

Material Safety Data Sheet

Identity: Tungsten carbide

Formula: WC

SECTION I - GENERAL INFORMATION

Manufacturer: [Stanford Advanced Materials](http://www.samaterials.com) (SAM)

The information below is believed to be accurate and represents the best information available to SAM. However, SAM 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

CAS #	OSHA PEL	ACGIH TLV	%
12070-12-1	10 mg/m ³	5mg/m ³	100%

SECTION III - PHYSICAL CHEMICAL CHARACTERISTICS

Physical States: Solid

Boiling Point: 60000 °C

Specific Gravity (H₂O=1): 13.6gm/cc at 18.0 °C

Melting Point: 2820.0 °C to 2940.0 °C

Vapor Pressure:

Evaporation Rate: N/A

Vapor Density:

Solubility in water: Insoluble

Percent Volatile:

Appearance and odor: Black powder and pieces, odorless

SECTION IV - FIRE AND EXPLOSION HAZARD DATA:

Flash Point: N/A*Flammability:* Non-Flammable*Extinguishing Method:* 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:

Tungsten carbide may emit toxic fumes if involved in fire. Oxidizes on heating in air. Burns in fluorine at room temperature. Ignites at 600 °C in nitrogen oxide atmospheres and may have violent reaction with F₂, ClF₃, NO_x, IF₅, FbO₂, NO₂ and N₂O.

SECTION V - REACTIVITY DATA

Stability: Stable

Conditions to Avoid: None

Incompatibility (Materials to Avoid):

Lithium, ClF₃, Cl₂

Hazardous Decomposition ByProducts: None recorded

Hazardous Polymerization: Will not occur

Conditions to avoid (hazardous polymerization): None

SECTION VI - HEALTH HAZARD DATA

Health Hazards (Acute and Chronic):

Inhalation: Toxic by inhalation. May cause irritation to the mucous membranes, coughing, dyspnea, and soreness in the chest, weight loss, hemoptysis, bronchitis, asthma, pulmonary fibrosis, and radiological changes in the lungs.

Ingestion: May cause irritation to the gastrointestinal tract and diarrhea.

Skin: May cause redness, itching and burning; May cause dermatitis, sensitization and eczema.

Eye: May cause redness, itching, burning and watering,. May cause conjunctivitis.

Target Organs: May affect the respiratory system.

Carcinogenicity: NTP - No IARC Monographs - No OSHA Regulated – No

Medial 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: Give 1-2 glasses of milk or water and induce vomiting, seek medical attention. Never induce vomiting or give anything by mouth to an unconscious person

Skin: Remove contaminated clothing, brush material off skin, wash affected area with mild soap and water, and seek medical attention if symptoms persist

Eye: Flush eyes with lukewarm water, lifting upper and lower eyelids for at least 15 minutes and seek medical attention.

SECTION VII – SPECIAL PRECAUTIONS

Precautions to be taken in Handling and Storage: Store in tightly closed containers in a cool, dry place. Wash hands thoroughly.

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

Wearing full protective clothing, isolate area and insure proper ventilation. Vacuum up spill and place in a container for proper disposal.

Waste disposal method:

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

SECTION VIII – PROTECTIVE EQUIPMENT

Protective Equipment:

NIOSH approved respirator, impervious gloves, safety glasses, and clothing to prevent contamination.

Ventilation:

Local Exhaust: To maintain concentration below the TLV.

Mechanical (General): 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