



SIGMA-ALDRICH

Material Safety Data Sheet

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Version 1.30

Section 1 - Product and Company Information

Product Name Titanium(IV) oxide, mixture of rutile and anatase
Product Number 700339
Brand Aldrich Chemical

Company Sigma-Aldrich
Address 3050 Spruce Street
City, State, Zip, Country SAINT LOUIS, MO 63103 US
Technical Phone: 800-325-5832
Fax: 800-325-5052
Emergency Phone: 314-776-6555

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313	EC no	Annex I Index Number
TITANIUM(IV) OXIDE, MIXTURE OF RUTILE AND ANATASE NANOPARTICLES, <100 NM PARTICLE SIZE (DLS), DISPERSION, IN XYLENE, 99.9%	None	Yes		
Ingredient Name	CAS #	Percent	SARA 313	
XYLENE, MIXTURE OF ISOMERS	1330-20-7	>= 50.000 % <= 60.000 %	Yes	
TITANIUM(IV) OXIDE	13463-67-7	>= 30.000 % <= 40.000 %	No	
PHOSPHORIC ACID ESTERS	51811-79-1	>= 5.000 % <= 10.000 %		

Formula
Synonyms

Section 3 - Hazards Identification

Emergency Overview

Flammable. Harmful.
Harmful by inhalation and in contact with skin. Irritating to skin. Risk of serious damage to eyes.
Target organ(s): Liver, Kidneys.

HMIS Rating
Health: 2* Flammability: 3 Reactivity: 0

NFPA Rating
Health: 2 Flammability: 3 Reactivity: 0

*additional chronic hazards present.

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

Oral Exposure

If swallowed, wash out mouth with water provided person is conscious. Call a physician immediately.

Inhalation Exposure

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

Dermal Exposure

In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

Eye Exposure

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

Flammable Hazards Yes

Explosion Hazards

Vapor may travel considerable distance to source of ignition and flash back.
Container explosion may occur under fire conditions.

Flash Point: 80.6 °F 27 °C

Autoignition Temp: N/A **Flammability:** Yes

Extinguishing Media

Suitable

For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be effective. Cool all affected containers with flooding quantities of water.

Firefighting

Protective Equipment

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Specific Hazard(s)

Flammable liquid. Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

Procedure to be Followed in Case of Leak or Spill

Evacuate area. Shut off all sources of ignition. Use nonsparking tools.

Procedure(s) of Personal Precaution(s)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

Methods for Cleaning Up

Cover with dry-lime, sand, or soda ash. Place in covered containers using nonsparking tools and transport outdoors. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

Handling

User Exposure

Avoid contact with eyes, skin, and clothing. Do not breathe vapor. Avoid prolonged or repeated exposure.

Storage
Suitable

Keep container closed. Keep away from heat, sparks, and open flame.

Section 8 - Exposure Controls / PPE

Engineering Controls

Safety shower and eye bath. Use nonsparking tools. Mechanical exhaust required.

Personal Protective Equipment

Respiratory

Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a fullface respirator with multipurpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a fullface supplied air respirator.

Hand

Compatible chemical-resistant gloves.

Eye

Chemical safety goggles.

General Hygiene Measures

Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

Appearance	Color	Form
Physical State		
Liquid	Almost white	Suspension

pH	N/A
BP/BP Range	> 135 °C
MP/MP Range	N/A
Freezing Point	N/A
Vapor Pressure	N/A
Vapor Density	1.3 g/l
Saturated Vapor Conc.	N/A
SG/Density	1.2 g/cm ³
Bulk Density	N/A
Odor Threshold	N/A
Volatile%	N/A
VOC Content	N/A
Water Content	N/A
Solvent Content	N/A
Evaporation Rate	N/A
Viscosity	N/A
Partition Coefficient	N/A
Decomposition Temp.	N/A
Flash Point °F	60.6 °F
Flash Point °C	27 °C

Explosion Limits N/A

Flammability N/A
Autoignition Temp N/A

Solubility N/A

N/A = not available

Section 10 - Stability and Reactivity

Stability

Stable

Stable.

Materials to Avoid

Strong oxidizing agents

Hazardous Decomposition Products

Hazardous Decomposition Products

Nature of decomposition products not known

Hazardous Polymerization

Hazardous Polymerization

Will not occur.

Section 11 - Toxicological Information

Route of Exposure

Skin Contact

May cause skin irritation.

Skin Absorption

May be harmful if absorbed through the skin.

Eye Contact

May cause eye irritation.

Inhalation

May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.

Ingestion

May be harmful if swallowed.

Target Organ(s) or System(s)

Nerves. Liver. Kidneys. Blood. Eyes. Ears. Heart. Bone marrow.

Signs and Symptoms of Exposure

Exposure can cause: CNS depression. Dermatitis. Anorexia. Dyspnea. Bronchitis. Tremors. Blurred vision. Incoordination. Headache.

RTECS Number: N/A

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

Appropriate Method of Disposal of Substance or Preparation

Contact a licensed professional waste disposal service to dispose of this material.
Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable.
Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT

Proper Shipping Name: Xylenes solution

UN#: 1307

Class: 3

Packing Group: Packing Group III
Hazard Label: Flammable liquid
PIH: Not PIH

IATA

Proper Shipping Name: Xylenes solution
IATA UN Number: 1307
Hazard Class: 3
Packing Group: III

Section 15 - Regulatory Information

EU Additional Classification

Symbol of Danger: Xn

Indication of Danger

Harmful.

Risk Statements R: 10 20/21 38

Flammable. Harmful by inhalation and in contact with skin. Irritating to skin.

Safety Statements S: 2 25

Keep out of the reach of children. Avoid contact with eyes.

US Classification and Label Text

Indication of Danger

Flammable. Harmful.

Risk Statements

Harmful by inhalation and in contact with skin. Irritating to skin. Risk of serious damage to eyes.

Safety Statements

Keep away from sources of ignition - no smoking. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing and eye/face protection.

US Statements

Target organ(s): Liver. Kidneys.

United States Regulatory Information

SARA Listed: Yes

Notes: This product is or contains a component that is subject to SARA313 reporting requirements.

Canada Regulatory Information

WHMIS Classification

This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: Yes

NDSL: No

Section 16 - Other Information

Disclaimer

For R&D use only. Not for drug, household or other uses.

Warranty

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. SigmaAldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice packing slip for additional terms and conditions of sale. Copyright 2012 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

