

GELEST, INC.

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MATERIAL SAFETY
DATA SHEET

EMERGENCY TELEPHONE
CHEMTREC: 1-800-424-9300

NAME USED ON LABEL: **TITANIUM CHLORIDE TRI-n-BUTOXIDE - AKT850.5**

CHEMICAL NAME: TITANIUM CHLORIDE TRI-n-BUTOXIDE

SYNONYMS: TRI-n-BUTYLCHLOROTITANATE, CHLOROTITANIUM TRIBUTOXIDE

CHEMICAL FAMILY: TITANATE ESTER

FORMULA: C₁₂H₂₇ClO₃Ti

HMIS CODES HEALTH: 3 FLAMMABILITY: 3 REACTIVITY: 1

INGREDIENTS

IDENTITY	CAS NO.	%	TLV	OSHA PEL
TITANIUM CHLORIDE TRI-n-BUTOXIDE	4200-76-4	>96		not established
TITANIUM n-BUTOXIDE	5593-70-4	<3		not established
n-BUTANOL	71-36-3	<3	100ppm	50ppm

PHYSICAL DATA

Boiling Point: 154°C @ 0.2mm

Specific Gravity: 1.099

Vapor Density (air =1): >1

% volatiles: NA

Molecular Weight: 302.68

Appearance & Color: Pale yellow liquid

Melting Point: <0°C

Vapor Pressure: not determined

Solubility in water: reacts

Evaporation rate: NA

Other: NA

FIRE & EXPLOSION DATA

Flash Point, COC: >65°C (>150°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 tri-n-BUTOxide will cause immediate or delayed severe eye irritation and may cause corneal ulceration.

Skin contact: May produce irritation or contact dermatitis. Material generates n-butanol 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

Eye Irritation: 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 n-butanol; TLV(TWA) = 100ppm. Avoid contact with oxidizing agents.

Hazardous decomposition products: n-butanol, 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 use only.

Storage and Handling: Store in sealed containers.

TRANSPORTATION

DOT SHIPPING NAME: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.
(TITANIUM CHLORIDE TRI-n-BUTOXIDE)

DOT HAZARD CLASS: 8

DOT LABEL: CORROSIVE

DOT ID No: UN3265

PG: III

Prepared by safety and environmental affairs ISSUE DATE AKT850.5: 4/15/09
SUPERSEDES: none

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