

SAFETY DATA SHEET

SECTION 1. IDENTIFICATION

Product name : Tetraisopropyl Orthotitanate
 Product code : T0133
 Other means of identification : No data available

Manufacturer or supplier's details

Company name of supplier : TCI America
 Address : 9211 N. Harborside Street Portland, OR 97203 U.S.A.
 Telephone : +1-800-4238616/+1-503-2831681
 Telefax : +1-888-5201075/+1-503-2831987
 E-mail address : sales-US@TCIchemicals.com

Chemical Emergencies: TCI America (8:00am - 5:00pm) PST +1-503-2867624

Transportation Emergencies: Chemtrec 24-Hour +1-800-4249300 (U.S.A.)/+1-703-5273887 (International)

Recommended use of the chemical and restrictions on use

Recommended use : Use as laboratory reagent

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the Hazardous Products Regulations

Flammable liquids : Category 3
 Eye irritation : Category 2A

GHS label elements

Hazard pictograms :



Signal word : Warning
 Hazard statements : H226 Flammable liquid and vapour.
 H319 Causes serious eye irritation.

Precautionary statements :

Prevention:

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 P233 Keep container tightly closed.
 P240 Ground and bond container and receiving equipment.
 P241 Use explosion-proof electrical/ ventilating/ lighting equipment.
 P242 Use non-sparking tools.
 P243 Take action to prevent static discharges.
 P264 Wash skin thoroughly after handling.
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
 P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P337 + P313 If eye irritation persists: Get medical advice/ attention.
 P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Storage:

P403 + P235 Store in a well-ventilated place. Keep cool.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal

plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance

Components

Chemical name	Common Name/Synonym	CAS RN	Concentration (% w/w)
Tetraisopropyl Orthotitanate	titanium tetraisopropanolate	546-68-9	>= 80 - <= 100 *

* Actual concentration or concentration range is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

If inhaled : Remove person to fresh air and keep comfortable for breathing. Get medical advice/ attention if you feel unwell.

In case of skin contact : Take off all contaminated clothing immediately. If on skin, rinse well with water. If skin irritation occurs: Get medical advice/ attention.

In case of eye contact : Rinse with plenty of water. If easy to do, remove contact lens, if worn. If eye irritation persists: Get medical advice/ attention.

If swallowed : Get medical advice/ attention. Rinse mouth.

Most important symptoms and effects, both acute and delayed : None known.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Dry powder, Foam, Water spray, Carbon dioxide (CO2)

Specific hazards during fire-fighting : No information available.

Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Immediately evacuate personnel to safe areas. Remove undamaged containers from fire area if it is safe to do so.

Special protective equipment for firefighters : Use personal protective equipment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Wear suitable protective equipment. Keep people away from and up-wind of spill/leak. Ensure adequate ventilation. Entry to non-involved personnel should be controlled around the leakage area by roping off, etc.

Environmental precautions : Prevent product from entering drains.

Methods and materials for containment and cleaning up : Collect as much of the spill as possible with a suitable absorbent material.

SECTION 7. HANDLING AND STORAGE

Technical measures : Prevent generation of vapour or mist. Take precautionary measures against static discharge. Use explosion-proof equipment.

Local/Total ventilation : Ensure adequate ventilation. Use a local exhaust ventilation.

Advice on safe handling : Avoid contact with skin, eyes and clothing. Wear personal protective equipment. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not subject to grinding, shock or friction. Wash hands and face thoroughly after handling.

Conditions for safe storage : Keep container tightly closed. Store in a cool and shaded area. Keep in a well-ventilated place. Use explosion-proof equipment. Protect from moisture. Keep under inert gas.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Engineering measures : Install a closed system or local exhaust. Also install safety shower and eye bath.

Personal protective equipment

Respiratory protection : Gas mask
Hand protection : Protective gloves
Eye protection : Safety glasses, Face-shield
Skin and body protection : Protective suit

*Use personal protective equipment (PPE) approved under appropriate government standards and follow local and national regulations.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid
Colour : colourless - yellow
Odour : No data available
Odour Threshold : No data available
pH : No data available
Melting point/freezing point : 18 °C
Boiling point/boiling range : 220 °C
Flash point : 46 °C
Flammability (solid, gas) : No data available
Upper explosion limit / Upper flammability limit : No data available
Lower explosion limit / Lower flammability limit : No data available
Vapour pressure : 13 Pa (21 °C)
Relative vapour density : 9.8
Relative density : 0.97
Solubility(ies)
Solubility in other solvents :
soluble : Ether Alcohol Benzene Chloroform Toluene
Partition coefficient: n-octanol/water : No data available
Auto-ignition temperature : 570 °C
Decomposition temperature : No data available
Viscosity
Viscosity, dynamic : No data available
Viscosity, kinematic : No data available
Molecular weight : 284.22 g/mol

SECTION 10. STABILITY AND REACTIVITY

Reactivity : No data available
Chemical stability : Stable under normal conditions.
Possibility of hazardous reactions : None under normal processing.
Conditions to avoid : Electrical spark Open flame Electrostatic discharge Exposure to moisture
Incompatible materials : Oxidizing agents, Strong acids
Hazardous decomposition products : Carbon monoxide, Carbon dioxide (CO₂), Metal oxides

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Acute oral toxicity : LD₅₀ (Rat): 7,236.2 mg/kg

Acute dermal toxicity : LD₅₀ (Rabbit): > 15.52 g/kg

Skin corrosion/irritation

Result : Mild skin irritation

Serious eye damage/eye irritation

Result	: Eye irritation
Respiratory or skin sensitisation	: No information available.
Germ cell mutagenicity	: No information available.
Carcinogenicity	: No information available.
Reproductive toxicity	: No information available.
STOT - single exposure	: No information available.
STOT - repeated exposure	: No information available.
Repeated dose toxicity	: No information available.
Aspiration toxicity	: No information available.
RTECS No.	: NT8060000 (Tetraisopropyl Orthotitanate)

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

No data available

Persistence and degradability

Biodegradability : 87% (by BOD), 96% (by TOC)

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Disposal in accordance with local and national regulations. Take precautions against ignition or explode. Entrust disposal to a licensed waste disposal company.

Contaminated packaging : Disposal in accordance with local and national regulations. Before disposal of used container, remove contents completely.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR

UN/ID No. : UN 2413
 Proper shipping name : Tetrapropyl orthotitanate
 Class : 3
 Packing group : III

IMDG-Code

UN number : UN 2413
 Proper shipping name : TETRAPROPYL ORTHOTITANATE
 Class : 3
 Packing group : III
 EmS Code : F-E, S-D
 Marine pollutant : no

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations

TDG

UN number : UN 2413
 Proper shipping name : TETRAPROPYL ORTHOTITANATE
 Class : 3
 Packing group : III

ERG Code : 128
Marine pollutant : no

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

SARA 311/312 Hazards : No SARA Hazards

Canadian lists

No substances are subject to a Significant New Activity Notification.

SECTION 16. OTHER INFORMATION

Revision Date : 10/28/2024

This SDS was prepared sincerely based on the information obtained, however, any warranty shall not be given regarding the data contained and the assessment of hazards and toxicity. Prior to use, please investigate not only the hazards and toxicity information but also the laws and regulations of the organization, area and country where the products are to be used, which shall be given the first priority. The products are supposed to be used promptly after purchase in consideration of safety. Some new information or amendments may be added afterwards. If the products are to be used far behind the expected time of use or you have any questions, please feel free to contact us. The stated cautions are for normal handling only. In case of special handling operations, sufficient care should be taken, in addition to the safety measures suitable for the given situation. All chemical products should be treated with the recognition of "having unknown hazards and toxicity", which differ greatly depending on the conditions and handling when in use and/or the conditions and duration of storage. The products must be handled only by those who are familiar with specialized knowledge and have experience or under the guidance of those specialists throughout use from opening to storage and disposal. Safe usage conditions shall be set up on each user's own responsibility.