



**ALDON CORPORATION**

# MATERIAL SAFETY DATA SHEET

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MSDS No. HH 174  
Effective Date March 8, 1999

## SECTION V HEALTH HAZARD DATA

HH 174

### Threshold Limited Value

Hydrofluoric acid as F: 3ppm TWA, 6ppm STEL; 2.6 mg/m<sup>3</sup>C.

### Effects of Overexposure

**TARGET ORGANS AFFECTED:** Liver, kidneys.  
**INHALATION:** Inhalation of vapors can cause coughing, choking, inflammation of the nose, throat, and upper respiratory tract. **INGESTION:** Corrosive! Swallowing hydrofluoric acid can cause immediate pain and burns of the mouth, throat, esophagus and gastrointestinal tract. **SKIN CONTACT:** Corrosive! Can cause redness, pain, and severe skin burns. **EYE CONTACT:** Vapors are irritating and may cause damage to the eyes. Splashes may cause severe burns and permanent eye damage.

### Emergency and First Aid Procedures

**INGESTION:** If swallowed, do NOT induce vomiting. If conscious, give several glasses of water or milk to drink. Follow with milk of magnesia, beaten eggs or vegetable oil. Call physician immediately. Never give anything by mouth to an unconscious person. **EYES:** Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention. **SKIN:** Flush thoroughly with water, then wash with mild soap and water. Get medical attention. **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 under conditions of use and storage. Containers may burst when heated.
	Stable	X		

Incompatibility (Materials to Avoid)	Highly reactive with strong bases, metals, metal oxides, hydroxides, amines, carbonates and other alkaline materials. Incompatible with cyanides, sulfides, sulfites, and formaldehyde.
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Hazardous Decomposition Products	When heated to decomposition, emits toxic fumes and will react with water or steam to produce heat and toxic and corrosive fluoride fumes.
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Hazardous Polymerization	Conditions to Avoid	Not applicable.
May Occur		
		X

## SECTION VII SPILL OR LEAK PROCEDURES

Steps to be taken in case material is released or spilled	Clean-up personnel should wear protective clothing and respiratory equipment suitable for toxic or corrosive fluids or vapors. Isolate or enclose the area of the leak or spill. Neutralize with sodium bicarbonate. Absorb with inert dry material and place in suitable container for proper disposal. Wash area with soap and 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.  Neutralize with alkaline materials (sodium bicarbonate, soda ash, lime, etc.) and flush to sewer with copious amounts of water.
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## SECTION VIII SPECIAL PROTECTION INFORMATION

Respiration Protection (Specify Type)	In the laboratory open bottle closure slowly and work in ventilation hood. If the TLV is exceeded a NIOSH/MSHA approved full facepiece chemical cartridge respirator may be worn.		
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Ventilation	Local Exhaust	Yes (Recommended).	Special	No.
	Mechanical (General)	Yes.	Other	No.

Protective Gloves	Rubber, Neoprene.	Eye Protection	Goggles and faceshield.
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Other Protective Equipment	Goggles and faceshield, eye wash station, proper gloves, ventilation hood, lab coat, apron.
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## SECTION IX SPECIAL PRECAUTIONS

Precautions to be Taken in Handling & Storing	Keep container tightly closed when not in use. Store in a cool, dry, well-ventilated area. Protect from physical damage and direct sunlight. Isolate from incompatible substances. Protect from moisture. Remove cap slowly, while wearing protective clothing and using proper ventilation. Do not store in metal or glass containers.
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Other Precautions	Read label on container before using. Do not wear contact lenses when working with chemicals. Do not get in eyes, on skin, or on clothing. Avoid breathing mist. Use only with adequate ventilation. Remove and wash contaminated clothing promptly.
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For laboratory use only. Not for drug, food or household use. Keep out of reach of children.

Revision No. 3	Date 3/8/99	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	HYDROFLUORIC ACID, 48-50%	 <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 *</p> <table border="1"> <tr> <td>Health</td> <td>4</td> </tr> <tr> <td>Fire</td> <td>0</td> </tr> <tr> <td>Reactivity</td> <td>2</td> </tr> </table>	LEAST	SLIGHT	MODERATE	HIGH	EXTREME	0	1	2	3	4	Health	4	Fire	0	Reactivity	2
LEAST	SLIGHT		MODERATE	HIGH	EXTREME													
0	1		2	3	4													
Health	4																	
Fire	0																	
Reactivity	2																	
Chemical Synonyms	Fluohydric acid, fluoric acid																	
Formula	Mixture. See Section II.																	
Unit Size	up to 4 Lt.																	
C.A.S. No.	Mixture. See Section II.																	

## SECTION II INGREDIENTS OF MIXTURES

Principal Component(s)	%	TLV Units
Hydrofluoric Acid: (CAS No. 7664-39-3)	48-50%	See Section V.
Water: (CAS No. 7732-18-5)	50-52%	None established.

**DANGER! CORROSIVE!**  **POISON**  **CAUSES SEVERE**

**BURNS. MAY BE FATAL IF SWALLOWED. HARMFUL IF INHALED.**

## SECTION III PHYSICAL DATA

Melting Point (°F)	(-95.8°F) -71°C	Specific Gravity (H <sub>2</sub> O = 1)	1.2
Boiling Point (°F)	(151°F) -66°C	Percent Volatile by Volume (%)	100%
Vapor Pressure (mm Hg)	N/A	Evaporation Rate ( =1)	N/A
Vapor Density (Air=1)	2.21		
Solubility in Water	Soluble		
Appearance & Odor	Clear, colorless liquid; Strong, irritating odor.		

## SECTION IV FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used)	Not combustible.	Flammable Limits in Air % by Volume	NA	Lower	Upper
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Extinguisher Media	If involved in a fire, use water spray.
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### SPECIAL FIREFIGHTING PROCEDURES

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

Can react with metals to release flammable hydrogen gas. Will react with water or steam to produce heat and toxic and corrosive fumes. Containers may burst when heated.

D.O.T. HYDROFLUORIC ACID, SOLUTION, 8, UN 1790, PG II

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