

Material Safety Data Sheet

Titanium Carbide

Issue Date: 01/02/11

SECTION 1: IDENTIFICATION

Product Name: Titanium Carbide

Synonyms: Titanium Carbide, TiC
Titanium Carbide Powder
Refractory Metal Carbide

:

SECTION 2: COMPOSITION

Ingredients	OSHA PEL	OSHA STEL	ACGIH TLV	Carcinogenic Listing	Concentrations
Titanium Carbide TiC	N/L*	N/L*	N/L*	N/L*	>99 %(wt)

*N/L = not listed

SECTION 3: HAZARDS IDENTIFICATION

Emergency Overview

This material is NOT HAZARDOUS by OSHA Hazard Communication definition.

Signal Word: Caution

Hazards: Dust may form explosive mixes with air.

Physical State: Solid, powder

Color: Dark Gray

Odor: Odorless

Potential Health Effects

Routes of Exposure: Eye, ingestion, inhalation, skin

Signs and Symptoms of acute exposure Powder can cause irritation to eyes, skin, and mucus membranes.

Eyes: This specific product has not been tested. Mechanical irritation and tissue irritation may occur.

Inhalation: This specific product has not been tested. Irritant. Inhalation may cause soreness in the nose and throat, and coughing.

Skin: This specific product has not been tested. Mechanical irritation and tissue irritation may occur.

Ingestion: This specific product has not been tested.

Chronic Health Effects: This specific product has not been tested.

Medical Conditions Aggravated by Exposure: This specific product has not been tested

SECTION 4: FIRST AID MEASURES

Eyes: Wash eyes with clean fresh water. Seek medical attention if symptoms persist.

Inhalation: Move victim to fresh air. Seek medical attention if symptoms persist.

Skin: Irritant. Wash with soap and water. Seek medical attention if symptoms persist.

Ingestion: If a significant quantity has been swallowed, give two glasses of water to dilute. Seek medical attention.

SECTION 5: FIRE FIGHTING MEASURES

Flammability Classification: Not classified.

Flash Point/Method: Not applicable.

Auto-Ignition Temperature: Not applicable.

Flammable Limits: Lower: Not applicable.
Upper: Not applicable

Hazardous Combustion Products: Primary combustion products are carbon dioxide (CO₂) and titanium dioxide (TiO₂)

Special Conditions to Avoid: Dust particles in the atmosphere are combustible and may be explosive.

Extinguishing Media: Water spray, foam, carbon dioxide, or dry chemical.

Firefighting Instructions: Firefighters should wear self-contained breathing apparatus and full fire-fighting turn-out gear (bunker gear). Keep personnel removed and upwind of fire. Water should be used to keep fire-exposed containers cool.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Release Response: Pick up and retain for recycle or disposal.

Reportable Quantities: See Section 15: Regulatory Information

SECTION 7: HANDLING AND STORAGE

Handling: The handling of powder in both loading and unloading operations as well as utilization may cause dust to be formed, and necessary precautions for personal protection (see Section 8) should be used. As with all finely divided materials, precautions should be taken to avoid inhalation and eye contact. Transfer from storage with a minimum of dusting. Ground all transfer, blending, and dust collection equipment to prevent static sparks in accordance with NFPA 70, "National Electric Code." Remove all ignition sources from material handling, transfer, and processing areas where dust may be present. Local exhaust ventilation should be provided in work area. Ensure that airborne dust concentrations are controlled within acceptable OSHA dust standards. If material is used in spray or fluidized bed operations see Section 5 of this MSDS for additional information.

Storage: Keep container and contents dry. Store away from excessive heat and away from strong oxidizing agents. Keep container closed to prevent contamination.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Engineering Controls: If user operations generate dust, use ventilation to maintain airborne contaminants below recommended occupational exposure limits.

Personal Protection:

Inhalation: Use appropriate respiratory protection where atmosphere exceeds recommended limits.

Skin: Protective clothing, such as long sleeves or a lab coat, should be worn.

Eye: Safety glasses are required as minimum requirements.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Dark Gray solid	pH:	Not applicable
Vapor Pressure:	Not applicable	Viscosity:	Not applicable
Specific Gravity:	4.93 (water = 1.00)	Water Solubility:	Insoluble but will disperse
Octano/Water Partition Coef in Kow:	Data not available	Melting/Freezing Point:	3140°C (5684°F)
Evaporation Rate:	Not applicable	Odor:	None

SECTION 10: STABILITY AND REACTIVITY

Chemical Stability: The product is stable.

Conditions to Avoid: Avoid contact with strong oxidizers, excessive heat, sparks, or open flame. Avoid dust accumulation.

Incompatibility with: Strong Oxidizers

Hazardous Products of Decomposition: Not expected to decompose under normal conditions.

Hazardous Polymerization: Will not happen.

Reactions with Air and Water: Does not react with air, water, or other common materials except at high temperature, such as in burning.

SECTION 11: TOXICOLOGICAL INFORMATION

Product Summary: Not expected to be toxic to humans or animals.

Toxicology Summary

Acute Inhalation Effects: Overexposure in the form of powder, dust or mist may hazardous to health.

Acute Oral Effects: This material has not been identified as a known carcinogen.

Skin Effects: Repeated Dose Toxicity: May cause eye, skin, and mucous membrane irritation.

Reproductive / Development Effects: No adverse effects are expected to occur.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity: Ecotoxicity is expected to be minimal based on the low water solubility.

Environmental Fate: No information found in selected references.

Bioaccumulation: Not expected to occur.

SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of in accordance with federal, state, and local regulations. This product is not a RCRA hazardous waste under present EPA regulations.

SECTION 14: TRANSPORT INFORMATION

Not regulated under U.S. Department of Transportation.

US DOT Proper Shipping Name: Titanium Carbide powder
NMFC No. 136500
Class: 70

SECTION 15: REGULATORY INFORMATION

- TSCA:** All ingredients are listed in the TSCA Inventory or are compliant with the TSCA Polymer Exemption Rule.
- SARA – Section 313 Emissions Reporting:** This product does not contain toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and community Right-to-Know Act of 1986 and of 40 CFR 372.
- SARA – Section 311/312:** Based upon available information, this material and/or components are not classified as any of the specific health and/or physical hazards defined by Section 311 and 312.
- CERCLA Hazardous Substances and their Reportable Quantities:** Not applicable.
- California Prop. 65:** None of the ingredients in this product have been classified as carcinogens by the state of California.

SECTION 16: OTHER INFORMATION

Hazard Rating:	Agency	Health	Flammability	Reactivity	Other
	NFPA	0	0	0	
	HMIS	0	0	0	

Disclaimer: This product is not intended for use in medical or dental implants. The information contained herein is accurate to the best of our knowledge. We do not suggest or guarantee that any hazards listed herein are the only ones which exist. No warranty of any kind is being made, expressed or implied, concerning the safe use of this material in your process or in combination with other substances. Effects can be aggravated by other materials and/or this material may aggravate or add to the effects of other materials. User has the sole responsibility to determine the suitability of the materials for any use and the manner of use contemplated. User must meet all applicable safety and health standards.