



ALDON CORPORATION

MATERIAL SAFETY DATA SHEET

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MSDS No. NN 230
Effective Date April 6, 1999

SECTION V HEALTH HAZARD DATA

NN230

Threshold Limited Value

(ACGIH 1992-93) TLV/TWA CEIL: 50 ppm, 152 mg/m³ (Skin). Acute Dermal LD50 4.2g/kg (Rabbit). Toxicity: Acute oral LD50 2.5g/kg (Rat); Acute Inhalation LC50 No deaths at 8000 ppm/4H (Rat).

Effects of Overexposure

INHALATION: Vapors cause irritation to upper respiratory tract. High vapor concentrations can produce headache, dizziness and drowsiness. **EYES:** Contact with the liquid or vapor causes severe irritation. Prolonged and repeated exposure to the vapor may result in corneal injury. **SKIN:** Prolonged and repeated contact causes drying and cracking of the skin, which result in skin irritation and dermatitis. **INGESTION:** Causes central nervous system depression, headache, dizziness and nausea.

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. **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. **INGESTION:** If swallowed, if conscious, give one or two glasses of water, induce vomiting and call a physician. Never give anything by mouth to an unconscious or drowsy person.

SECTION VI REACTIVITY DATA

Stability	Unstable	Conditions to Avoid	Avoid heat, sparks and flame.
	Stable		

Incompatibility (Materials to Avoid)	Strong mineral acids, strong oxidizers, copper and its alloys. Aluminum containers.
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Hazardous Decomposition Products	Thermal decomposition or burning may produce carbon monoxide and/or carbon dioxide.
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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	Wear proper safety equipment and provide adequate ventilation. Eliminate all sources of ignition. Handling equipment must be grounded to prevent sparking. Absorb in sand, earth or vermiculite. Carefully sweep up and remove. 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 or contract with a licensed waste disposal service.

SECTION VIII SPECIAL PROTECTION INFORMATION

Respiration Protection (Specify Type)	In the laboratory, work in a ventilated hood. Use an approved all purpose organic vapor canister mask for emergency clean up of spills, or an atmosphere-supplying respirator.		
Ventilation	Local Exhaust	Recommended.	Special
	Mechanical (General)	Recommended.	Other
Protective Gloves	Rubber.	Eye Protection	Chemical safety glasses.
Other Protective Equipment	Goggles, smock, apron, proper gloves, ventilation hood, fire extinguisher eye wash station.		

SECTION IX SPECIAL PRECAUTIONS

Precautions to be Taken in Handling & Storing	Keep liquid and vapor away from heat, sparks and flame. Do not store in copper and its alloys. Wash thoroughly after handling. Do not store in aluminum equipment at temperatures above 120°F.
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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 breathing vapors. Avoid contact with eyes, skin and clothing. 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	4/6/99	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	NINHYDRIN IN BUTANOL SOLUTION
Chemical Synonyms	Ninhydrin 0.5%, Butanol Solution
Formula	Mixture.
Unit Size	up to 3.785 Lt.
C.A.S. No.	Mixture.

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

NFPA
HAZARD RATING

LEAST SLIGHT MODERATE
0 1 2

Health
Fire
Reactivity

2
3
1

HMIS *

HIGH EXTREME
3 4

SECTION II INGREDIENTS OF MIXTURES

Principal Component(s)	%	TLV Units
Ninhydrin: (CAS No. 485-47-2)	0.5%	See Section V.
n-Butyl Alcohol: (CAS No. 71-36-3)	99.5%	See Section V.

WARNING! FLAMMABLE! HARMFUL IF SWALLOWED.

VAPOR HARMFUL. CAUSES SKIN AND EYE IRRITATION.

SECTION III PHYSICAL DATA

Melting Point (°F)	-88.9°C (-128°F) Butyl Alc.	Specific Gravity (H ₂ O = 1)	0.810 - 0.812 @ 20/20°C
Boiling Point (°F)	117.7°C (244°F) Butyl Alc.	Percent Volatile by Volume (%)	99.5% (Butyl Alc.)
Vapor Pressure (mm Hg)	4.1 mm at 20°C (Butyl Alc.)	Evaporation Rate (n-Butyl acetate =1)	0.43
Vapor Density (Air=1)	2.6 (Butyl Alc.)		
Solubility in Water	Complete.		
Appearance & Odor	Clear to slightly yellow, light oily liquid; strong odor.		

SECTION IV FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used)	98°F (37°C) TCC (Butyl Alc.)	Flammable Limits in Air % by Volume	Lower	Upper
			1.4%	11.2%

Extinguisher Media	Water fog, "alcohol" foam, dry chemical, or CO ₂ .
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SPECIAL FIREFIGHTING PROCEDURES

Do not use a solid stream of water since the stream will scatter and spread the fire. Use water spray to cool containers exposed to fire. Wear a NIOSH/MSHA-approved self-contained breathing apparatus and protective clothing.

Ignition Temperature: 650°F (343°C) (Butyl Alcohol)

(1996 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.7, GUIDE PAGE NO. 129)

UNUSUAL FIRE AND EXPLOSION HAZARDS

Fire or excessive heat may produce hazardous decomposition products. Can react vigorously with oxidizing materials. Containers exposed to intense heat from fires should be cooled with water to prevent vapor pressure build up which could result in container rupture.

D.O.T. Butanols, mixture, 3, UN 1120, PG III

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