



ALDON CORPORATION

MATERIAL SAFETY DATA SHEET

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MSDS No. TT 190
Effective Date May 24, 1999

SECTION V HEALTH HAZARD DATA

TT 190

Threshold Limited Value ACGIH 1992-93 TWA: 50 ppm, 188 mg/m³. OSHA TWA = 100 ppm, 377 mg/m³.
OSHA STEL = 150 ppm, 565 mg/m³. RTECS # XS5250000

Effects of Overexposure **TARGET ORGANS AFFECTED:** Liver, kidneys, central nervous system. **INHALATION:** Can produce headache, drowsiness, fatigue, nausea. Central nervous system effects, impaired coordination. **SKIN:** May cause irritation. Vapors may cause drying and defatting of skin. **EYES:** Liquid may cause irritation or corneal burns. **INGESTION:** Narcotic. May cause burning sensation and abdominal spasms. Aspiration of liquid into the lungs may cause coughing, gagging, distress, lung damage.

Emergency and First Aid Procedures **EYES:** Immediately flush with water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get prompt medical attention. **SKIN:** Flush area with water, then wash with mild soap and water. Remove contaminated clothing promptly. Get medical attention if irritation persists, or if large areas of skin were exposed. **INHALATION:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention. **INGESTION:** Do NOT induce vomiting. Get medical help as soon as possible! (Aspiration is a potential hazard if vomiting occurs.) Never give anything by mouth to an unconscious person.

SECTION VI REACTIVITY DATA

Stability	Unstable		Conditions to Avoid	Excessive temperature, heat, sparks and flame.
	Stable	X		

Incompatibility (Materials to Avoid) Strong oxidizing materials. Nitric acid and toluene, especially in combination with sulfuric acid will produce nitrated compounds which are dangerously explosive.

Hazardous Decomposition Products Thermal decomposition or burning emits carbon dioxide and/or carbon monoxide.

Hazardous Polymerization		Conditions to Avoid	Not applicable.
May Occur	Will Not Occur		
	X		

SECTION VII SPILL OR LEAK PROCEDURES

Steps to be taken in case material is released or spilled Remove ignition sources; provide explosion-proof ventilation. Those involved in clean-up must use protection against liquid contact and vapor inhalation. Pick up as liquid when feasible or absorb in vermiculite, sand or earth and scoop up with non-sparking tools into a metal container with cover. Liquid can be flushed, with a water spray to an open holding area for handling. Do not flush to sewer, to a confined space or to a watercourse.

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.

Consider reclaiming by distillation or disposal in an approved incinerator or contract with a licensed waste disposal service.

SECTION VIII SPECIAL PROTECTION INFORMATION

Respiration Protection (Specify Type) Work in ventilation hood having explosion proof motor. A NIOSH/MSHA-approved self-contained breathing apparatus or respirator fixed with organic vapor canister for emergency use.

Ventilation	Local Exhaust	Recommended.	Special	No.
	Mechanical (General)	Recommended.	Other	No.

Protective Gloves	Neoprene, Vitron.	Eye Protection	Chemical safety glasses.
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Other Protective Equipment	Goggles, lab coat, apron, ventilation hood, proper gloves, fire extinguisher, eye wash station.
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SECTION IX SPECIAL PRECAUTIONS

Precautions to be Taken in Handling & Storing Store in a cool, clean, well-ventilated area away from heat, ignition sources and oxidizing agents. Area must meet requirements of OSHA Class 1B liquid. No smoking in area of storage or use. Wash thoroughly after handling.
Keep container tightly closed when not in use.

Other Precautions Read label on container before using. Do not wear contact lenses when working with chemicals.

Use with adequate ventilation. Avoid contact with eyes, skin and clothing. Avoid breathing vapor. Remove and wash contaminated clothing.

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

Revision No. 4	Date 5/24/99	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	TOLUENE	<p>CHEMTREC 800-424-9300 Day 716-226-6177</p> <p>NFPA HAZARD RATING</p> <table border="1"> <tr> <td>LEAST</td> <td>SLIGHT</td> <td>MODERATE</td> <td>HIGH</td> <td>EXTREME</td> </tr> <tr> <td>0</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> </table> <p>HMIS * Health 2 Fire 3 Reactivity 0</p>	LEAST	SLIGHT	MODERATE	HIGH	EXTREME	0	1	2	3	4
LEAST	SLIGHT		MODERATE	HIGH	EXTREME							
0	1		2	3	4							
Chemical Synonyms	Toluol, Methylbenzene											
Formula	C ₆ H ₅ CH ₃											
Unit Size	up to 20 Lt.											
C.A.S. No.	108-88-3											

SECTION II INGREDIENTS OF MIXTURES

Principal Component(s)	%	TLV Units
Toluene	100%	See Section V.
DANGER! FLAMMABLE! HARMFUL OR FATAL		
IF SWALLOWED. VAPOR HARMFUL. HARMFUL		
IF ABSORBED THROUGH SKIN.		

SECTION III PHYSICAL DATA

Melting Point (°F)	-95°C (-139°F)	Specific Gravity (H ₂ O = 1)	0.866
Boiling Point (°F)	109 - 112°C (228 - 233°F)	Percent Volatile by Volume (%)	100%
Vapor Pressure (mm Hg)	22 mm at 20°C	Evaporation Rate (Butyl acetate =1)	2.24
Vapor Density (Air=1)	3.14		
Solubility in Water	0.05% at 20°C.		
Appearance & Odor	Clear colorless liquid; benzene-like odor.		

SECTION IV FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used)	40°F (4°C) (CC)	Flammable Limits in Air % by Volume	Lower	Upper
			1.2%	7.1%

Extinguisher Media Dry chemical, carbon dioxide, water spray or foam.

SPECIAL FIREFIGHTING PROCEDURES Water may be ineffective. However, water can be used when applied in the form of a spray to absorb some of the heat and to keep exposed material from being damaged by fire. In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus; wear goggles if eye protection is not provided and full protective clothing.

(1996 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.7, GUIDE PAGE NO. 130)

UNUSUAL FIRE AND EXPLOSION HAZARDS Vapor is heavier than air (vapor density at 100°F, 1.2) and may travel considerable distance to a source of ignition and flash back. Fire or excessive heat may produce hazardous decomposition products; can react vigorously with oxidizing materials. At room temperature, toluene emits vapors that can form explosive mixtures with air.

Autoignition Temperature: 480°C (896°F).

D.O.T. Toluene, 3, UN 1294, PG II

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