

MATERIAL SAFETY DATA SHEET (MSDS)

This MSDS format adheres to the standards and regulatory requirements of the United States. The MSDS was prepared using the guidelines provided by the American National Standards Institute (ANSI) Form Z400.1 – 1993.



Section 1: Chemical Product and Company Identification

Material Identification: HITOX[®] (All grades)
Formula: TiO₂, Titanium Dioxide
Company Identification: TOR Minerals International Inc.
722 Burleson Street
Corpus Christi, TX 78402
Emergency Phone Numbers: Phone: (361) 883-5591 ext. 10
Fax: (361) 883-7619
Date Prepared: January 2009

Section 2: Composition, Information or Ingredients

Components

<u>Materials</u>	<u>CAS Number</u>	<u>%</u>
Titanium Dioxide	1317-80-2	92 - 97
Amorphous Silica	7631-86-9	0.5 – 1.25
Iron Oxide	1309-37-1	0.5 - 2

Materials do not contain toxic chemicals under section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR parts 372.

Section 3: Hazard identification

Potential Health Effects:

Eye contact may cause eye irritation with tearing, pain or blurred vision.

Repeated skin contact with titanium dioxide may cause drying or cracking of the skin to sensitive individuals. Short term overexposure by inhalation to titanium dioxide may cause irritation of nose, throat, and lungs with cough, difficulty breathing or shortness of breath.

Carcinogenicity Information

The following components are listed by IARC, NTP, OSHA, ACGIH, as carcinogenicity.

<u>Materials</u>	<u>IARC</u>	<u>NTP</u>	<u>OSHA</u>	<u>ACGIH</u>
TITANIUM DIOXIDE				2B

Section 4: First Aid Measures

- Inhalation: If inhaled remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call physician.
- Skin Contact: The compound is not likely to be hazardous by skin contact but cleaning skin after use is advisable.
- Eye Contact: In case of contact, immediately flush eye with plenty of water for at least 15 minutes. Consult a physician.
- Ingestion: Consult a physician if a large quantity is ingested.

Section 5: Fire Fighting Measures

- Flammable Properties: Will not burn or support combustion.
- Extinguishing Media: As appropriate for surrounding combustibles.
- Fire Fighting Instructions: None

Section 6: Accidental Release Measures

Safeguard (personnel)

Note: Review Fire Fighting Measures and handling (personnel) section before proceeding with clean-up. Use appropriate Personal Protective Equipment during clean-up. Refer to Personal Protective Equipment Section for choice of PPE.

Accidental Release Measures

For dry product, shovel into a covered container for disposal. Flush residue to wastewater treatment system.

Section 7: Handling and Storage

Handling (personal)

Avoid breathing dust. Please remember to use good industrial hygienic practices.

Storage

All Titanium dioxide grades are packaged in paper or plastic bags should not be stacked more than three pallets high. Protect containers from damage.

Section 8: Exposure Controls and Personal Protection

Engineering Controls

Good general ventilation should be provided to keep dust concentration below exposure limits.

Personal Protective Equipment

If the potential exist for exposure limits to be exceeded for dust or dried-down product, a NIOSH approved air purifying respirator with appropriate particulate filter (Type 100) should be used.

Exposures Guidelines

Applicable Exposures Limits

Titanium Dioxide

PEL (OSHA) 15 mg/m³, total dust, 8 Hr. TWA

TLV (ACGIH) 10 mg/m³, total dust, 8 Hr. TWA A4

Amorphous Silica

PEL (OSHA) 80 mg/m³ / % SiO₂ – 8 Hr. TW

TLV (ACGIH) 10 mg/m³ / 8 and 12 Hr. TWA, respirable dust

Section 9: Physical and Chemical Properties

Physical Data

Boiling Point.....	2500 – 3000 C
Vapor Pressure.....	N/A
Vapor Density	N/A
Melting Point.....	About 1840 C
Evaporation Rate.....	Not Volatile
Solubility in Water.....	Insoluble
pH.....	6-8
Specific Gravity.....	4.1
Color and odor.....	Beige with no odor

Section 10: Stability and Reactivity

Chemical Stability	Stable & inert
Incompatibility with other Chemicals	Not reasonably foreseeable
Decomposition.....	Decomposition will not occur
Polymerization	Polymerization will not occur

Section 11: Toxicological Information

Titanium dioxide contains amorphous silica.

Amorphous Silica

This product contains Amorphous Silica which is a mild eye irritant and is a negligible to slight skin irritant when tested as a 50% aqueous past in animals. Amorphous Silica dust is not expected to be a skin irritant. Animal testing indicates amorphous Silica is not a skin sensitizer.

The product contains titanium dioxide which is a slight eye irritant and a skin irritant, but is not a skin sensitizer in animals

Section 12: Ecological Information

None known; product is non-biodegradable.

Section 13: Disposal Consideration

Waste Disposal

Comply with Federal, State, and local regulation. If approved, remove to land disposal area.

Section 14: Transportation Information

Shipping Information

Not regulated as a hazardous materials by DOT, IMO, or IATA

Shipping

Tank Cars, Tank Trucks, Flexible Intermediate Bulk Containers, Tote Bins, Bags

Section 15: Regulatory Information

U.S. Federal Regulations

TSCA Inventory StatusReported/Included

Titanium Dioxide is not subjected to reporting requirements under section 313

Lists:

- Extremely Hazardous Substance No
- CERCLA Hazardous Substance No
- Toxic Chemical..... No

Section 16: Other Information

NPCA-HMIS Rating

- Health 1
- Flammability 0
- Reactivity 0
- Personal Protection..... E

