Solubility: Insoluble
- Boiling Point: 6000° C
- Melting Point: 2857° C
- Flash Point: N/A
- Autoignition Temperature: N/A
- Density: 15.63 g/cc
- Molecular Weight: 195.86 g/mol

Section 10: STABILITY AND REACTIVITY
Reactivity: Oxidizing agents
Chemical Stability: Stable under recommended storage conditions
Incompatible Conditions: Protect against electrostatic charges
Hazardous Decomposition Products: Metal oxide fume, Carbon monoxide, Carbon dioxide

Section 11: TOXICOLOGICAL INFORMATION
Potential Health Effects:
- Eyes: May cause irritation
- Skin: May cause irritation
- Ingestion: May cause irritation
- Inhalation: May cause irritation
- Chronic: Tungsten compounds may be irritating to the eyes and respiratory tract. Chronic exposure may result in permanent lung damage.

Signs & Symptoms: N/A
TUNGSTEN CARBIDE
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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: UN3178
Proper Shipping Name: Flammable solid, inorganic, n.o.s. (Tungsten carbide)

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.