

SILVER FERN CHEMICAL



Safety Data Sheet

Titanium Dioxide

SECTION 1: IDENTIFICATION

Product Name: Titanium Dioxide (TiO₂)

CAS Number: 13463-67-7

Chemical Name: Titanium Dioxide

Synonyms: Titanium dioxide; Titania

Uses: Manufacture of substances, Laboratory chemicals

Company

Silver Fern Chemical, Inc.
2226 Queen Anne Avenue North
Suite #C
Seattle WA 98109, USA

Business Contact

Customer Service: 1-866-282-3384
info@silverfernchemical.com

24 Hour Emergency Contact

Infotrac 800-535-5053
Outside USA & Canada 352-323-3500

SECTION 2: HAZARD IDENTIFICATION

Warning



Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)
Carcinogenicity (Category 2), H351

Hazard Statements:

H351

Suspected of causing cancer.

Precautionary Statements and GHS Label Elements:

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P308 + P313	IF exposed or concerned: Get medical advice/ attention.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant.
Carc. H351	Carcinogenicity Suspected of causing cancer.

HMIS Rating

Health hazard:	1
Chronic Health Hazard: *	
Flammability:	0
Physical Hazard	0

NFPA Rating

Health hazard:	2
Fire Hazard:	0
Reactivity Hazard:	0

Hazards not otherwise classified (HNOC) or not covered by GHS - none

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

CAS #	Content (W/W)	Ingredients
13463-67-7	<=100%	Titanium dioxide

Formula: TiO₂

Molecular weight: 79.87 g/mol

SECTION 4: FIRST AID MEASURES

If inhaled: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact: Wash off with soap and plenty of water. Consult a physician.

In case of eye contact: Flush eyes with water as a precaution.

If swallowed: Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician

General advice: Move out of dangerous area. Consult a physician. Show this safety data sheet to the doctor in attendance.

Most important symptoms and effects, both acute and delayed: The most important known symptoms and effects are described in the labelling

Indication of any immediate medical attention and special treatment needed: No data available

SECTION 5: FIRE FIGHTING MEASURES

Flash Point: No data available

Lower/Upper explosion limit: No data available

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special hazards arising from the substance or mixture: No data available

Advice for firefighters: Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Containment: Pick up and arrange disposal without creating dust

Clean-up Procedures: Sweep up and shovel. Keep in suitable, closed containers for disposal

Disposal Procedures: Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Dispose of unused product

Special Instructions: Do not let product enter drains.

Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Avoid breathing dust.

SECTION 7: HANDLING AND STORAGE

Handling: Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs. Provide appropriate exhaust ventilation at places where dust is formed.

Storage: Keep container tightly closed in a dry and well-ventilated place. Keep in a dry place. Storage class (TRGS 510): Non Combustible Solids

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Personal Protective Equipment (PPE)

Control of environmental exposure: Do not let product enter drains.

Respiratory protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N99 (US) or type P2 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or EN 14387 (EU). Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Skin protection: 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.

Full contact

Material: Nitrile rubber
 Minimum layer thickness: 0.11 mm
 Break through time: 480 min

Splash contact

Material: Nitrile rubber
 Minimum layer thickness: 0.11 mm
 Break through time: 480 min

Eye protection: Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Body protection: Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Components with workplace control parameters:

Component	CAS-No.	Value	Control Parameters	Basis
Titanium dioxide, Nanoparticles range in size	13463-67-7	TWA	10.000000 mg/m3	USA. ACGIH Threshold Limit Values (TLV)
	Remarks	Lower Respiratory Tract irritation Adopted values or notations enclosed are those for which changes are proposed in the NIC See Notice of Intended Changes (NIC) Not classifiable as a human carcinogen		
		Potential Occupational Carcinogen		
		TWA	15.000000 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		TWA	15.000000 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		TWA	10.000000 mg/m3	USA. ACGIH Threshold Limit Values (TLV)
		Lower Respiratory Tract irritation Adopted values or notations enclosed are those for which changes are proposed in the NIC See Notice of Intended Changes (NIC) Not classifiable as a human carcinogen		
		TWA	10.000000	USA. ACGIH



			mg/m ³	Threshold Limit Values (TLV)
		Lower Respiratory Tract irritation Adopted values or notations enclosed are those for which changes are proposed in the NIC See Notice of Intended Changes (NIC) Not classifiable as a human carcinogen		
		TWA	10 mg/m ³	USA. ACGIH Threshold Limit Values (TLV)

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Form: nano particles Color: white
Odor	No data available
Odor Threshold	no data available
pH	no data available
Melting point/freezing Point	Melting point/range: > 350 °C (> 662 °F)
Initial boiling point and boiling range	no data available
Flash point	No data available
Evaporation rate	no data available
Flammability (solid, gas)	no data available
Upper/lower flammability or explosive limits	no data available
Vapor pressure	no data available
Vapor density	no data available
Water solubility	no data available
Partition Coefficient: n-octanol/water	no data available
Auto-ignition temperature	no data available
Decomposition temperature:	no data available
Viscosity:	no data available
Explosive properties:	no data available
Relative density	4.26 g/mL at 25 °C (77 °F)

SECTION 10: STABILITY AND REACTIVITY

Conditions to avoid: No data available

Substances to avoid: Strong acids

Hazardous reactions: No data available

Decomposition products: No data available

Chemical stability: Stable under recommended storage conditions.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity LD50 Oral - Rat - > 10,000 mg/kg
Inhalation: No data available
LD50 Dermal - Rabbit - > 10,000 mg/kg
No data available

Skin corrosion/irritation: Mild skin irritation - 3 h

Serious eye damage/eye irritation : No eye irritation

Respiratory or skin sensitization : Will not occur

Germ cell mutagenicity

Hamster
ovary
Micronucleus test

Hamster
Lungs
DNA inhibition

Hamster
ovary
Sister chromatid exchange

Mouse
Micronucleus test

Carcinogenicity

Suspected human carcinogens

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity : No data available

Specific target organ toxicity - single exposure: No data available

Specific target organ toxicity - repeated exposure: No data available

Aspiration hazard: No data available

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity :

Toxicity to fish LC50 - other fish - > 1,000 mg/l - 96 h

Toxicity to daphnia and other aquatic mg/l - 48 h invertebrates EC50 - Daphnia magna (Water flea) - > 1,000

Biodegradability: No data available

Bioaccumulative Potential: No data available

Results of PBT and PvB assessment: PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

SECTION 13: DISPOSAL CONSIDERATIONS

Waste disposal of substance: Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Container disposal: Dispose of as unused product.

SECTION 14: TRANSPORT INFORMATION

DOT (US)

Not dangerous goods

IMDG

Not dangerous goods

IATA

Not dangerous goods

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

SECTION 15: REGULATORY INFORMATION

SARA 302 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

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.

SARA 311/312 Hazards

Chronic Health Hazard

Massachusetts Right To Know Components

Titanium dioxide, nanoparticles range in size from 1 to 150 nm
CAS-No. 13463-67-7 Revision Date 1994-04-01

Pennsylvania Right To Know Components

Titanium dioxide, nanoparticles range in size from 1 to 150 nm
CAS- NO 13463-67-7 Revision Date 1994-04-01

New Jersey Right To Know Components

Titanium dioxide, nanoparticles range in size from 1 to 150 nm
CAS-NO 13463-67-7 Revision Date 2011-09-02

California Prop. 65 Components

WARNING! This product contains a chemical known to the State of California to cause cancer.

SECTION 16: OTHER INFORMATION

Carcinogenicity

H351 Suspected of causing cancer.

DISCLAIMER OF RESPONSIBILITY

The information on this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, expressed or implied, regarding its correctness. Some information presented and conclusions drawn herein are from sources other than direct test data on the substance itself. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage, or expense arising out of or in any way connected with handling, storage, use, or disposal of this product. If the product is used as a component in another product, this SDS information may not be applicable.

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