

SAFETY DATA SHEET

Preparation Date: 1/27/2015

Revision date 1/15/2019

Revision Number: G2

1. Identification

Product identifier

Product code: T1080
Product Name: TITANIUM DIOXIDE, REAGENT

Other means of identification

Synonyms: Titanium (IV) Oxide
 Titanium peroxide
 Titanox
CAS #: 13463-67-7
RTECS # XR2275000
CI#: Not available

Recommended use of the chemical and restrictions on use

Recommended use: Pigment.
Uses advised against No information available

Supplier: Spectrum Chemical Mfg. Corp
 14422 South San Pedro St.
 Gardena, CA 90248
 (310) 516-8000

Order Online At: <https://www.spectrumchemical.com>
Emergency telephone number Chemtrec 1-800-424-9300
Contact Person: Tom Tyner (USA - West Coast)
Contact Person: Ibad Tirmiz (USA - East Coast)

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Considered a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Carcinogenicity	Category 2
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Label elements

Warning

Hazard statements
 Suspected of causing cancer

**Hazards not otherwise classified (HNOC)**

Not Applicable

Other hazards

Not available

Precautionary Statements - Prevention

Obtain special instructions before use

Do not handle until all safety precautions have been read and understood

Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response*IF exposed or concerned: Get medical advice/attention***Precautionary Statements - Storage**

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No	Weight-%
Titanium Dioxide	13463-67-7	100

4. FIRST AID MEASURES**First aid measures****General Advice:**

National Capital Poison Center in the United States can provide assistance if you have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222.

Skin Contact:

Wash off immediately with soap and plenty of water removing all contaminated clothing and shoes. Get medical attention if irritation develops.

Eye Contact:

Flush eyes with water for 15 minutes. Get medical attention if irritation occurs. If symptoms persist, call a physician.

Inhalation:

Move to fresh air. If breathing is difficult, give oxygen. In case of shortness of breath, give oxygen. Obtain medical attention.

Ingestion:

Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician if necessary.

Most important symptoms and effects, both acute and delayed**Symptoms**

May cause eye/skin irritation
May cause digestive (gastrointestinal) tract irritation

Indication of any immediate medical attention and special treatment needed

Notes to Physician: Treat symptomatically.

Protection of first-aiders

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste.

5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media:

The product is not flammable. If it is involved in a fire, extinguish the fire using an agent suitable for the type of surrounding fire.

Unsuitable Extinguishing Media:

No information available.

Specific hazards arising from the chemical

Hazardous combustion products

No information available.

Specific hazards

No information available.

Special Protective Actions for Firefighters

Specific Methods:

No information available

Special Protective Equipment for Firefighters:

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions:

Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. Use personal protective equipment.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.

Methods and material for containment and cleaning up

Methods for containment

Stop leak if you can do it without risk. Cover with plastic sheet to prevent spreading.

Methods for cleaning up

Sweep up and shovel into suitable containers for disposal. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical Measures/Precautions:

Provide sufficient air exchange and/or exhaust in work rooms. Avoid dust formation. Keep away from incompatible materials.

Safe Handling Advice

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Do not ingest. Do not breathe dust. Keep away from heat and sources of ignition. Handle in accordance with good industrial hygiene and safety

practice.

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions:

Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Store away from incompatible materials.

Incompatible Materials:

Strong oxidizing agents
Alkali Metals

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

United States

Component	CAS No	OSHA	NIOSH	ACGIH	AIHA WEEL
Titanium Dioxide	13463-67-7	15 mg/m ³ TWA	None	10 mg/m ³ TWA	None

Canada

Component	CAS No	Canada - Alberta	Canada - British Columbia	Canada - Ontario	Canada - Quebec
Titanium Dioxide	13463-67-7	10 mg/m ³ TWA	10 mg/m ³ TWA total dust 3 mg/m ³ TWA respirable fraction	10 mg/m ³ TWA	10 mg/m ³ TWAEV total dust

Australia and Mexico

Component	CAS No	Australia	Mexico
Titanium Dioxide	13463-67-7	10 mg/m ³ TWA	10 mg/m ³ TWA 20 mg/m ³ STEL

Appropriate engineering controls

Engineering measures to reduce exposure:

Ensure adequate ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Individual protection measures, such as personal protective equipment

Personal Protective Equipment

Eye protection: Goggles or Safety glasses with side-shields.

Skin and body protection: Long sleeved clothing
Chemical resistant apron
Gloves

Respiratory protection: Effective dust mask. or. Wear respirator with dust filter. Use a dust respirator

under conditions where exposure to the substance is apparent (e.g. generation of high concentration of dust (dust clouds) , inadequate ventilation, development of respiratory tract irritation), and engineering controls are not feasible. Be sure to use an approved/certified respirator or equivalent.

Hygiene measures:

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product When using, do not eat, drink or smoke.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Solid	Appearance: Powder.	Color: White.
Odor: Odorless.	Taste Tasteless.	Formula TiO2
Molecular/Formula weight (g/mole): 79.9	Flammability (solid, gas) no data available	Flashpoint (°C/°F): No information available
Flash Point Tested according to: Not applicable	Autoignition Temperature (°C/°F): No information available	Lower Explosion Limit (%): No information available
Upper Explosion Limit (%): No information available	Melting point/range(°C/°F): 1800-1850 °C/3272-3362 °F	Decomposition temperature(°C/°F): No information available
Boiling point/range(°C/°F): 2500-3000 °C/4532-5432 °F	Bulk density: No information available	Density (g/cm3): No information available
Specific gravity: 4.26	pH No information available	Vapor pressure @ 20°C (kPa): No information available
Evaporation rate: No information available	Vapor density: No information available	VOC content (g/L): No information available
Odor threshold (ppm): No information available	Partition coefficient (n-octanol/water): No information available	Viscosity: No information available
Miscibility: No information available	Solubility: Insoluble in water Soluble in Alkalis Insoluble in diluted sulfuric acid Insoluble in Nitric acid Insoluble in Hydrochloric acid Soluble in Hydrofluoric acid Soluble in hot concentrated Sulfuric acid	

10. STABILITY AND REACTIVITY

Reactivity
Reactive with oxidizing agents
A violent or incandescent reaction with metals (aluminum, calcium, magnesium, potassium, sodium, zinc, and lithium) may occur at high temperatures

Chemical stability

Stability: Stable under recommended storage conditions.

Possibility of Hazardous Reactions: Hazardous polymerization does not occur

Conditions to avoid: Heat. Incompatible materials.

Incompatible Materials: Strong oxidizing agents
Alkali Metals

Hazardous decomposition products: No information available.

Other Information
Corrosivity: No information available

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure:
Ingestion. Inhalation.

Acute Toxicity

Component Information

Titanium Dioxide	
CAS No	13463-67-7

LD50/oral/rat = > 10000 mg/kg Oral LD50 Rat
LD50/oral/mouse = No information available
LD50/dermal/rabbit = No information available
LD50/dermal/rat = No information available
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No information available
Other LD50 or LC50 information = No information available

Product Information

LD50/oral/rat =
Value - Acute Tox = 10000 mg/kg

LD50/oral/mouse =
Value - Acute Tox Oral = No information available

LD50/dermal/rabbit
Value - Acute Tox = No information available

LD50/dermal/rat
VALUE - Acute Tox Dermal = No information available

LC50/inhalation/rat
VALUE-Vapor = No information available
VALUE-Gas = No information available
VALUE-Dust/Mist = No information available

LC50/Inhalation/mouse

VALUE-Vapor = No information available

VALUE - Gas = No information available

VALUE - Dust/Mist = No information available

Symptoms

Skin Contact: May cause skin irritation. It may cause mild skin irritation. It is reported to be a mild irritant and may cause mechanical irritation (irritation from frictional action). It is believed not to be absorbed through intact skin.

Eye Contact: May cause eye irritation.

Inhalation May cause irritation of respiratory tract.

Ingestion Not expected to be a health hazard. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. It is not absorbed following ingestion.

Aspiration hazard No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic Toxicity Heavy occupational dust exposures may cause chronic rhinitis, chronic bronchitis, pneumoconiosis, impaired pulmonary function, resemblance of silicosis without any or very little fibrosis, functional change in trachea or bronchi, chronic pulmonary edema.

Sensitization: No information available.

Mutagenic Effects: May affect genetic material

Carcinogenic effects: Not classifiable as to its carcinogenicity to humans. Possibly carcinogenic to humans.

Component	CAS No	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic Substances	Australia - Prohibited Carcinogenic Substances
Titanium Dioxide	13463-67-7	Group 2B - Possibly Carcinogenic to Humans - Monograph 93 [2010] Monograph 47 [1989]	A4 Not Classifiable as a Human Carcinogen	Not listed	Present	Not listed	Not listed

ACGIH (American Conference of Governmental Industrial Hygienists)

IARC (International Agency for Research on Cancer)

NTP (National Toxicology Program)

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

Reproductive toxicity No data is available

Reproductive Effects: No information available

Developmental Effects: No information available

Teratogenic Effects: No information available

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Specific Target Organ Toxicity

STOT - single exposure No information available.
STOT - repeated exposure No information available.
Target Organs: No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects: No data available.
Persistence and degradability: No information available
Bioaccumulative potential: No information available.
Mobility in soil No information available
Other adverse effects No information available.

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Waste from residues / unused products:
Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:
Empty containers should be taken for local recycling, recovery or waste disposal

Component	CAS No	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Titanium Dioxide	13463-67-7	None	None	None	None

14. TRANSPORT INFORMATION

DOT

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class No information available
Subsidiary Class No information available
Packing group: No information available
Emergency Response Guide Number No information available
Marine Pollutant No data available
DOT RQ (lbs): No information available
Special Provisions No Information available
Symbol(s): No information available
Description: No information available

TDG (Canada)

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class No information available

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Subsidiary Risk: No information available
Packing Group: No information available
Marine Pollutant Description: No information available

ADR

UN Number: Not regulated
Proper Shipping Name: No information available
Transport hazard class(es): No information available
Packing group: No information available
Subsidiary Risk: No information available

IMDG

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available
Marine Pollutant: No information available

RID

UN Number: Not Regulated
Proper Shipping Name: No information available
Transport hazard class(es): No information available
Subsidiary Risk: No information available
Packing group: No information available

ICAO (air)

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available

IATA

UN Number: Not Regulated
Proper Shipping Name: No information available
Transport hazard class(es): No information available
Subsidiary Risk: No information available
Packing group: No information available
Precautionary Statements - Response: IF exposed or concerned
Special Provisions: No information available

15. REGULATORY INFORMATION

International Inventories

Component	CAS No	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	China IECSC	Australia AICS	EINECS-No.
<i>Titanium Dioxide</i>	13463-67-7	Present(ACTI VE)	Present KE-33900	Present	Present (5)-5225 (1)-558	Present	Present	Present 236-675-5

U.S. Regulations

Titanium Dioxide

Massachusetts RTK: Present

New Jersey RTK Hazardous Substance List: 1861


Pennsylvania RTK: Present

Minnesota - Hazardous Substance List: Present

FDA - 21 CFR - Total Food Additives 175.105 175.210 175.300 175.380 175.390 176.170 177.1200 177.1210 177.1350
- List Sourced from EAFUS 177.1400 177.1460 177.1650 177.1680 177.2260 177.2355 177.2600 177.2800
178.3297 181.30 73.1575 73.2575 73.3126 73.350 73.575

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

Chemicals Known to the State of California to Cause Cancer:

 WARNING: This product can expose you to chemicals including (see table below) which is (are) known to the State of California to cause cancer. For more information go to www.p65warnings.ca.gov.

Chemicals Known to the State of California to Cause Reproductive Toxicity:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Component	CAS No	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
Titanium Dioxide	13463-67-7	carcinogen	Not Listed	Not Listed	Not Listed

CERCLA/SARA

Component	CAS No	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting de minimis
Titanium Dioxide	13463-67-7	None	None	None	None	None

U.S. TSCA

Component	CAS No	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
Titanium Dioxide	13463-67-7	Not Applicable	Not Applicable

Canada

WHMIS 2015 - GHS Classifications

WHMIS 2015 Hazard Classification Information:

Component
Titanium Dioxide
13463-67-7 (100)

WHMIS 2015 Hazard Classification
Carcinogenicity - Category 2: H351 Suspected of causing cancer.

Canada Hazardous Products Regulation This product has been classified according to the hazard criteria of the HPR (Hazardous Products Regulation) and the SDS contains all of the information required by the HPR

DSL/NDSL

Component	CAS No	Canada (DSL)	Canada (NDSL)
Titanium Dioxide	13463-67-7	Present	Not Listed

Component	CAS No	CEPA Schedule I - Toxic Substances
Titanium Dioxide	13463-67-7	Not listed

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Component	CAS No	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Titanium Dioxide	13463-67-7	Not listed

EU Classification

EU GHS - SV - CLP 1272/2008

Component	CAS No	EU GHS - SV - CLP (1272/2008)
Titanium Dioxide	13463-67-7	

EU - CLP (1272/2008)

R-phrase(s)

Not determined

S -phrase(s)

none

Component	CAS No	Classification	Concentration Limits:	Safety Phrases
Titanium Dioxide	13463-67-7		No information	

The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:

not determined

16. OTHER INFORMATION

Preparation Date: 1/27/2015
Revision date: 1/15/2019
Prepared by: Sonia Owen

Disclaimer:

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

End of Safety Data Sheet