

PRMI

MATERIAL SAFETY DATA SHEET

24 HR. EMERGENCY PHONE # CHEM-TREC 1-800-424-9300

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SECTION 1 Product Identification

CHEMICAL NAME: Titanium (IV) ethoxide (contains 5-15% isopropanol)

CAS #: 3087-36-3

FORMULA: Ti(OC₂H₅)₄

SYNONYM: titanium ethanolate in isopropyl alcohol. tetraethoxytitanate.

SECTION 2 Composition and Information on Ingredients

INGREDIENT:	CAS #	%	ACGIH (TWA)	OSHA (PEL)
Title Compound	3087-36-3	85	no data	no data
isopropanol	67-63-0	15	400ppm	980mg/m ³

SECTION 3 Hazards Identification

EMERGENCY OVERVIEW: Harmful if swallowed. Irritating to eyes, skin and respiratory tract. Possible risk of impaired fertility. In animal studies isopropanol has given mutagenic, tumorigenic, and reproductive effect responses.

PRIMARY ROUTES OF EXPOSURE: Inhalation, ingestion, contact with skin and eyes.

EYE CONTACT: Causes moderate to severe irritation of the eyes.

SKIN CONTACT: Causes moderate irritation of the skin.

INHALATION: Vapor may be irritating to the nose, mucous membranes and respiratory tract and cause headache, dizziness, and drowsiness.

INGESTION: Harmful if swallowed. Ingestion may cause gastrointestinal distress, nausea vomiting and headache, and coma.

CHRONIC HEALTH EFFECTS: Possible risk of impaired fertility. In animal studies isopropanol has acted as a mutagen, tumorigenic and reproductive effector. Prolonged exposure can damage nerves, kidneys, and the cardiovascular system.

ACUTE HEALTH EFFECTS: No data of first ingredient. Isopropanol is a skin and eye irritant. Exposure may cause impairment of coordination and reaction time. Large exposures can cause coma.

SECTION 4 First Aid Measures

EYE EXPOSURE: Immediately flush the eyes with copious amounts of water for at least 15 minutes. Assure flushing under eyelids. A victim may need assistance in keeping their eyelids open. Get immediate competent medical attention.

SKIN EXPOSURE: Wash affected area with water. Remove contaminated clothes if necessary. Seek medical assistance if irritation persists.

INHALATION: Remove the victim to fresh air. Closely monitor the victim for signs of respiratory problems, such as difficulty in breathing, coughing, wheezing, or pain. In such cases seek immediate medical assistance.

INGESTION: Seek medical assistance immediately. Keep the victim calm. Give the victim water (only if conscious). Induce vomiting only if directed by medical personnel.

SECTION 5 Firefighting Measures

FLASH POINT: 84°F

AUTO IGNITION TEMPERATURE: 750°F(isopropanol)

EXPLOSION LIMITS: 2.5-12%(isopropanol)

EXTINGUISHING MEDIUM: carbon dioxide, dry powder or foam

SPECIAL FIREFIGHTING PROCEDURES: If involved in a fire, fire fighters should be equipped with a NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.

HAZARDOUS COMBUSTION AND DECOMPOSITION PRODUCTS: If involved in a fire this material may emit toxic organic fumes and titania dust.

UNUSUAL FIRE OR EXPLOSION HAZARDS: Highly flammable liquid. Formation of explosive air/vapor mixtures is possible.

SECTION 6 Accidental Release Measures

SPILL AND LEAK PROCEDURES: Eliminate all ignition sources. Avoid contact with water. Small spills may be adsorbed into diatomaceous earth, sand, or other suitable adsorbent, and swept up.

SECTION 7 Handling and Storage

HANDLING AND STORAGE: Store material in a tightly sealed container in a cool dry place. If container is left open, product may adsorb moisture from the atmosphere and release ethanol vapor.

SECTION 8 Exposure Controls and Personal Protection

EYE PROTECTION: Always wear approved safety glasses w/side shields, or safety goggles, face shield when handling a chemicals substance in the laboratory.

SKIN PROTECTION: Chemical-resistant.

VENTILATION: If possible, handle the material in an efficient fume hood.

RESPIRATOR: If in form of fine dust and ventilation is not available a respirator should be worn. The use of respirators requires a Respirator Protection Program to be in compliance with 29 CFR 19-10.134.

SECTION 9 Physical and Chemical Properties

COLOR AND FORM: colorless liquid

MOLECULAR WEIGHT: 228.14

MELTING POINT (DEG. C.): 750°F

BOILING POINT: 122°/1mm

VAPOR PRESSURE: no data

SPECIFIC GRAVITY: 1.107 (20)

SOLUBILITY IN WATER: reacts with water

SECTION 10 Stability and Reactivity

STABILITY: moisture sensitive liquid

HAZARDOUS POLYMERIZATION: no hazardous polymerization

CONDITIONS TO AVOID: Keep away from moisture, heat and ignition sources including open flame and electrostatic discharge.

INCOMPATIBILITY: water, mineral acids, alkali metals, oxidizing agents, acid chlorides, and halogens

DECOMPOSITION PRODUCTS: Carbon dioxide, carbon monoxide, organic vapors, and metal oxides and carbonates.

SECTION 11 Toxicological Information

RTECS DATA: No specific information available on this product. Isopropanol: skin (rbt) draize: mild; eye (rbt) draize: severe; oral (human) TDLo: 223 mg/Kg; oral (human) LDLo: 5272 mg/kg; oral (human) LDLo: 3570 mg/kg; oral (rat) LD50: 5045 mg/kg; inhalation (rat) LC50:16000 ppm/8h.

MUTAGENIC EFFECTS: Isopropanol: Insufficient data

TETRATOGENIC EFFECTS: Isopropanol: Reproductive effector

CARCINOGENIC EFFECTS: Isopropanol: Insufficient data

To the best of our knowledge the toxicological effects of this compound have not been fully investigated.

SECTION 12 Ecological Information

ECOLOGICAL INFORMATION: No information available

SECTION 13 Disposal Considerations

DISPOSAL: Dispose of in according to local state and federal regulations.

SECTION 14 Transportation Information

Flammable liquids, n.o.s., Class 3, UN1993, PG II

SECTION 15 Regulatory Information

TSCA: Listed in the TSCA inventory

SARA (TITLE 313): Title compound not listed

SECTION 16 Other Information

DISCLAIMER: The information herein is believed to be accurate and reliable as of the date compiled. However, ProChem, Inc. makes no representation, warranty, or guarantee of any kind with respect to the information in this document or any use of the product based on the information.

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