



ALDON CORPORATION

MATERIAL SAFETY DATA SHEET

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MSDS No. NN 274
Effective Date May 11, 1999

SECTION V HEALTH HAZARD DATA

NN 274

Threshold Limited Value Airborne exposure limits: OSHA Permissible Exposure Limit (PEL): 2 ppm (TWA) - ACGIH (TLV): 2 ppm (TWA); 4 ppm (STEL).

Effects of Overexposure **INHALATION:** Corrosive! Vapors can cause breathing difficulties and lead to pneumonia and pulmonary edema which may be fatal. **INGESTION:** Corrosive! Swallowing nitric acid can cause immediate pain and burns of the mouth, throat, esophagus and gastrointestinal tract. **SKIN:** Corrosive! Can cause redness, pain, and severe skin burns. Concentrated solutions cause deep ulcers and stain skin a yellow or yellow-brown color. **EYE CONTACT:** Corrosive! Vapors are irritating and may cause damage to the eyes. Splashes may cause severe burns and permanent eye damage.

Emergency and First Aid Procedures **INHALATION:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call physician immediately. **INGESTION: DO NOT INDUCE VOMITING!** If conscious, give large quantities of water or milk if available. Never give anything by mouth to an unconscious person. Get medical attention immediately. **SKIN EXPOSURE:** Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately. **EYES:** Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SECTION VI REACTIVITY DATA

Stability	Unstable		Conditions to Avoid	Stable under ordinary conditions of use and storage. Containers may burst when heated.
	Stable	X		

Incompatibility (Materials to Avoid) A dangerously powerful oxidizing agents, concentrated nitric acid is incompatible with most substances, especially strong bases, metallic powders, carbides, hydrogen sulfide, turpentine, and combustible organics.

Hazardous Decomposition Products When heated to decomposition, emits toxic nitrogen oxides fumes and hydrogen nitrate. Will react with water or steam to produce heat and toxic and corrosive fumes.

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 Isolate or enclose the area of the leak or spill. Clean-up personnel should wear protective clothing and respiratory equipment suitable for toxic or corrosive fluids or vapors. **SPILLS:** Flush with water and neutralize with alkaline material (soda ash, lime, sodium bicarbonate, etc.). Flush to sewer with copious amounts of water.

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. Neutralize with alkaline material (soda ash, lime, sodium bicarbonate, etc.) and flush to sewer with copious amounts of water or contract with a licensed waste disposal service.

SECTION VIII SPECIAL PROTECTION INFORMATION

Respiration Protection (Specify Type) In the laboratory work in fume hood. If the TLV is exceeded, wear a NIOSH/MSHA-approved, supplied air, full facepiece respirator, airlined hood, or self-contained breathing apparatus. [See note below.]

Ventilation	Local Exhaust	Yes (recommended).	Special	No.
	Mechanical (General)	Yes.	Other	No.

Protective Gloves	Rubber, Neoprene.	Eye Protection	Goggles and face shield.
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Other Protective Equipment Goggles and shield, lab coat and apron, ventilation hood, proper gloves, eye wash station, quick-drench facilities.

SECTION IX SPECIAL PRECAUTIONS

Precautions to be Taken in Handling & Storing Do not get in eyes, on skin, or on clothing. Avoid breathing mist. Use with adequate ventilation. Wash thoroughly after handling. Keep from contact with clothing and other combustible materials. Do not store near combustible materials. 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. Store in a tightly closed container. Remove and wash contaminated clothing promptly. Remove closure slowly to release pressure. Nitric acid is an oxidizer and should not come in contact with cartridges and cannisters that contain oxidizable materials, such as activated charcoal.

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

Revision No. 1	Date 5/11/99	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	NITRIC ACID, 0.5 M AQ. SOLUTION	
Chemical Synonyms	N/A	
Formula	Mixture.	
Unit Size	up to 3.785 Lt.	
C.A.S. No.	Mixture.	

SECTION II INGREDIENTS OF MIXTURES

Principal Component(s)	%	TLV Units
Nitric Acid, concentrated 70% solution: (CAS No. 7697-37-2)	3.2%	See Section V.
Water: (CAS No. 7732-18-5)	96.8%	None established.

DANGER! CORROSIVE! STRONG OXIDIZER! CONTACT WITH OTHER MATERIAL MAY CAUSE FIRE OR EXPLOSION. CAUSES SEVERE BURNS. MAY BE FATAL IF SWALLOWED. HARMFUL IF INHALED.

SECTION III PHYSICAL DATA

Melting Point (°F)	-34°C to 0°C (-29°F to 32°F)	Specific Gravity (H₂O = 1)	1.41
Boiling Point (°F)	100°C to 122°C (212°-252°F)	Percent Volatile by Volume (%)	96.8%
Vapor Pressure (mm Hg)	N/A	Evaporation Rate (=1)	Data not listed.
Vapor Density (Air=1)	N/A		
Solubility in Water	Infinite in water.		
Appearance & Odor	Clear, colorless to slightly yellow liquid; slight odor.		

SECTION IV FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used)	Not combustible.	Flammable Limits in Air % by Volume	N/A	Lower	Upper
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Extinguisher Media If involved in a fire, use water spray.

SPECIAL FIREFIGHTING PROCEDURES

Increases the flammability of combustible, organic and readily oxidizable materials. In the event of a fire, wear full protective clothing and NIOSH/MSHA-approved, self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

(1996 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.7, GUIDE PAGE NO. 157)

UNUSUAL FIRE AND EXPLOSION HAZARDS

FIRE: Not combustible, but substance is a strong oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition. Can react with metals to release flammable hydrogen gas. **EXPLOSION:** Reacts explosively with combustible organic or readily oxidizable materials such as: alcohols, turpentine, charcoal, organic refuse, metal powder, hydrogen sulfide, etc.

D.O.T. NITRIC ACID, (SOLUTION), 8, UN 2031, PG II

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