

Titanium Boride Nanoparticles (TiB2)

Material Safety Data Sheet

<p>1 <u>Identification of substance:</u></p> <p><input type="checkbox"/> Product details:</p> <p><input type="checkbox"/> Trade name: TITANIUM BORIDE</p> <p>Manufacturer/Supplier:</p> <p>Company: SAT NANO TECHNOLOGY MATERIAL CO., LTD.</p> <p>Xiaqiao Industry Zone, Dongcheng District, Dongguan, Guangdong, China</p> <p>Contact email: satnano@163.com</p> <p>Version Date: Feb, 1,2017</p>
<p>2 <u>Composition/Data on components:</u></p> <p><input type="checkbox"/> Chemical characterization:</p> <p><u>Description: (CAS#)</u></p> <p>TITANIUM BORIDE (CAS# 12045-63-5)</p> <p><input type="checkbox"/> Identification number(s):</p> <p><input type="checkbox"/> Formula: TiB2</p>
<p>3 <u>Hazards identification</u></p> <p><input type="checkbox"/> Hazard description: Harmful</p> <p><input type="checkbox"/> Information pertaining to particular dangers for man and environment</p> <p>Harmful by inhalation, in contact with skin and if swallowed.</p>
<p>4 <u>First aid measures</u></p> <p><input type="checkbox"/> After inhalation</p> <p>If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give</p>

oxygen.

After skin contact

In case of contact, immediately wash skin with soap and copious amounts of water.

After eye contact

In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes.

After swallowing

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

5 Fire fighting measures

FLASH POINT

N/A

AUTOIGNITION TEMP

N/A

FLAMMABILITY

N/A

EXTINGUISHING MEDIA

Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Specific Hazard(s): Emits toxic fumes under fire conditions.

6 Accidental release measures

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

7 Handling and storage

HANDLING

User Exposure: Avoid inhalation. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

STORAGE

Suitable: Keep tightly closed. Store in a cool dry place.

8 Exposure controls and personal protection

ENGINEERING CONTROLS

Safety shower and eye bath. Mechanical exhaust required.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN(EU). Where risk assessment shows air-purifying respirators are appropriate use a dust mask type N95 (US) or type P1 (EN 143) respirator.

Hand: Compatible chemical-resistant gloves.

Eye: Chemical safety goggles.

GENERAL HYGIENE MEASURES

Wash thoroughly after handling. Wash contaminated clothing before reuse.

9 Physical and chemical properties:

Molecular Weight 69.49 AMU

pH N/A

BP/BP Range N/A

MP/MP Range N/A

Freezing Point N/A

Vapor Pressure N/A

Vapor Density N/A

Saturated Vapor Conc. N/A

SG/Density 4.52 g/cm³

- Bulk Density N/A
- Odor Threshold N/A
- Volatile% N/A
- VOC Content N/A
- Water Content N/A
- Solvent Content N/A
- Evaporation Rate N/A
- Viscosity N/A
- Surface Tension N/A
- Partition Coefficient N/A
- Decomposition Temp. N/A
- Flash Point N/A
- Explosion Limits N/A
- Flammability N/A
- Autoignition Temp N/A
- Refractive Index N/A
- Optical Rotation N/A
- Miscellaneous Data N/A
- Solubility N/A
- N/A = not available

10 Stability and reactivity

STABILITY

Materials to Avoid: Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Titanium/titanium oxides, Boron oxides.

11 Toxicological information

ROUTE OF EXPOSURE

Skin Contact: May cause skin irritation.

Eye Contact: May cause eye irritation.

Inhalation: Material may be irritating to mucous membranes and upper respiratory tract.

Multiple Routes: Harmful if swallowed, inhaled, or absorbed through skin.

SIGNS AND SYMPTOMS OF EXPOSURE

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

12 Ecological information:

No data available.

13 Disposal considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

Bury in a landfill site approved for the disposal of chemical and hazardous wastes. Observe all federal, state, and local environmental regulations.

14 Transport information

DOT

Proper Shipping Name: None

Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.

IATA

Non-Hazardous for Air Transport: Non-hazardous for air transport.

15 Regulations

EU ADDITIONAL CLASSIFICATION

Symbol of Danger: Xn

Indication of Danger: Harmful.

R: 20/21/22

Risk Statements: Harmful by inhalation, in contact with skin and if swallowed.

S: 36

Safety Statements: Wear suitable protective clothing.

US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Harmful.

Risk Statements: Harmful by inhalation, in contact with skin and if swallowed.

Safety Statements: Wear suitable protective clothing.

US Statements: Avoid prolonged or repeated exposure.

UNITED STATES REGULATORY INFORMATION

SARA LISTED: No

CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: Yes

NDSL: No

16 Other information:

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgment of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

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