



ALDON CORPORATION

MATERIAL SAFETY DATA SHEET

1533 W. Henrietta Rd.
Avon, New York 14414
(716) 226-6177

MSDS No. MM 145
Effective Date March 23, 1999

SECTION V HEALTH HAZARD DATA

MM 145

Threshold Limited Value

None established (ACGIH 1992-93). Suggested guidance from TLV for Maleic Anhydride: 0.25 ppm, 1 mg/m³. Ingestion: LD50 (rat): 708 mg/kg.

Effects of Overexposure

TARGET ORGANS AFFECTED: Respiratory tract.
INHALATION: Moderately toxic. Dust may cause upper respiratory tract irritation, difficulty breathing or coughing. **EYES:** Corrosive. Causes eye irritation, redness, pain, possible corneal erosion. **SKIN:** Prolonged or repeated skin contact may cause skin irritation, dermatitis. **INGESTION:** Can be fatal if swallowed. May damage mouth, esophagus, stomach, gastroenteritis.

Emergency and First Aid Procedures

INGESTION: If swallowed, do NOT induce vomiting. If conscious, give one or two glasses of water or milk to drink and get immediate medical attention. Never give anything by mouth to an unconscious person. **EYES:** Flush thoroughly with water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get immediate medical attention. **SKIN:** Flush thoroughly with water, then wash with soap and water. **INHALATION:** Remove to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

SECTION VI REACTIVITY DATA

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

Incompatibility (Materials to Avoid)	Strong oxidizers, alkali metals, strong base, amines. Solutions of maleic acid may corrode metal.
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Hazardous Decomposition Products	Decomposition may release acrid smoke and irritating fumes. Above melting point, can decompose to anhydride and to fumaric acid.
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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	Recover for use if not contaminated. Wear protective safety equipment and use adequate ventilation. Avoid making dust. Sweep up and place in a suitable container for disposal. Flush spill area with water. Do not allow wash water to pollute water ways and streams.
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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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Dispose of in an approved incinerator equipped with an afterburner and scrubber.

SECTION VIII SPECIAL PROTECTION INFORMATION

Respiration Protection (Specify Type)	Work under ventilation hood or if dusty conditions prevail, wear a NIOSH/MSHA-approved dust mask or respirator.
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Ventilation	Local Exhaust	Recommended.	Special	No.
	Mechanical (General)	Recommended.	Other	No.

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

Precautions to be Taken in Handling & Storing	Store in a cool, dry place away from strong oxidizing materials, heat and ignition sources. 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 clothing. Avoid breathing dust. 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. 5	Date	3/23/99	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	MALEIC ACID
Chemical Synonyms	cis-Butenedioic Acid
Formula	HOCOCH:CHCOOH
Unit Size	up to 2.5 Kg.
C.A.S. No.	110-16-7

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

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

Health	2
Fire	1
Reactivity	1

HMIS *

SECTION II INGREDIENTS OF MIXTURES

Principal Component(s)	%	TLV Units
Maleic Acid	100%	None established.
WARNING! CORROSIVE! STRONG IRRITANT. CAUSES SKIN AND EYE IRRITATION. HARMFUL IF INHALED OR SWALLOWED. MAY CORRODE METALS.		

SECTION III PHYSICAL DATA

Melting Point (°F)	132°C (269.6°F)	Specific Gravity (H ₂ O = 1)	1.59
Boiling Point (°F)	Decomposes 135°C (275°F)	Percent Volatile by Volume (%)	Non-volatile (NA).
Vapor Pressure (mm Hg)	Negligible as solid.	Evaporation Rate (n-Butyl Ac. =1)	Non-volatile (NA).
Vapor Density (Air=1)	4.0		
Solubility in Water	44 grams per 100 mL. at 25°C		
Appearance & Odor	White crystalline powder; faint acidulous odor.		

SECTION IV FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used)	Non-flammable.	Flammable Limits in Air % by Volume	NA	Lower	Upper
Extinguisher Media	Water spray; carbon dioxide (CO ₂); dry chemical (ABC); halon; standard foam.				

SPECIAL FIREFIGHTING PROCEDURES

In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

(1996 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.7, GUIDE PAGE NO. 156)

UNUSUAL FIRE AND EXPLOSION HAZARDS

Sublimes at 396°F. Emits acrid fumes on heating. Fire or excessive heat may produce hazardous decomposition products; can react vigorously with oxidizing materials.

D.O.T. MALEIC ACID, 8, NA 2215, PG III

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