

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: TIOPREM C[®] GRAY

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: April 2014

Section 2: Composition, Information or Ingredients

Components

<u>Materials</u>	<u>CAS Number</u>	<u>%</u>
Titanium Dioxide	1317-80-2	85 - 91
Amorphous Silica	7631-86-9	0.5 - 1.5
Iron Oxide	1309-37-1	0.5 – 3.4

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:

Materials IARC NTP OSHA ACGIH
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/m ³ , total dust, 8 Hr. TWA
TLV	(ACGIH)	10 mg/m ³ , total dust, 8 Hr. TWA A4

Amorphous Silica

PEL	(OSHA)	80 mg/m ³ / % SiO ₂ – 8 Hr. TW
TLV	(ACGIH)	10 mg/m ³ / 8 and 12 Hr. TWA, respirable dust

Section 9: Physical and Chemical Properties

Physical Data

Boiling Point.....	2500-3000 C
Vapor Pressure.....	Not Volatile
Vapor Density	Not Volatile
Melting Point.....	About 1840 C
Evaporation Rate.....	Not Volatile
Solubility in Water.....	Insoluble
pH	6-8
Specific Gravity.....	4.1
Color and odor.....	Gray 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
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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.
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