

Material Safety Data Sheet

Identity: Titanium Silicide

Formula: TiSi₂

SECTION I - GENERAL INFORMATION

Manufacturer: [Stanford Advanced Materials](#) (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

Molecular weight: 104.11

CAS #	OSHA PEL	ACGIH TLV	%
12039-83-7	NA	NA	NA

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

Physical States: Solid

Boiling Point: N/A

Vapor Pressure (vs. air or mmHg): N/A

Melting Point: 1540.00 C (2804.0 F)

Density: g/cm³ N/A

Evaporation Rate: N/A

Flash Point: N/A

Solubility in water: Insoluble

Appearance and odor: Gray powder and pieces, no odor.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA:

Method Used: Unknown*Explosive Limits:* LEL: N/A

UEL: N/A

Extinguishing Media: Use suitable extinguishing agent for surrounding material 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:

When heated to decomposition, titanium silicide may emit toxic fumes. Contact with acids can generate toxic and flammable gases.

SECTION V - REACTIVITY DATA

Stability: Stable

Conditions to Avoid (instability): None

Incompatibility: Acids

Hazardous Decomposition or Byproducts: None recorded.

Hazardous Polymerization: Will not occur.

Conditions to avoid (hazardous polymerization): None.

SECTION VI - HEALTH HAZARD DATA

Routes of entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes Other?

Signs and Symptoms of Overexposure:

Inhalation: Prolonged exposure may cause a red, dry, throat, coughing and shortness of breath.

Ingestion: No acute or chronic health effects recorded.

Skin: May cause redness and itching.

Eye: May cause redness, itching and watering.

Health Hazards (Acute and Chronic):

To the best of our knowledge the chemical, physical and toxicological properties of titanium silicide have not been thoroughly investigated and recorded.

Titanium and its compounds are generally considered to be physiologically inert. There are no reported cases in the literature where titanium as such has caused human intoxication. The dusts of titanium or most titanium compounds such as titanium oxide may be placed in the nuisance category.

Inhalation:

Acute: Prolonged inhalation may cause mild irritation to the lungs and respiratory tract.

Chronic: No chronic health effects recorded.

Ingestion:

Acute: Relatively non-toxic, poorly absorbed from the alimentary tract.

Chronic: No chronic health effects recorded.

Skin:

Acute: May cause abrasive irritation. Chronic:

No chronic health effects recorded.

Eye:

Acute: May cause abrasive irritation. Chronic:

No chronic health effects recorded.

Target Organs: No target organs recorded.

Carcinogenicity: NTP? No IARC Monographs? No

OSHA Regulated? No

Medical Conditions Aggravated by Exposure:

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 - PRECAUTIONS FOR SAFE HANDLING AND USE

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

Wear appropriate respiratory and protective equipment specified in section VIII. Isolate spill area, provide ventilation and extinguish sources of ignition. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for proper disposal. Take care not to raise dust.

Waste disposal method:

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

Hazard Label Information:

Store in cool, dry area and in tightly sealed container. Wash thoroughly after handling.

SECTION VIII - CONTROL MEASURES

Protective Equipment Summary (Hazard Label Information):

NIOSH approved respirator, impervious gloves, safety glasses, clothes to prevent contact.

Ventilation:

Local Exhaust: To maintain concentration at low exposure levels.

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