



LTS Research Laboratories, Inc.
Safety Data Sheet
Titanium Oxide

1. Product and Company Identification

Trade Name: Titanium oxide
Chemical Formula: Ti_2O_3 , Ti_3O_5 , TiO , Ti_4O_7 , TiO_3 , Ti_5O_7 , TiO_x
Recommended Use: Scientific research and development

Manufacturer/Supplier: LTS Research Laboratories, Inc.
Street: 37 Ramland Road
City: Orangeburg
State: New York
Zip Code: 10962
Country: USA
Tel #: 855-587-2436 / 855-lts-chem

Emergency Contact (ChemTrec) Tel #: 800-424-9300 (US & Canada)
+1-703-527-3887 (International)

2. Hazards Identification

Signal Word: Warning



Hazard Statements: H351 Suspected of causing cancer
Precautionary Statements: P281 Use personal protective equipment as required
P201 Obtain special instructions before use
P308+P313 If exposed or concerned: Get medical advice/attention
P405 Store locked up
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

HMIS Health Ratings (0-4):

Health: 1
Flammability: 0
Reactivity: 0

3. Composition

Chemical Family: Ceramic
Additional Names: Titanium suboxide, Titanium sesquioxide, Titanium monoxide, Titania, Titanium(III) oxide, Titanium(II) oxide

Titanium oxide (TiO_2):
Percentage: 100 wt%
CAS #: 13463-67-7
EC #: 236-675-5

Titanium oxide (Ti_2O_3):
CAS #: 1344-54-3

Titanium oxide (Ti_3O_5):
CAS#: 12065-65-5

Titanium oxide (Ti_4O_7 , TiO_x):
CAS#: 107372-98-5

4. First Aid Procedures

| | |
|---------------------|---|
| General Treatment: | Seek medical attention if symptoms persist. |
| Special Treatment: | None |
| Important Symptoms: | None |
| Inhalation: | Remove victim to fresh air. Supply oxygen if breathing is difficult. |
| Ingestion: | Give one to two glasses of water and induce vomiting. Never induce vomiting or give anything by mouth to an unconscious person. |
| Skin: | Wash affected area with mild soap and water. Remove any contaminated clothing. |
| Eyes: | Flush eyes with water, blinking often for ten minutes. |

5. Fire and explosion hazards data

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|--------------------------------|--|
| Flammability: | Non-flammable, except as powder |
| Flash Point: | N/A |
| Autoignition Temperature: | N/A |
| Extinguishing Media: | Use suitable extinguishing agent for surrounding material and type of fire. |
| Spec. Fire Fighting Procedure: | Use full-face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. |

6. Accidental release measures

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|----------------------------------|--|
| If Material Is Released/Spilled: | Wear appropriate respiratory and protective equipment specified in special protection information. Isolate spill area and provide ventilation. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for disposal. Take care not to raise dust. |
| Environmental Precautions: | Isolate runoff to prevent environmental pollution. |

7. Handling and storage

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|----------------------------|--|
| Handling Conditions: | Wash thoroughly after handling. |
| Storage Conditions: | Store in a cool dry place in a tightly sealed container. |
| Work/Hygienic Maintenance: | Do not use tobacco or food in work area. Wash thoroughly before eating and smoking. Do not blow dust off clothing or skin with compressed air. |
| Ventilation: | Provide sufficient ventilation to maintain concentration at or below TLV. |

8. Exposure Controls / Personal Protection

| | |
|------------------------------|---|
| Permissible Exposure Limits: | None |
| Threshold Limit Value: | None |
| Special Equipment: | None |
| Respiratory Protection: | Dust Respirator, NIOSH approved |
| Protective Gloves: | Rubber gloves |
| Eye Protection: | Safety glasses / goggles |
| Body Protection: | Protective work clothing. Wear close-toed shoes and long sleeves/pants. |

9. Physical and Chemical Characteristics

| | |
|-------------------|--|
| Color | White or golden or black or purple/blue |
| Form: | Powder, Granules, Pellets, Sputtering target, Custom parts |
| Odor: | Odorless |
| Water Solubility: | Insoluble |
| Boiling Point: | N/A |
| Melting Point: | N/A |
| Density: | N/A |
| Molecular weight: | N/A |

10. Reactivity

| | |
|------------------------------|---|
| Stability: | Stable under recommended storage conditions |
| Reacts With: | Oxidizing agents |
| Incompatible Conditions: | None |
| Haz. Decomposition Products: | Metal oxide fume |

11. Toxicological Information

| | |
|--|-----------------------------|
| Potential Health Effects: | |
| Eyes: | May cause irritation |
| Skin: | May cause irritation |
| Ingestion: | Low toxicity by ingestion |
| Inhalation: | May cause irritation |
| Chronic: | N/A |
| Routes of Entry: | None |
| Target Organs: | N/A |
| Signs & Symptoms of Exposure: | N/A |
| Medical Conditions Aggravated by Exposure: | N/A |
| Median Lethal Dose: | None |
| Carcinogen: | Suspected of causing cancer |

12. Ecological Information

Ecological data is not available.

13. Disposal Considerations

Dispose of in accordance with local, state and federal regulations.

14. Transportation Data

| | |
|-----------------------|----------------------------------|
| Hazardous: | Not hazardous for transportation |
| Hazard Class: | N/A |
| Packing Group: | N/A |
| UN Number: | N/A |
| Proper Shipping Name: | N/A |

15. Regulatory Information

| | |
|--------------------------------|-----|
| Sec 302 Extremely Hazardous: | No |
| Sec 304 Reportable Quantities: | N/A |
| Sec 313 Toxic Chemicals: | No |

16. Other information

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.

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