

GELEST, INC.

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MATERIAL SAFETY
DATA SHEET

EMERGENCY TELEPHONE
CHEMTREC: 1-800-424-9300

NAME ON LABEL: **TITANIUM CHLORIDE TRIISOPROPOXIDE, 1.25M - AKT851.2**
 NAME: TITANIUM CHLORIDE TRIISOPROPOXIDE, 1.25M in TETRAHYDROFURAN
 SYNONYMS: TRIISOPROPYLCHLOROTITANATE, CHLOROTITANIUM TRIISOPROPOXIDE
 CHEMICAL FAMILY: TITANATE ESTER
 FORMULA: $C_9H_{21}ClO_3Ti$
 HMIS CODES HEALTH: 2 FLAMMABILITY: 4 REACTIVITY: 1

INGREDIENTS

IDENTITY	CAS NO.	%	TLV	OSHA PEL
TITANIUM CHLORIDE TRIISOPROPOXIDE	20717-86-6	>30		not established
TETRAHYDROFURAN	109-99-9	>65	200ppm	200ppm
ISOPROPANOL	67-63-0	<2	400ppm	400ppm

PHYSICAL DATA

Boiling Point: 66°C-initial	Melting Point: <15°C
Specific Gravity: 0.941	Vapor Pressure: not determined
Vapor Density (air =1): >1	Solubility in water: reacts
% volatiles: 25%	Evaporation rate: NA
Molecular Weight: 260.62	Other: NA
Appearance & Color: Pale yellow liquid	

FIRE & EXPLOSION DATA

Flash Point, TCC: -17°C (2°F) Autoignition Temp.: not determined
 Flammability Limits- LEL: NA UEL: NA

Extinguishing Media: Water spray or fog, foam, carbon dioxide, dry chemical.
 Special Fire Fighting Procedures: Avoid eye and skin contact. Do not breathe fumes or inhale vapors.
 Unusual Fire and Explosion Hazards: Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures or open flame.

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ENVIRONMENTAL INFORMATION

Spill response: Sweep material and transfer to a suitable container for disposal.

Recommended disposal: Incinerate. Follow all chemical pollution control regulations.

HEALTH HAZARD DATA

Eye Contact: Titanium chloride triisopropoxide will cause immediate or delayed severe eye irritation and may cause corneal ulceration.

Skin contact: May produce irritation or contact dermatitis. Material generates isopropanol on contact with water or moisture in skin, eyes and mucous membranes and has an irritating, dehydrating effect on overexposed tissue. Prompt and thorough washing with soap and water will reduce or eliminate potential dermal effects.

Inhalation: Inhalation may irritate the respiratory tract, cause headache or nausea.

Oral Toxicity: not determined

Inhalation Toxicity: not determined

SUGGESTED FIRST AID

EYES: In case of contact, immediately flush eyes with flowing water for at least 15 minutes. Get medical attention.

SKIN: Flush with water, then wash with soap and water.

INHALATION: Move exposed individual to fresh air. Administer oxygen if needed. Call a physician.

INGESTION: Never give fluids or induce vomiting if patient is unconscious or having convulsions. To conscious individual give two full cups of water to dilute ingested material. Get medical attention. *(Note to physician: Activated charcoal slurry may be administered. Activated charcoal slurry is prepared by suspending 50 grams of activated charcoal in 400 ml water and mixing thoroughly. Administer 5 ml/kg.)*

REACTIVITY DATA

Stability: Stable

Conditions to avoid: Material decomposes slowly in contact with moist air and rapidly in contact with water liberating isopropanol; TLV(TWA) = 400ppm. Avoid contact with oxidizing agents.

Hazardous decomposition products: Isopropanol, hydrogen chloride, organic acid vapors and titanium oxide.

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SPECIAL PROTECTION INFORMATION

Ventilation: Local exhaust is required. Mechanical is recommended.

Respiratory Protection: If exposure exceeds TLV, NIOSH approved organic vapor respirator.

Eye and Face Protection: Chemical worker's goggles. Do not wear contact lenses.

Other Clothing and Equipment: Rubber, neoprene or nitrile gloves. An eyewash and emergency shower should be available. Launder clothing before reuse.

OTHER PRECAUTIONS

For research and industrial use only.

Storage and Handling: Store in sealed containers.

TRANSPORTATION

DOT SHIPPING NAME: FLAMMABLE LIQUID N.O.S. (contains tetrahydrofuran)

DOT HAZARD CLASS: FLAMMABLE LIQUID

DOT LABEL: FLAMMABLE LIQUID

DOT ID No: UN1993

Prepared by safety and environmental affairs

ISSUE DATE AKT851.2: 7/16/04

SUPERSEDES: 4/26/01

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