



ALDON CORPORATION

MATERIAL SAFETY DATA SHEET

1533 W. Henrietta Rd.
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MSDS No. OX 80
Effective Date February 10, 1998

SECTION I NAME 24 HOUR EMERGENCY ASSISTANCE

Product	OXALIC ACID	<p>CHEMTREC 800-424-9300 Day 716-226-6177</p> <p>NFPA HAZARD RATING LEAST SLIGHT MODERATE HIGH EXTREME 0 1 2 3 4</p> <p>HMIS * HIGH EXTREME 3 4</p>	Health	2
Chemical Synonyms	Ethanedioic Acid		Fire	1
Formula	HOOC-COOH·2H ₂ O		Reactivity	1
Unit Size	up to 2.5 Kg.			
C.A.S. No.	6153-56-6			

SECTION II INGREDIENTS OF MIXTURES

Principal Component(s)	%	TLV Units
Oxalic Acid	100%	See Section V.

WARNING! CORROSIVE! MAY BE FATAL IF SWALLOWED OR INHALED.

SEVERE IRRITANT TO SKIN, EYES AND MUCOUS MEMBRANES.

SECTION III PHYSICAL DATA

Melting Point (°F)	104-106°C (219-222°F)	Specific Gravity (H ₂ O = 1)	1.653 at 18.5°/4°C
Boiling Point (°F)	148-160°C (300-320°F)	Percent Volatile by Volume (%)	Non-volatile (NA).
Vapor Pressure (mm Hg)	Negligible as solid.	Evaporation Rate (=1)	Non-volatile (NA).
Vapor Density (Air=1)	4.3		
Solubility in Water	Insoluble.		
Appearance & Odor	White crystalline powder; 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
Extinguisher Media	Water spray; carbon dioxide (CO ₂); dry chemical.				

SPECIAL FIREFIGHTING PROCEDURES

This material is decomposed on heating into CO₂ and formic acid; the latter, a toxic, combustible material, will further decompose to produce carbon monoxide. Fire fighters should use self-contained breathing apparatus for respiratory protection against vapors of 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 solid, acidic, organic, n.o.s., (Oxalic acid), 8, UN 3261, PG III

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

SECTION V HEALTH HAZARD DATA OX 80

Threshold Limited Value TWA: 1 mg/m³ (AIR). RTECS No. (ACGIH 1992-93) RO2450000 Toxicity: LD50 oral-rat 375 mg/kg. IRDS: skn-rbt 500 mg/24H MOD, eye-rbt 250 mg/24H SEV.

Effects of Overexposure **INHALATION:** Dust may cause irritation to mucous membranes. **EYES:** Contact with dust or solutions will cause burning sensation, with severe burns and possible permanent damage from concentrated solutions. **INGESTION:** Of concentrated solutions will cause burns and irritation to the digestive tract. Ingestion of 5 grams has caused death with symptoms of nausea, shock, convulsions and collapse coming on rapidly. **SKIN:** Contact may have a corrosive action, with dermatitis and possible ulceration from prolonged contact.

Emergency and First Aid Procedures **INHALATION:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult give oxygen. Call a physician immediately. **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 at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention. **SKIN:** Flush thoroughly with water, then wash with soap and water.

SECTION VI REACTIVITY DATA

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

Incompatibility (Materials to Avoid) Oxalic acid is a slightly stronger acid than phosphoric acid. It reacts vigorously with alkalies and it has been found to react explosively with chlorites and hypochlorites. It is a reducing agent.

Hazardous Decomposition Products When heated it can decompose to carbon monoxide, carbon dioxide, and formic acid. It reacts with concentrated sulfuric acid to give CO, CO₂.

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 Use protective equipment. Carefully scoop up solid for recovery or disposal. Thoroughly neutralize liquid spills or residual solids with soda ash or sodium bicarbonate. Wash small amounts of **neutralized** waste down the drain with excess 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. Dispose of in an approved incinerator or contract with a licensed waste disposal service.

SECTION VIII SPECIAL PROTECTION INFORMATION

Respiration Protection (Specify Type) None should be needed in normal laboratory handling. If dusty conditions prevail, work in ventilation hood or wear a NIOSH/MSHA-approved dust mask.

Ventilation	Local Exhaust	Recommended.	Special	No.
	Mechanical (General)	Recommended.	Other	No.

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

Other Protective Equipment Gloves, lab coat, apron, ventilation hood, proper gloves, eye wash station.

SECTION IX SPECIAL PRECAUTIONS

Precautions to be Taken in Handling & Storing Store in a cool, dry 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. 9	Date 2/10/98	Approved Michael Raszeja	Chemical Safety Coordinator MR
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