

Plasmaterials, Inc.
 2268 Research Drive
 Livermore, CA 94550
 Ph: (925) 447-4030 Fx: (925) 447-4031
 http://plasmaterials.com

SAFETY DATA SHEET

Section 1- IDENTIFICATION

COMPOSITION WC		PRODUCT NAME Tungsten Carbide
SUPPLIER: Plasmaterials, Inc. 2268 Research Drive Livermore, CA 94550 Ph: 925-447-4030	RECOMMENDED USE: Laboratory Chemicals Scientific Research	EMERGENCY TELEPHONE NUMBERS US: 001-800-424-9300 Europe: 001-703-527-3887

Section 2- HAZARD(S) IDENTIFICATION

Classification:
 This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Carcinogenicity: Category 1B

LABEL ELEMENTS: Signal Word: Danger



HAZARD STATEMENTS

-May cause cancer

PRECAUTIONARY STATEMENTS

Prevention:

- Obtain special instructions before use. Do not handle until all safety precautions have been read and understood
- Wear protective gloves, clothing, eye protection and face protection.
- If exposed or concerned: Get medical advice/attention.
- Store in a dry place. Store in a closed container. Store locked up.
- Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazards not otherwise classified (HNOC):

-None identified.

Supplemental Information:

- 100% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.
- 100% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment.
- 100% of the mixture consists of component(s) of unknown acute oral toxicity.
- 100% of the mixture consists of component(s) of unknown acute inhalation toxicity.
- 100% of the mixture consists of component(s) of unknown acute dermal toxicity.

Section 3- COMPOSITION/INFORMATION ON INGREDIANTS

COMPONENT	CAS-No	Molecular Weight
Tungsten Carbide	12070-12-1	195.85 g/mol

Section 4- FIRST AID MEASURES

GENERAL ADVICE: If exposed or concerned, get medical attention/advice. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

INHALATION: Remove victim from exposure to fresh air. Give oxygen if breathing is difficult. If not breathing, give artificial respiration. Consult a physician if symptoms develop or persist.

SKIN CONTACT: Wash off with soap and plenty of water while removing all contaminated clothes and shoes. Obtain medical attention if irritation develops or persists.

EYE CONTACT: Flush eyes with lukewarm water, lifting upper and lower lids, for at least 15 minutes. Obtain medical attention if irritation develops or persists.

INGESTION: Rinse mouth with water. Never give anything by mouth to an unconscious person. Get medical advice/attention if you feel unwell.

MOST IMPORTANT SYMPTOMS/EFFECTS: Dusts may irritate the respiratory tract, skin and eyes.

INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED: Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

Section 5- FIREFIGHTING MEASURES

Suitable Extinguishing Media:

Not available

Unsuitable Extinguishing Media:

Water

Specific Hazards Arising from the Chemical:

Water reactive material.

General Fire Hazards:

No unusual fire or explosion hazards noted.

Protective Equipment & Precautions for Firefighters:

As in any fire, Firefighters must wear full face, self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective clothing to prevent contact with skin and eyes. Do not get water inside container.

Section 6- ACCIDENTAL RELEASE MEASURES

Personal Precautions: Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. Do not touch the damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personnel protection see Section 8.

Environmental Precautions: Avoid discharge into drains, water courses or onto the ground. See Section 12 for additional ecological information.

Methods for Containment & Clean Up: Do not get water on spilled substance or inside containers. Avoid the generation of dusts during clean up. Collect dust using a vacuum cleaner equipped with a HEPA filter. Prevent reentry into waterways, sewer, basements or confined areas.

-Large Spills: Wet down with water and dike for later disposal. Shovel the material into waste container. Cover with dry earth, dry sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain.

-Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal. Put material in suitable, covered, labeled containers. For waste disposal see Section 13.

Section 7- HANDLING AND STORAGE

Handling: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not allow water to get into container because of violent reaction and possible flash fire. Minimize dust generation and accumulation. Provide appropriate exhaust ventilation at places where dust is formed. Avoid prolonged exposure. Should be handled in closed systems, if possible. Wear appropriate personnel protective equipment. Observe good industrial hygiene practices.

Storage:

Store locked up. Never allow product to get in contact with water during storage. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Store in a dry place. Store in a building without sprinklers. Store away from incompatible materials.

Section 8- EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines:

Component	CAS-No.	Value	Control Parameters	Basis
WC	12070-12-1	STEL	10 mg/m ³	USA. ACGIH Threshold Limit Values (TLV)
		TWA	5 mg/m ³	USA. ACGIH Threshold Limit Values (TLV)
		STEL	10 mg/m ³	USA.NIOSH recommended exposure limits
		TWA	5 mg/m ³	USA.NIOSH recommended exposure limits
		PEL	5 mg/m ³	California Code of Regulations (Title 8, Section 5155) Airborne Contaminants Material
		STEL	10 mg/m ³	California Code of Regulations (Title 8, Section 5155) Airborne Contaminants Material

Biological Limit Values: No biological exposure limits noted for the ingredient(s)

Engineering Controls: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. If engineering measures are not sufficient to maintain concentrations of dust particulates below the Occupational Exposure Limit (OEL), suitable respiratory protection must be worn. If material is ground, cut or used on any operation which may generate dusts, use appropriate local exhaust ventilation to keep exposures below the recommended exposure limits.

Personal Protective Equipment:

Eye/Face Protection: Wear eye/face protection. Chemical respirator with organic vapor cartridge, full facepiece, dust and mist filter.

Skin and Body Protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Wear suitable protective clothing. Use of an impervious apron is recommended. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory Protection: Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. Chemical respirator with organic vapor cartridge, full facepiece, dust and mist filter.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of the workday. Routinely wash work clothing and protective equipment to remove contaminants.

Section 9- PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Solid

Appearance: No information available

Odor: No information available

Odor Threshold: No information available

pH: No information available

Melting Point/Range: 2785°C / 5045°F

Boiling Point/Range: 6000°C / 10832°F

Flash Point: No information available

Evaporation Rate: No information available

Flammability (solid,gas): No information available

Flammability or Exposure Limits:

Upper: No data available

Lower: No data available

Vapor Pressure: No information available

Vapor Density: No information available

Relative Density: No information available

Density: 15.60/g/cm³ estimated

Solubility: No information available

Partition coefficient; n-octanol/water: No information available

Auto Ignition Temperature: No information available

Decomposition Temperature: No information available

Viscosity: Not applicable

Explosive Properties: Not explosive

Oxidizing Properties: Not oxidizing

Specific Gravity: 15.6

Section 10- STABILITY AND REACTIVITY

Reactive Hazard: Stable and non-reactive under normal conditions of use, storage and transport.

Stability: Stable under recommended storage conditions. Material reacts with water.

Conditions to Avoid: Exposure to water vapor. Contact with incompatible materials

Incompatible Materials: No information available

Hazardous Decomposition Products: No information available

Hazardous Polymerization: No information available

Hazardous Reactions: No information available

Section 11- TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure:

Inhalation: Dust may irritate respiratory system. Prolonged inhalation may be harmful.

Skin Contact: Dust or powder may irritate the skin.

Eye Contact: Dust may irritate the eyes.

Ingestion: Due to the lack of data classification is not possible

Information on Toxicological Effects:

Acute Toxicity: Not known

Skin Corrosion/Irritation: No information available

Serious eye damage/irritation: Direct contact with eyes may cause temporary irritation

Respiratory or Skin Sensitization: No information available

Carcinogenicity: May cause cancer.

Component	CAS-No	IARC	NTP	OSHA
WC	12070-12-1	2A Probably carcinogenic to humans	Not Listed	Not Regulated

Germ Cell Mutagenicity: No information available

Reproductive Effects: No information available

Development Effects: No information available

Specific Target Organ Toxicity – single exposure: No information available

Specific Target Organ Toxicity – repeated exposure: No information available

Aspiration Hazard: No information available

Chronic Effects: Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.

Section 12- ECOLOGICAL INFORMATION

Toxicity: The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Persistence and Degradability: No information available

Bioaccumulation/Accumulation: No information available

Mobility in Soil: No information available

Other Adverse Effects: No information available.

Section 13- DISPOSAL CONSIDERATIONS

Waste Disposal Methods: Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dispose of contaminated packaging as unused product. Dispose in accordance with all applicable regulations.

Section 14- TRANSPORT INFORMATION

DOT: Not regulated as dangerous goods

IATA: Not regulated as dangerous goods

IMDG/IMO: Not regulated as dangerous goods

Section 15- REGULATORY INFORMATION

US Federal Regulations:

Superfund Amendments and Reauthorization Act of 1986 (SARA):

Hazard Categories:

Immediate Hazard: No

Delayed Hazard: Yes

Fire Hazard: No

Pressure Hazard: No

Reactivity Hazard: No

SARA 302 Extremely Hazardous Substance: Not listed

SARA 311/312 Hazardous Chemical: Yes

SARA 313 (TRI Reporting): Not regulated

CERCLA/SARA Hazardous Substances: Not applicable

US EPA TSCA Inventory List: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D): Not regulated

CERCLA Hazardous Substance List (40 CFR 302.4): Not listed

US OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050): Not regulated

US Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List: Not regulated

US Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130): Not regulated.

US Safe Drinking Water Act (SDWA): No Regulated

US California Proposition 65: This product does not contain any chemicals known to the State of California to cause cancer, birth defects or any other reproductive harm.

US California Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs. tit.22, 69502.3 subd. (a)): Tungsten Carbide (CAS No:12070-12-1)

Section 16- OTHER INFORMATION

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, Plasmaterials, Inc. makes no warranty, either expressed or implied, with respect to the completeness or continuing accuracy of the information contained herein and disclaims all liability for reliance thereon. Users should satisfy themselves that they have all current data relevant to their particular use.

The information in this SDS was obtained from sources, which we believe are reliable. However, the information is provided without any representation or warranty, expressed or implied, regarding the accuracy or correctness.

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.

REVISION: 09-23-16