

**1. PRODUCT AND COMPANY IDENTIFICATION**

**Trade Name:** Bismuth Titanate

**Chemical Formula:** Bi<sub>4</sub>Ti<sub>3</sub>O<sub>12</sub>

**Manufacturer Item Number:** BI-0810

**Manufacturer:** Lorad Chemical Corporation  
1200 19th Street North  
Saint Petersburg, Florida, 33713  
United States of America

**Telephone:** +1 (727) 826-5511

**Fax:** +1 (727) 826-5510

**Emergency Contact:** (800) 255-3924 (US & Canada)  
+1 (813) 248-0573 (International)

**2. HAZARD IDENTIFICATION**

**Signal Word:** Not a hazardous substance or mixture.

**Pictograms:** N/A

**Hazard Statements:** N/A

**Precautionary Statements:** N/A

**HMIS Health Ratings (0-4)**

- Health: 1
- Flammability: 0
- Physical: 0

**3. COMPOSITION**

**Additional Names:** Bismuth Titanium Oxide

**Percentage:** 100 wt%

**CAS #:** 12010-77-4

**EC #:** 234-564-6

**4. FIRST AID PROCEDURES**

**General Treatment** Consult a physician. Show this SDS to the doctor in attendance. Move out of dangerous area.

**Special Treatment:** No Data Available.

**Important Symptoms:** No Data Available.

**Inhalation:** Remove from exposure, supply fresh air. If required, provide artificial respiration. Keep patient warm. Seek medical attention.

<b>Ingestion:</b>	Wash out mouth thoroughly with water and give plenty to drink. In severe cases, seek medical attention.
<b>Skin:</b>	Immediately wash with water and soap and rinse thoroughly. Remove contaminated clothing and wash before re-use.
<b>Eyes:</b>	Irrigate thoroughly with water for at least ten minutes. Seek medical attention.

## 5. FIREFIGHTING MEASURES

<b>Flammability:</b>	Not Flammable
<b>Special Hazards from Substance:</b>	If this product is involved in a fire, it may release metal oxide fumes.
<b>Extinguishing Media:</b>	Carbon Dioxide, extinguishing power or water spray. Fight larger fires with water spray or alcohol resistant foam.
<b>Special Fire Fighting Procedures:</b>	Wear self-contained breathing apparatus for firefighting if necessary.

## 6. ACCIDENTAL RELEASE MEASURES

<b>If Material is Released / Spilled:</b>	Avoid dust formation. Avoid breathing vapors, mist, or gas. Ensure adequate ventilation. Sweep up or vacuum up spillage and collect in a suitable container for disposal. Dispose of waste in accordance with applicable federal, state, local, and provincial environmental regulations.
<b>Environmental Precautions:</b>	Prevent further leakage or spills if safe to do so. Do not allow to enter drain, sewers, or watercourses.

## 7. HANDLING AND STORAGE

<b>Handling Conditions:</b>	Provide appropriate exhaust ventilation at places where dust is formed.
<b>Storage Conditions:</b>	Keep in a dry cool place.
<b>Work / Hygienic Maintenance:</b>	Follow personal protection guidelines in Section 8.
<b>Ventilation:</b>	Keep container tightly closed in a dry and well-ventilated place.

## 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

<b>Permissible Exposure Limits:</b>	No Data Available.
<b>Threshold Limit Value:</b>	No Data Available.
<b>Special Equipment:</b>	No Data Available.
<b>Respiratory Protection:</b>	Wear respirator if there is a dust formation or high concentrations of material present. In case of inadequate ventilation or risk of inhalation of dust, use suitable respirator equipment. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
<b>Protective Gloves:</b>	Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.
<b>Eye Protection:</b>	Safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).
<b>Body Protection:</b>	Wear appropriate protective clothing.

**9. PHYSICAL AND CHEMICAL CHARACTERISTICS**

<b>Color:</b>	Pale Yellow
<b>Forms:</b>	Powder, Tablets
<b>Odor:</b>	No Data Available.
<b>Water Solubility:</b>	No Data Available.
<b>Boiling Point:</b>	No Data Available.
<b>Melting Point:</b>	No Data Available.
<b>Flash Point:</b>	No Data Available.
<b>Autoignition Temperature:</b>	No Data Available.
<b>Density:</b>	7.95 g/cm <sup>3</sup>
<b>Molecular Weight:</b>	1171.52 g/mol

**10. REACTIVITY**

<b>Stability:</b>	Stable under recommended storage conditions.
<b>Reacts with:</b>	No Data Available.
<b>Incompatible Conditions:</b>	No Data Available.
<b>Hazardous Decomposition Products:</b>	Decomposition will not occur if used and stored according to specifications.

**11. TOXICOLOGICAL INFORMATION**

<b>Potential Health Effects:</b>	
- Eyes	May cause irritation.
- Skin	May cause irritation.
- Ingestion	May cause malaise, albuminuria, diarrhea, skin reactions, stomatitis, headache, fever, rheumatic pain and a black line may form on gums in the mouth. Chronic exposure may affect the liver and kidneys, may cause anemia, black line may form on gums and ulcerative stomatitis.
- Inhalation	May be a nuisance dust causing respiratory irritation. May cause foul breath metallic taste and gingivitis. Chronic exposure may affect the function of the liver and the kidneys.
- Chronic	Bismuth and its salts can cause kidney damage, although the degree of such damage is usually mild. Large doses can be fatal. Industrially it is considered one of the less toxic of the heavy metals. Serious and sometimes fatal poisoning may occur from the injection of large doses into closed cavities and from extensive application to burns. It is stated that the administration of bismuth should be stopped when gingivitis appears, for otherwise serious ulceration stomatitis is likely to result. Other toxic results may develop, such as a vague feeling of bodily discomfort, presence of albumin or other protein substance in the urine, diarrhea, skin reactions and sometimes serious exodermitis (Sax, Dangerous Properties of Industrial Materials, 8th Edition)

Titanium compounds: This material is generally considered to be physiologically inert. There are no reported cases in the literature where titanium as such has caused human intoxication. The dust of titanium or most titanium oxide may be placed in the nuisance category. (Sax, Dangerous Properties of Industrial Materials, 8th Edition).

<b>Signs and Symptoms:</b>	May cause redness, coughing, foul breath, metallic taste or dry throat if inhaled. May cause diarrhea, bodily discomfort, albumin or other protein substances in the urine and skin disorders if ingested. May cause redness, itching, and inflammation in contact with the skin. May cause redness, itching, burning and watering if exposed to the eyes.
<b>Aggravate Medical Conditions:</b>	Pre-existing skin and respiratory disorders.
<b>Median Lethal Dose:</b>	No Data Available.
<b>Carcinogen:</b>	No Data Available.

**12. ECOLOGICAL INFORMATION**

<b>Aquatic Toxicity:</b>	No Data Available.
<b>Persistence and degradability:</b>	No Data Available.
<b>Bioaccumulative potential:</b>	No Data Available.
<b>Notes:</b>	Do not allow material to be released into the environment without proper governmental permits. Do not allow undiluted product or large quantities to reach ground water, water course, or sewage system. Avoid transfer into the environment.

**13. DISPOSAL CONSIDERATIONS**

<b>Disposal:</b>	Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Empty containers should be taken to an appropriate waste handling site for recycling or disposal. Dispose of in accordance with local, state, or national regulations.
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**14. TRANSPORTATION DATA**

<b>Hazardous:</b>	DoT: Not Dangerous Goods IMDG: Not Dangerous Goods IATA: Not Dangerous Goods
<b>Pictogram:</b>	N/A
<b>Hazard Class:</b>	N/A
<b>Packing Group:</b>	N/A
<b>UN Number:</b>	N/A
<b>Proper Shipping Name:</b>	N/A

**15. REGULATORY INFORMATION**

<b>SARA 302 Components</b>	No chemical in this material are subject to the reporting requirements of SARA Title III, Section 302.
<b>SARA 313 Components</b>	This material does not contain any chemical components with known CAS numbers that exceed the threshold (de minimis) reporting levels established by SARA Title III, Section 313.
<b>SARA 311/312 Hazards</b>	No SARA Hazards.
<b>Massachusetts Right to Know Components</b>	No components are subject to the Ma. Right to Know Act.
<b>Pennsylvania Right to Know Components</b>	Bismuth Titanate (CAS No. 12010-77-4)

**New Jersey Right to Know Components**

Bismuth Titanate (Cas No. 12010-77-4)

**California Prop. 65 Components**

This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.

**16. OTHER INFORMATION**

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