



ALDON CORPORATION

MATERIAL SAFETY DATA SHEET

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MSDS No. OX 100
Effective Date November 2, 1998

SECTION V HEALTH HAZARD DATA

OX 100

Threshold Limited Value None established for this mixture (ACGIH 1992-93). For Oxalic Acid [CAS No. 144-62-7] TWA: 1 mg/m³. Toxicity: LD50 oral-rat 375 mg/kg. IRDS: skn-rbt 500 mg/24H MOD, eye-rbt 250 ug/24H SEV.

Effects of Overexposure **INGESTION:** Acute oxalic poisoning results from ingestion of a solution of the acid. There is marked corrosion of the mouth, esophagus and stomach with symptoms of vomiting, burning abdominal pain, collapse and sometimes convulsions. Death may follow quickly. **SKIN:** Caustic action on skin and may cause dermatitis. **INHALATION:** As mist causes irritation of upper respiratory tract, ulceration of the mucous membranes. **EYES:** As mist causes irritation.

Emergency and First Aid Procedures **INGESTION:** If swallowed, if conscious, give large quantities of milk or water to drink. Do NOT induce vomiting. Call physician immediately. Never give anything by mouth to an unconscious person. **EYES:** Flush thoroughly with water for 15 minutes, lifting lower and upper eyelids occasionally. Get prompt medical attention. **SKIN:** Flush thoroughly with water, then wash with mild soap and water. If irritation occurs, get medical attention. **INHALATION AS MIST:** Remove to fresh air. If illness or discomfort develops, get medical attention.

SECTION VI REACTIVITY DATA

Stability	Unstable		Conditions to Avoid	Excessive temperature and heat. Concentrated sulfuric acid.
	Stable	X		

Incompatibility (Materials to Avoid) Oxalic acid solution is not as reactive as the solid oxalic acid. May react with alkalies, chlorites and hypochlorites. It is a reducing agent.

Hazardous Decomposition Products When heated to decomposition, emits carbon dioxide and/or carbon monoxide and formic acid.

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 Neutralize with sodium bicarbonate and 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.

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SECTION VIII SPECIAL PROTECTION INFORMATION

Respiration Protection (Specify Type) None needed in normal laboratory handling at room temperature. In misty conditions, work in ventilation hood or wear a NIOSH/MSHA-approved respirator.

Ventilation	Local Exhaust	None needed.	Special	No.
	Mechanical (General)	None needed.	Other	No.

Protective Gloves Rubber. **Eye Protection** Chemical safety glasses.

Other Protective Equipment Goggles, lab coat, apron, eye wash station, proper gloves.

SECTION IX SPECIAL PRECAUTIONS

Precautions to be Taken in Handling & Storing Store in a cool place away from oxidizing materials (chlorites, hypochlorites) and alkalies. Avoid contact with skin and eyes. Wash thoroughly after handling. Remove and wash contaminated clothing.
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.

Dihydrate decomposition and sublimation of oxalic acid begins at about 100°C. Above 157°C decomposition of oxalic acid becomes significant. Oxalic acid when heated as a solid or boiled as a solution may require exhaust ventilation.

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

Revision No. 4	Date 11/2/98	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	OXALIC ACID, 1.0 NORMAL SOLUTION	 CHEMTREC 800-424-9300 Day 716-226-6177 NFPA HAZARD RATING LEAST SLIGHT MODERATE HIGH EXTREME 0 1 2 3 4 HMIS *	Health	2
Chemical Synonyms	Ethanedioic Acid, Water Solution		Fire	0
Formula	Mixture. See Section II.		Reactivity	1
Unit Size	up to 4 Lt.			
C.A.S. No.	Mixture. See Section II.			

SECTION II INGREDIENTS OF MIXTURES

Principal Component(s)	%	TLV Units
Oxalic Acid: (CAS No. 144-62-7)	9%	See Section V.
Water: (CAS No. 7732-18-5)	91%	None established.

WARNING! CORROSIVE! HARMFUL IF SWALLOWED.

SKIN AND EYE IRRITANT.

SECTION III PHYSICAL DATA

Melting Point (°F)	Freezes Approx. 0°C (32°F)	Specific Gravity (H₂O = 1)	Approx. 1.0 at 20°C
Boiling Point (°F)	Approx. 100°C (212°F)	Percent Volatile by Volume (%)	91%
Vapor Pressure (mm Hg)	14 mm (water)	Evaporation Rate (Water = 1)	Slightly less than 1.
Vapor Density (Air=1)	0.7 (water)		
Solubility in Water	Complete.		
Appearance & Odor	Clear, colorless water like liquid; no odor.		

SECTION IV FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used)	Non-flammable.	Flammable Limits in Air % by Volume	N/A	Lower	Upper
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Extinguisher Media Use any media suitable for extinguishing supporting fire.

SPECIAL FIREFIGHTING PROCEDURES

This material is decomposed on heating into CO₂ and formic acid. The latter is a toxic, combustible material; will further decompose to produce carbon monoxide. Fire fighters should wear a NIOSH/MSHA approved, self-contained breathing apparatus for respiratory protection against vapors or oxalic acid and its decomposition products.

UNUSUAL FIRE AND EXPLOSION HAZARDS

Fire or excessive heat may produce hazardous decomposition products; can react with oxidizing materials.

(1996 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.7, GUIDE PAGE NO. 154)

D.O.T. Corrosive liquids, n.o.s., (Oxalic acid), 8, UN 1760, PG III

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