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## SAFETY DATA SHEET

### Section 1- IDENTIFICATION

COMPOSITION <b>TiC</b>		PRODUCT NAME <b>Titanium Carbide</b>
SUPPLIER: <b>Plasmaterials, Inc. 2268 Research Drive Livermore, CA 94550 Ph: 925-447-4030</b>	RECOMMENDED USE: <b>Laboratory Chemicals Scientific Research</b>	EMERGENCY TELEPHONE NUMBERS <b>US: 800-424-9300 International: 001-703-527-3887</b>

### Section 2- HAZARD(S) IDENTIFICATION

<b>Classification:</b> This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)	
<b>Physical Hazards:</b> Flammable Solids: Category 2	<b>Health Hazards:</b> Not Classified
<b>Environmental Hazards:</b> Not Classified	<b>OSHA Defined Hazards:</b> Not Classified
<b>LABEL ELEMENTS: Signal Word: Warning</b>	



#### **HAZARD STATEMENTS**

-The substance does not meet the criteria for classification

#### **PRECAUTIONARY STATEMENTS**

- P264: Wash face, hands and any exposed skin thoroughly after handling
- P270: Do not eat, drink or smoke when using this product
- P420: Store away from incompatible materials
- P501: Dispose of contents/container to an approved waste disposal plant

#### **Hazards not otherwise classified (HNOC):**

-None identified.

#### **Supplemental Information:**

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

### Section 3- COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENT	CAS-No	Molecular Weight
Titanium Carbide	12070-08-5	59.88 g/mol

## Section 4- FIRST AID MEASURES

**GENERAL ADVICE:** Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. Show this safety data sheet to the physician in attendance.

**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. Consult a physician if irritation develops and/or persists.

**EYE CONTACT:** Do not rub eyes. Flush eyes with plenty of water, lifting upper and lower lids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops or persists.

**INGESTION:** Rinse mouth with water. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

**MOST IMPORTANT SYMPTOMS/EFFECTS:** The most important known symptoms and effects are described in the labeling (see section 2) and/or in section 11. Dusts may irritate the respiratory tract, skin and eyes.

### INDICATION OF IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT

**NEEDED:** No information available

## Section 5- FIREFIGHTING MEASURES

### Suitable Extinguishing Media:

Dry Chemical Powder, Water Fog, Alcohol Resistant Foam, Carbon Dioxide (CO<sub>2</sub>)

### Unsuitable Extinguishing Media:

Do not use water jet as an extinguisher, as this will spread the fire.

### Specific Hazards Arising from the Chemical:

Gases hazardous to health may be formed

### 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.

### Specific Methods:

Use standard firefighting procedures and consider the hazards of other involved materials.

### Fire Fighting Equipment/Instructions:

Move containers from fire area if you can do so without risk. Do not get water inside container.

### General Fire Hazards:

No information available

## Section 6- ACCIDENTAL RELEASE MEASURES

**Personal Precautions:** Keep unnecessary personnel away. 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. For personal protection see section 8.

**Environmental Precautions:** Avoid discharge into drains, water courses or onto the ground.

### Methods for Containment & Clean Up:

-Avoid the generation of dusts during clean-up. Collect dust using a vacuum cleaner equipped with HEPA filter. Stop the flow of material if this is without risk.

-Large Spills: Wet down with water and dike for later disposal. Shovel the material into waste container. Following product recovery, flush area with water.

-Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal

-For waste disposal, see Section 13.

## Section 7- HANDLING AND STORAGE

**Handling:** Minimize dust generation and accumulation. Provide appropriate exhaust ventilation at places where dust is formed. Observe good industrial hygiene practices.

**Storage:** Store in originally tightly closed container in a well-ventilated place. Store away from incompatible materials.

## Section 8- EXPOSURE CONTROLS/PERSONAL PROTECTION

**Exposure Guidelines:**

**Occupational Exposure Limits/Components with Workplace Control Parameters:** No exposure limit values noted for substance(s)

**Biological Limit Values:** No biological exposure limits noted for the substance

**Appropriate Engineering Controls:** If material is ground, cut or used in any operation which may generate dusts, use appropriate local exhaust ventilation to keep exposures below the recommended limits.

**Control Parameters:** Handle in accordance with good general industrial hygiene and safety practice. Wash hands before breaks and at the end of the workday.

**Personal Protective Equipment:**

**Eye/Face Protection:** Safety glasses with side shields or goggles. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

**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. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Respiratory Protection:** In case of insufficient ventilation, wear suitable respiratory equipment. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Thermal Hazards:** Wear appropriate thermal protective clothing when necessary.

**General Hygiene:** Always observe good personal hygiene measures such as washing after handling the material and before eating, drinking and/or smoking. Wash hands before breaks and at the end of the workday. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

## Section 9- PHYSICAL AND CHEMICAL PROPERTIES

**Physical State/Form:** Solid

**Odor:** No data available

**Odor Threshold:** No data available

**pH:** No data available

**Melting Point/Range:** No data available

**Initial Boiling Point/Range:** No data available

**Flash Point:** No data available

**Evaporation Rate:** No data available

**Flammability (solid, gas):** No data available

**Flammability Limits:**

**Upper:** No data available

**Lower:** No data available

**Explosive Limits:**

**Upper:** No data available

**Lower:** No data available

**Vapor Pressure:** No data available

**Vapor Density:** No data available

**Relative Density:** No data available

**Solubility (Water):** No data available

**Partition coefficient; n-octanol/water:** No data available

**Auto Ignition Temperature:** No data available

**Decomposition Temperature:** No data available

**Viscosity:** No data available

**Explosive Properties:** No data available

**Oxidizing Properties:** No data available

## Section 10- STABILITY AND REACTIVITY

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

**Stability:** Stable under normal conditions

**Conditions to Avoid:** Contact with incompatible materials

**Incompatible Materials:** Strong oxidizing agents

**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

**Skin Contact:** Dust or powder may irritate the skin

**Eye Contact:** Dust may irritate the eyes

**Ingestion:** Expected to be a low ingestion hazard

### **Symptoms Related to the Physical, Chemical & Toxicological Characteristics:**

-Dusts may irritate the respiratory tract, skin and eyes

### **Information on Toxicological Effects:**

**Acute Toxicity:** No information available

**Skin Corrosion/Irritation:** Prolonged skin contact may cause temporary irritation

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

**Respiratory or Skin Sensitization:** No information available

**Carcinogenicity:** This product is not considered to be a carcinogen by IARC, ACGIH, NTP or OSHA.

-**IARC:** No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen.

-**NTP:** No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen.

-**OSHA:** No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen.

**Germ Cell Mutagenic Effects:** 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

### **Additional Information:**

**-To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.**

## 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

**Results of PBT and vPvB assessment:** PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

**Other Adverse Effects:** No information available

## Section 13- DISPOSAL CONSIDERATIONS

**Waste Disposal Methods:** Collect and reclaim or dispose in sealed containers to a licensed disposal company. Dispose of contaminated packaging as unused product. Dispose of contents/container in accordance with local/regional/national/international regulations.

## Section 14- TRANSPORT INFORMATION

### DOT:

**UN-No: 3178**  
**Proper Shipping Name:** Flammable solid, inorganic, n.o.s.  
**Hazard Class:** 4.1  
**Packing Group:** III  
**Special Provisions:** A1, IB8, IP3, T1, TP33  
**Packaging Exceptions:** 151  
**Packaging Non-Bulk:** 213  
**Packaging Bulk:** 240  
**Special Precautions for User:** Read safety instructions, SDS and emergency procedures before handling

### IATA:

**UN-No: 3178**  
**Proper Shipping Name:** Flammable solid, inorganic, n.o.s.  
**Hazard Class:** 4.1  
**Packing Group:** III  
**Environmental Hazards:** No  
**ERG Code:** 3L  
**Passenger and Cargo Aircraft:** Allowed with restrictions  
**Cargo Aircraft Only:** Allowed with restrictions  
**Special Precautions for User:** Read safety instructions, SDS and emergency procedures before handling

### IMDG:

**UN-No: 3178**  
**Proper Shipping Name:** Flammable solid, inorganic, n.o.s.  
**Hazard Class:** 4.1  
**Packing Group:** III  
**Environmental Hazards (Marine Pollutant):** No  
**EmS:** F-A, S-G  
**Special Precautions for User:** Read safety instructions, SDS and emergency procedures before handling

## Section 15- REGULATORY INFORMATION

**US Federal Regulations:** 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  
**U.S. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):** Not Listed  
**SARA 302:** No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302  
**SARA 304 Emergency Releases Notification:** Not regulated  
**SARA 313 (TRI Reporting):** This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313  
**SARA 311/312 Hazardous Chemical:** No  
**SARA Hazard Categories:**  
**Immediate Hazard:** No  
**Delayed Hazard:** No  
**Fire Hazard:** Yes  
**Pressure Hazard:** No

**Reactive Hazard:** No  
**CERCLA Hazardous Substance List (40 CFR 302.4):** Not Listed  
**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List:** Not regulated  
**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):** Not regulated  
**Safe Drinking Water Act (SDWA):** Not 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.

## 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.

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