



**ALDON CORPORATION**

# MATERIAL SAFETY DATA SHEET

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MSDS No. FF 270  
Effective Date March 1, 1999

## SECTION V HEALTH HAZARD DATA

FF 270

### Threshold Limited Value

STEL: 10 ppm, 19 mg/m<sup>3</sup>; TWA: 5 ppm; 9.4 mg/m<sup>3</sup> (Air)  
(ACGIH 1992-93).

### Effects of Overexposure

**TARGET ORGANS AFFECTED:** Respiratory system, liver, kidneys.

Formic acid is a highly toxic substance which also has corrosive action on any body tissue it contacts.  
**EYE CONTACT:** With liquid or high vapor concentrations will produce irritation and conjunctivitis and may cause corneal burns. **SKIN:** Contact will cause irritation and burns. **INHALATION:** Excessive inhalation of vapors is irritating to upper respiratory tract. **INGESTION:** Causes acute local tissue damage with other effects ranging from nausea and dizziness to unconsciousness.

### Emergency and First Aid Procedures

**EYES:** Immediately flush with plenty of water for at least 15 minutes, including under eyelids. Get immediate medical attention. **SKIN:** Flush with water, then wash with soap and water. Get medical attention if irritation persists. **INHALATION:** Remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention. **INGESTION:** If swallowed, do NOT induce vomiting. If conscious, give one or two glasses of milk or water to drink. Call a physician immediately. Never give anything by mouth to an unconscious person.

## SECTION VI REACTIVITY DATA

Stability	Unstable	Conditions to Avoid	Excessive temperature and heat.
	Stable		

Incompatibility (Materials to Avoid)	Alkalies, strong oxidizers, concentrated sulfuric acid.
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Hazardous Decomposition Products	Thermal decomposition or burning may produce carbon dioxide and/or carbon monoxide. Decomposes > 38°C (100°F).
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Hazardous Polymerization	Conditions to Avoid
May Occur	Will Not Occur
	X
	Not applicable.

## SECTION VII SPILL OR LEAK PROCEDURES

Steps to be taken in case material is released or spilled	Provide maximum ventilation and eliminate ignition sources. Absorb spill in vermiculite, sand, earth, paper towel and place in a suitable container for disposal. Neutralize remaining traces of residue with soda ash and flush to drain with large 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. Dispose of in an approved incinerator equipped with an afterburner and scrubber or contract with a licensed waste disposal service.
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## SECTION VIII SPECIAL PROTECTION INFORMATION

Respiration Protection (Specify Type)	Work in a ventilation hood or wear a NIOSH/MSHA-approved organic vapor respirator.
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Ventilation	Local Exhaust	Recommended.	Special	No.
	Mechanical (General)	Recommended.	Other	No.

Protective Gloves	Rubber.	Eye Protection	Goggles
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Other Protective Equipment	Smock, apron, Chemical safety glasses, eye wash station, ventilation hood, proper gloves, fire extinguisher.
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## SECTION IX SPECIAL PRECAUTIONS

Precautions to be Taken in Handling & Storing	Store in a cool, dry place away from strong oxidizers and fire hazards. Wash thoroughly after handling. Keep container tightly closed when not in use.
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Other Precautions	Read label on container before using. Do not wear contact lenses when working with chemicals. Avoid breathing vapors. Use with adequate ventilation. Avoid contact with skin, eyes and clothing. Remove all contaminated clothing and shoes at once. Wash before reusing.
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For laboratory use only. Not for drug, food or household use. Keep out of reach of children.

Revision No. 6	Date 3/1/99	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	FORMIC ACID	 <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>3</td> </tr> <tr> <td>Fire</td> <td>2</td> </tr> <tr> <td>Reactivity</td> <td>0</td> </tr> </table>	LEAST	SLIGHT	MODERATE	HIGH	EXTREME	0	1	2	3	4	Health	3	Fire	2	Reactivity	0
LEAST	SLIGHT		MODERATE	HIGH	EXTREME													
0	1		2	3	4													
Health	3																	
Fire	2																	
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Chemical Synonyms	Methanoic Acid; Formylic Acid																	
Formula	HCOOH																	
Unit Size	up to 4 Lt.																	
C.A.S. No.	64-18-6																	

## SECTION II INGREDIENTS OF MIXTURES

Principal Component(s)	%	TLV Units
Formic Acid	88-90%	See Section V.
<b>DANGER! CORROSIVE! CAUSES SEVERE SKIN AND EYE BURNS. HARMFUL IF SWALLOWED OR INHALED. COMBUSTIBLE.</b>		

## SECTION III PHYSICAL DATA

Melting Point (°F)	-5°C (23°F)	Specific Gravity (H <sub>2</sub> O = 1)	1.213 (20/20°C)
Boiling Point (°F)	101°C (213°F)	Percent Volatile by Volume (%)	100%
Vapor Pressure (mm Hg)	33 mm at 20°C	Evaporation Rate (Butyl Acetate = 1)	1.6
Vapor Density (Air=1)	1.59		
Solubility in Water	Complete.		
Appearance & Odor	Clear, colorless fuming liquid; pungent penetrating odor.		

## SECTION IV FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used)	71°C (160°F) ASTM D1310 (TOC)	Flammable Limits in Air % by Volume	Lower	Upper
			18%	57%

Extinguisher Media	Carbon dioxide (CO <sub>2</sub> ); dry chemical (ABC); water spray.
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SPECIAL FIREFIGHTING PROCEDURES	This combustible material is a moderate fire hazard when exposed to heat or flame. Firefighters must use eye protection and a NIOSH/MSHA approved self-contained breathing equipment with full protective clothing to fight fires in which this material is involved.  Auto-ignition Temperature: 600°C (1114°F)
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UNUSUAL FIRE AND EXPLOSION HAZARDS	Corrosive fumes. Dangerously caustic to skin. Fire or excessive heat may produce hazardous decomposition products; can react vigorously with oxidizing materials.
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(1996 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.7, GUIDE PAGE NO. 153)

D.O.T.	FORMIC ACID, 8, UN 1779, PG II
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Approved by U.S. Department of Labor "essentially similar" to form OSHA-20