

**MATERIAL SAFETY
DATA SHEET**

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NAME USED ON LABEL: ISOBUTYLTRIETHOXYSILANE
CHEMICAL NAME: ISOBUTYLTRIETHOXYSILANE
SYNONYMS: 1-(TRIETHOXYSILYL)-2-METHYLPROPANE
CHEMICAL FAMILY: ORGANOSILANE ESTER
FORMULA: C₁₀H₂₄O₃Si
HMIS CODES HEALTH: 2 FLAMMABILITY: 2 REACTIVITY: 1

INGREDIENTS

IDENTITY	CAS NO.	%	TLV OSHA PEL
ISOBUTYLTRIETHOXYSILANE	17980-47-1	>95	not established
ETHANOL 64-17-5	<5	1000ppm	

PHYSICAL DATA

Boiling Point: 190-1°C	Melting Point: <0°C
Specific Gravity: 0.91	Vapor Pressure, 25°C: <1mm
Vapor Density (air = 1): > 1	Solubility in water: insoluble, reacts slowly
% volatiles: 100	Evaporation rate (butyl acetate = 1): <1
Molecular Weight: 220.38	Other: N/A
Appearance & Color: Clear liquid, characteristic odor	

FIRE & EXPLOSION DATA

Flash Point, TCC: 63°C (145°F) Autoignition Temp.: not determined
Flammability Limits: not determined
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.

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: May cause immediate or delayed severe eye irritation.
Skin contact: May produce irritation or contact dermatitis. Material generates ethanol on contact with water or moisture in skin, eyes and mucous membranes and has an irritating, dehydrating effect on overexposed tissue. Prompt and

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Abbreviations: ND: Not Determined, No Data; NA: Not Applicable; LD: Lethal Dose, LC: Lethal Concentration; H: hour; °: °C unless otherwise stated; mm: millimeters Hg, torr; PEL: permissible exposure level; TWA: time weighted average; TLV: threshold limit value; HMIS: Hazardous Material information System; CAS No.: Chemical Abstract Service Registration Number
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thorough washing with soap and water will reduce or eliminate potential dermal effects.

Inhalation: Inhalation may irritate the respiratory tract. Overexposure can cause lung damage - pulmonary toxin.

Note: The hydrolysis product of isobutyltriethoxysilane is ethanol. Overexposure to ethanol by skin absorption, inhalation or ingestion may have a narcotic effect (headache, nausea, drowsiness). Ethanol is metabolized to acetaldehyde and acetic acid which in large quantities result in metabolic acidosis, CNS depression and death due to respiratory arrest.

Oral Toxicity- rat, LD50: >5000mg/kg

Dermal Toxicity- rabbit, LD50: >2000mg/kg

Inhalation Toxicity: not determined

Other Toxicological Studies- LC50 (Onchorhyncus mykiss): 85mg/l 96 hours

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 one full cup of water to dilute ingested material. Get medical attention.

REACTIVITY DATA

Stability: Stable

Conditions to avoid: Material decomposes slowly in contact with moist air or with water liberating ethanol; TLV(TWA) = 1000ppm. Avoid contact with oxidizing agents..

Hazardous decomposition products: Ethanol, organic acid vapors and silicon dioxide.

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.

Containers require grounding during use.

TRANSPORTATION

DOT SHIPPING NAME: COMBUSTIBLE LIQUID, N.O.S.

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DOT HAZARD CLASS: Not Regulated
DOT LABEL: Not Required
DOT ID No: Not Required

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