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Material Safety Data Sheet

Revision Date: August, 2009

Identity: Titanium Diboride

Formula: TiB₂

SECTION I - GENERAL INFORMATION

The information below is believed to be accurate and represents the best information available to Materials Science International, Inc. However, MSI 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: 69.52

CAS #	OSHA PEL	ACGIH	TLV %
12045-63-5	ND	ND	100.0

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

Physical States: solid
Boiling Point: N/D
Melting Point: 2900°C
Evaporation Rate: N/A

Vapor Pressure: N/A
Vapor Density (air=1): N/A
Specific Gravity: 4.51

Solubility in water: Insoluble
Percent Volatiles:
Appearance and odor: Grey powder, no odor

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flash Point: N/A

Extinguishing Media:

Use suitable extinguishing media for surrounding materials and type of fire.

Unusual Fire and Explosion Hazards:

When heated to decomposition, titanium boride may emit toxic fumes. On contact with water, moisture, or acids, it may emit spontaneous flammable hydrides.

SECTION V – REACTIVITY DATA

Stability: Stable

Conditions of Reactivity: None

Incompatibility: Strong acids, water.

Hazardous Polymerization: Will not occur

Hazardous Decomposition or Byproducts: None

SECTION VI – HEALTH HAZARD DATA

Health Hazards (Acute and Chronic):

Inhalation:

Acute: May cause irritation to the mucous membranes and boron poisoning.

Chronic: None known.

Ingestion:

Acute: Boron poisoning causes depression of the circulation, persistent vomiting and diarrhea followed by shock and coma.

Chronic: Affects the entire central nervous system.

Skin:

Acute: May cause irritation.

Chronic: None known.

Eye:

Acute: May cause irritation.

Chronic: None known.

Target Organ:

Carcinogenicity: NTP? IARC Monographs? OSHA Regulated?

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: 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 immediately.

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

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-Control Measures. Isolate spill area, provide ventilation. 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

