



ALDON CORPORATION

MATERIAL SAFETY DATA SHEET

1533 W. Henrietta Rd.
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MSDS No. AA 276
Effective Date January 22, 1999

SECTION V HEALTH HAZARD DATA

AA 276

Threshold Limited Value

As Ammonia gas TWA: 25 ppm, 17 mg/m³; STEL: 35 ppm, 24 mg/m³ (ACGIH 1992-93). Oral Rat-LD50 350 mg/Kg.

Effects of Overexposure

May cause severe irritation or burns to eyes, skin and mucous membranes; highly toxic by oral and inhalation routes. Inhalation of ammonia gas causes edema, spasm, and asphyxia. If container is warm, open cap slowly with adequate ventilation; a sudden release of ammonia fumes may cause irritation to eyes and mucous membranes.

Emergency and First Aid Procedures

SKIN: Flood with water, then wash with vinegar. **EYES:** Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get medical attention. **INGESTION:** If swallowed, if conscious, give large quantities of water to drink, follow with vegetable oil. Get prompt medical attention. Never give anything by mouth to an unconscious person. **INHALATION:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

SECTION VI REACTIVITY DATA

Stability	Unstable	Conditions to Avoid
	Stable	X When heated, emits toxic fumes of ammonia.

Incompatibility (Materials to Avoid)	Acids, acrolein, dimethyl sulfate, halogens, AgNO ₃ , AgMnO ₄ .
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Hazardous Decomposition Products		Ammonia fumes.
Hazardous Polymerization		Conditions to Avoid
May Occur	Will Not Occur	Not applicable.
	X	

SECTION VII SPILL OR LEAK PROCEDURES

Steps to be taken in case material is released or spilled	Wearing protective equipment, carefully neutralize with sodium bisulfate and flush to sewer with copious amounts of water.
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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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Wearing protective equipment, carefully neutralize with sodium bisulfate and flush to sewer with copious amounts of water.

SECTION VIII SPECIAL PROTECTION INFORMATION

Respiration Protection (Specify Type)		Work in ventilation hood or wear a NIOSH/MSHA-approved respirator with ammonia canister if necessary.			
Ventilation	Local Exhaust	Recommended.	Special	No.	
	Mechanical (General)	Recommended.	Other	No.	
Protective Gloves		Rubber.		Eye Protection	Goggles, chemical safety glasses.
Other Protective Equipment	Goggles and shield, lab coat, vented hood, proper gloves, eye wash station.				

SECTION IX SPECIAL PRECAUTIONS

Precautions to be Taken in Handling & Storing	Store at 75°F. Store away from sources of ignition, separate from acids. Store in a well-ventilated area. Wash thoroughly after handling.
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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 contact with eyes, skin and mucous membranes. Avoid breathing vapor. Use with adequate ventilation. Remove and wash contaminated clothing.

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

Revision	No. 1	Date	1/22/99	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	AMMONIUM HYDROXIDE, 2 M SOLUTION
Chemical Synonyms	Ammonium Hydroxide, Water Solution
Formula	Mixture. See Section II.
Unit Size	up to 4 Lt.
C.A.S. No.	Mixture. See Section II.

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

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

Health	2
Fire	0
Reactivity	1

HMIS *

SECTION II INGREDIENTS OF MIXTURES

Principal Component(s)	%	TLV Units
Ammonium Hydroxide: (CAS No. 1336-21-6)	11.2%	25 ppm in air as ammonia.
Water: (CAS No. 7732-18-5)	88.8%	None established.
WARNING! IRRITANT. MAY CAUSE BURNS. MAY BE FATAL		
IF SWALLOWED OR INHALED.		

SECTION III PHYSICAL DATA

Melting Point (°F)	Freezes @ approx. 0°C (32°F)	Specific Gravity (H ₂ O = 1)	Approx. 1.0
Boiling Point (°F)	Approx. 100°C (212°F)	Percent Volatile by Volume (%)	Approx. 88.8%
Vapor Pressure (mm Hg)	Approx. 755 @ 26.7°C	Evaporation Rate (Ether = 1)	<1
Vapor Density (Air=1)	0.596 Ammonia Gas 15.6°C.		
Solubility in Water	Complete (initial condition, shifting as Ammonia is lost.)		
Appearance & Odor	Water white liquid; strong, pungent ammonia odor.		

SECTION IV FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used)	Liquid not flammable (NA).	Flammable Limits in Air % by Volume	NH ₃ Gas	Lower	Upper
				16	25
Extinguisher Media	Use any media for extinguishing the supporting fire.				

SPECIAL FIREFIGHTING PROCEDURES

Wear full protective clothing with respirator mask having ammonia vapor canister, or NIOSH/MSHA-approved self-contained breathing apparatus.

UNUSUAL FIRE AND EXPLOSION HAZARDS

Emits irritating fumes and liquid can inflict burns. Ammonium hydroxide is non-combustible and non-explosive, but ammonia vapors released from solution can form an explosive mixture with air.

D.O.T. NON-REGULATED.

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