

Titanium dioxide 13463-67-7 MSDS

Section 1 - Chemical Product MSDS Name: Titanium (IV) Oxide 99.999% (Predominantly Rutile) Material Safety Data Sheet

Name:	Titanium (IV) Oxide 99.999% (Predominantly Rutile) Material Safety Data Sheet
Synonym:	Anatase; Titania; Titanic Anhydride
CAS:	13463-67-7

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Section 2 - COMPOSITION, INFORMATION ON INGREDIENTS

CAS#	Chemical Name	content	EL
13463-67-7	Titanium(IV) Oxide	99.999	23

Hazard Symbols: None Listed.

Risk Phrases: None Listed.

Section 3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Not available.

Potential Health Effects

Eye:

Dust may cause mechanical irritation.

Skin:

Dust may cause mechanical irritation.

Ingestion:

No hazard expected in normal industrial use. May cause gastrointestinal irritation with nausea, vomiting and diarrhea.

Inhalation:

Dust is irritating to the respiratory tract. May cause pulmonary fibrosis and permanent damage.

Chronic:

Chronic inhalation may cause pulmonary fibrosis.

Section 4 - FIRST AID MEASURES

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Skin:

Get medical aid if irritation develops or persists. Wash clothing before reuse. Flush skin with plenty of soap and water.

Ingestion:

Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Get medical aid.

Inhalation:

Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid. Do NOT use mouth-to-mouth resuscitation.

Notes to Physician:

Section 5 - FIRE FIGHTING MEASURES

General Information:

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Non-combustible, substance itself does not burn but may decompose upon heating to produce irritating, corrosive and/or toxic fumes.

Extinguishing Media:

Substance is noncombustible; use agent most appropriate to extinguish surrounding fire.

Section 6 - ACCIDENTAL RELEASE MEASURES

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:

Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions.

Provide ventilation.

Section 7 - HANDLING and STORAGE

Handling:

Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with skin and eyes. Keep container tightly closed. Avoid ingestion and inhalation.

Storage:

Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits CAS# 13463-67-7: United Kingdom, WEL - TWA: 10 mg/m³ TWA (total inhalable); 4 mg/m³ TWA (respirable) United Kingdom, WEL - STEL: 30 mg/m³ STEL (total inhalable); 12 mg/m³ STEL (respirable) United States OSHA: 15 mg/m³ TWA (total dust) Belgium - TWA: 10 mg/m³ VLE France - VME: 10 mg/m³ VME (as Ti) Malaysia: 10 mg/m³ TWA Netherlands: 10 mg/m³ MAC Russia: 10 mg/m³ TWA (inhalable dust) Spain: 10 mg/m³ VLA-ED Personal Protective Equipment Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin:

Wear appropriate gloves to prevent skin exposure.

Clothing:

Wear appropriate protective clothing to minimize contact with skin.

Respirators:

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Solid

Color: white

Odor: none reported

pH: Approximately 6 to 7

Vapor Pressure: Negligible.

Viscosity: Not available.

Boiling Point: 4532-5432 deg F

Freezing/Melting Point: 3326-3362 deg F

Autoignition Temperature: None Reported

Flash Point: Not applicable.

Explosion Limits, lower: None Reported

Explosion Limits, upper: None Reported

Decomposition Temperature: Not available.

Solubility in water: Insoluble in water.

Specific Gravity/Density: 3.84-4.26 (water=1)

Molecular Formula: TiO₂

Molecular Weight: 79.8788

Section 10 - STABILITY AND REACTIVITY

Chemical Stability:

Stable under normal temperatures and pressures.

Conditions to Avoid:

Incompatible materials, dust generation, excess heat.

Incompatibilities with Other Materials:

A violent or incandescent reaction with metals (aluminum, calcium, magnesium, potassium, sodium, zinc and lithium) may occur at high temperatures. Substance is incompatible with strong acids.

Hazardous Decomposition Products:

Titanium/titanium oxides.

Hazardous Polymerization: Has not been reported

Section 11 - TOXICOLOGICAL INFORMATION

RTECS#:

CAS# 13463-67-7: XR2275000 LD50/LC50:

Not available.

Carcinogenicity:

Titanium(IV) Oxide - Not listed by ACGIH, IARC, or NTP.

Other:

See actual entry in RTECS for complete information.

Section 12 - ECOLOGICAL INFORMATION

Other No information available.

Section 13 - DISPOSAL CONSIDERATIONS

Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - TRANSPORT INFORMATION

IATA

Not regulated as a hazardous material.

IMO

Not regulated as a hazardous material.

RID/ADR

Not regulated as a hazardous material.

Section 15 - REGULATORY INFORMATION

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: Not available.

Risk Phrases:

Safety Phrases:

WGK (Water Danger/Protection)

CAS# 13463-67-7: 0

Canada

CAS# 13463-67-7 is listed on Canada's DSL List.

CAS# 13463-67-7 is not listed on Canada's Ingredient Disclosure List.

US FEDERAL

TSCA

CAS# 13463-67-7 is listed on the TSCA inventory.

SECTION 16 - ADDITIONAL INFORMATION

N/A