

TETRA ISOPROPYL TITANATE

**** MATERIAL SAFETY DATA SHEET ****

TITANIUM(IV)ISOPROPOXIDE, 98+%

**** SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION ****

MSDS Name: TITANIUM(IV)ISOPROPOXIDE, 98+%

Catalog Numbers:

19470-0000, 19470-0050, 19470-2500

Synonyms:

Tetraisopropyl orthotitanate

**** SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS ****

CAS#	Chemical Name	%	EINECS#
546-68-9	TITANIUM(IV) ISOPROPOXIDE	98+%	208-909-6

Hazard Symbols: None Listed.

Risk Phrases: 10

**** SECTION 3 - HAZARDS IDENTIFICATION ****

EMERGENCY OVERVIEW

Flammable.Moisture sensitive.

Potential Health Effects

Eye:

May cause moderate eye irritation.

Skin:

May cause mild skin irritation.

Ingestion:

The toxicological properties of this substance have not been fully investigated.

Inhalation:

May cause respiratory tract irritation.

Chronic:

Not available.

**** SECTION 4 - FIRST AID MEASURES ****

Eyes:

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. Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes.

Ingestion:

Get medical aid. Wash mouth out with water.

Inhalation:

Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Get medical aid.

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. Vapors can travel to a source of ignition and flash back. Flammable liquid and vapor.

Extinguishing Media:

Use water spray, dry chemical, carbon dioxide, or chemical foam.

**** SECTION 6 - ACCIDENTAL RELEASE MEASURES ****

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

Spills/Leaks:

Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Remove all sources of ignition. Use a spark-proof tool.

**** SECTION 7 - HANDLING and STORAGE ****

Handling:

Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation.

Storage:

Keep away from sources of ignition. Store in a tightly closed container. Store in a dry area. Flammables-area.

**** SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION ****

Engineering Controls:

Use adequate ventilation to keep airborne concentrations low.

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 protective gloves to prevent skin exposure.

Clothing:

Wear appropriate protective clothing to prevent skin exposure.

Respirators:

Follow the OSHA respirator regulations found in 29CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

**** SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES ****

Physical State:	Clear liquid
Appearance:	Not available.
Odor:	Not available.
pH:	Not available.
Vapor Pressure:	Not available.
Viscosity:	4.3 cP 25 deg C
Boiling Point:	240 deg C @ 760.00mm Hg
Freezing/Melting Point:	> 15 deg C
Autoignition Temperature:	Not available.
Flash Point:	46 deg C (114.80 deg F)
Explosion Limits, lower:	Not available.
Explosion Limits, upper:	Not available.
Decomposition Temperature:	
Solubility in water:	hydrolysis
Specific Gravity/Density:	.9550g/cm3
Molecular Formula:	C12H28O4Ti
Molecular Weight:	284.26

**** SECTION 10 - STABILITY AND REACTIVITY ****

Chemical Stability:

May decompose on exposure to moist air or water.

Conditions to Avoid:

Incompatible materials, exposure to moist air or water.

Incompatibilities with Other Materials:

Strong oxidizing agents, strong acids.

Hazardous Decomposition Products:

Carbon monoxide, carbon dioxide, titanium/titanium oxides.

Hazardous Polymerization: Has not been reported.

**** SECTION 11 - TOXICOLOGICAL INFORMATION ****

RTECS#:

CAS# 546-68-9: NT8060000

LD50/LC50:

CAS# 546-68-9: Draize test, rabbit, eye: 20 mg/24H Moderate; Draize test, rabbit, skin: 500 mg/24H Mild; Oral, rat: LD50 = 7460 uL/kg; Skin, rabbit: LD50 = >16 mL/kg.

Carcinogenicity:

TITANIUM(IV)ISOPROPOXIDE -

Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

See actual entry in RTECS for complete information.

**** SECTION 12 - ECOLOGICAL INFORMATION ****

**** SECTION 13 - DISPOSAL CONSIDERATIONS ****

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

**** SECTION 14 - TRANSPORT INFORMATION ****

IATA

Shipping Name: FLAMMABLE LIQUID, N.O.S.*

Hazard Class: 3

UN Number: 1993

Packing Group: III

IMO

Shipping Name: FLAMMABLE LIQUID, N.O.S.

Hazard Class: 3
UN Number: 1993
Packing Group: III
RID/ADR
Shipping Name: FLAMMABLE LIQUID, N.O.S.
Hazard Class: 3

UN Number: 1993
Packing group: III

**** SECTION 15 - REGULATORY INFORMATION ****

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: Not available.

Risk Phrases:

R 10 Flammable.

Safety Phrases:

S 16 Keep away from sources of ignition - No
smoking.

WGK (Water Danger/Protection)

CAS# 546-68-9: No information available.

United Kingdom Occupational Exposure Limits

Canada

CAS# 546-68-9 is listed on Canada's DSL List.

CAS# 546-68-9 is not listed on Canada's Ingredient Disclosure List.

Exposure Limits

US FEDERAL

TSCA

CAS# 546-68-9 is listed on the TSCA inventory.