



ALDON CORPORATION

MATERIAL SAFETY DATA SHEET

1533 W. Henrietta Rd.
Avon, New York 14414
(716) 226-6177

MSDS No. TT 62
Effective Date May 21, 1999

SECTION V HEALTH HAZARD DATA

TT 62

Threshold Limited Value

Inhalation 4 hour LC50: 7.78 mg/L in rats.
Skin absorption LD50: >16 ml/kg in rabbits.
Oral ALD: 11,000 mg/kg in rats.

Effects of Overexposure

SKIN CONTACT: May cause irritation with discomfort or rash.
EYE CONTACT: May cause irritation with discomfort, tearing or blurring of vision. **INHALATION:** May cause irritation of upper respiratory tract, with coughing, discomfort, nausea, weakness. **INGESTION:** May cause nonspecific discomfort such as nausea, headache, weakness.

Emergency and First Aid Procedures

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
SKIN: Flush with soap and water. If irritation develops or persists, get medical attention. **EYES:** Flush with water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention.
INGESTION: If swallowed, do NOT induce vomiting. If conscious, give water or milk to drink. Get medical attention. Never give anything by mouth to an unconscious person.

SECTION VI REACTIVITY DATA

Stability	Unstable	Conditions to Avoid
	Stable	X Excessive temperatures, heat, spark or flame.

Incompatibility (Materials to Avoid)	Incompatible with water. Hydrolyzes rapidly, forming isopropanol.
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Hazardous Decomposition Products	Heating generates flammable olefins and other flammable organic compounds.
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Hazardous Polymerization		Conditions to Avoid
May Occur	Will Not Occur	Hydrolysis.

SECTION VII SPILL OR LEAK PROCEDURES

Steps to be taken in case material is released or spilled	Remove sources of heat, sparks, flame, impact, friction or electricity. Prevent material from entering sewers, waterways or low areas. Soak up with sawdust, sand or other absorbent material. Place in proper container for disposal.
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Waste Disposal Method	Discharge, treatment, or disposal may be subject to Federal, State or Local laws. These disposal guidelines are intended for the disposal of catalog-size quantities only.
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Dispose of in an approved incinerator equipped with an afterburner and scrubber or contract with a licensed waste disposal system. This material may be a RCRA regulated hazardous waste upon disposal due to the ignitability characteristics.

SECTION VIII SPECIAL PROTECTION INFORMATION

Respiration Protection (Specify Type)	None needed in normal laboratory handling. If misty conditions prevail, work in ventilation hood or wear a NIOSH/MSHA-approved respirator.
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Ventilation	Local Exhaust	Recommended.	Special	No.
	Mechanical (General)	Recommended.	Other	Adequate to maintain below exposure limit.

Protective Gloves	Rubber.	Eye Protection	Chemical safety glasses.
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Other Protective Equipment	Lab coat, apron, eye wash station, proper gloves, ventilation hood.
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SECTION IX SPECIAL PRECAUTIONS

Precautions to be Taken in Handling & Storing	This material can be a liquid or a solid depending on storage and/or shipping conditions. Keep away from heat and flames. Wash thoroughly after handling. Store in a well ventilated area.
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Other Precautions	Read label on container before using. Do not wear contact lenses when working with chemicals.
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Avoid breathing vapors or mists. Avoid contact with skin, eyes and clothing. Use with adequate ventilation. Remove and wash contaminated clothing before reuse.

For laboratory use only. Not for drug, food or household use. Keep out of reach of children.

Revision	No. 2	Date	5/21/99	Approved	Michael Raszeja	Chemical Safety Coordinator	MR
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The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. * Hazardous Materials Industrial Standards. Printed on recycled paper.

SECTION I NAME 24 HOUR EMERGENCY ASSISTANCE

Product	TETRAISOPROPYL ORTHOTITANATE
Chemical Synonyms	TPT, Tetraisopropyl titanate
Formula	C ₁₂ H ₂₈ O ₄ Ti
Unit Size	up to 180 Kg.
C.A.S. No.	546-68-9

CHEMTREC
800-424-9300
Day 716-226-6177

NFPA HAZARD RATING
LEAST SLIGHT MODERATE HIGH EXTREME
0 1 2 3 4

Health	2
Fire	3
Reactivity	1

HMIS *
3 4

SECTION II INGREDIENTS OF MIXTURES

Principal Component(s)	%	TLV Units
Tetraisopropyl titanate: (CAS No. 546-68-9)	99-100%	None established.
Isopropyl alcohol: (CAS No. 67-63-0)	0-1%	400 ppm
DANGER! FLAMMABLE! MAY CAUSE SEVERE EYE IRRITATION. MAY CAUSE SKIN IRRITATION.		

SECTION III PHYSICAL DATA

Melting Point (°F)	N/A	Specific Gravity (H ₂ O = 1)	0.95 @ 25°C
Boiling Point (°F)	230°C (450°F) @ 760 mm Hg.	Percent Volatile by Volume (%)	N/A
Vapor Pressure (mm Hg)	N/A	Evaporation Rate (≈1)	N/A
Vapor Density (Air=1)	N/A		
Solubility in Water	Hydrolyzes.		
Appearance & Odor	Pale yellow liquid; isopropyl alcohol odor.		

SECTION IV FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used)	21°C (70°F) OC	Flammable Limits in Air % by Volume	N/A	Lower	Upper
Extinguisher Media	Foam, dry chemical, carbon dioxide (CO ₂).				

SPECIAL FIREFIGHTING PROCEDURES

Avoid using water on large spills. Water may be used to flush away residue. Wear full protective clothing and equipment. Use a NIOSH/MSHA-approved self-contained breathing apparatus.

(1996 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.7, GUIDE PAGE NO. 128)

UNUSUAL FIRE AND EXPLOSION HAZARDS

Use explosion-proof exhaust systems to vent fumes resulting from hydrolysis and pyrolysis during use.

D.O.T. Flammable liquids, n.o.s., (Tetraisopropyl titanate, Isopropanol), 3, UN 1993, PG II

Approved by U.S. Department of Labor "essentially similar" to form OSHA-20