



**ALDON CORPORATION**

**MATERIAL SAFETY DATA SHEET**

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

MSDS No. NN 271-1A  
Effective Date May 14, 1998

**SECTION V HEALTH HAZARD DATA** NN 271-1A

**Threshold Limited Value** TWA: None established for mixture by (ACGIH 1983-84).  
Toxicity Hexane: iH-hmn TCLo: 5000 ppm/10M

**Effects of Overexposure** **EYES:** May cause burns. High vapor concentrations may be irritating. **SKIN:** May cause burns and can result in defatting and drying of the skin which may result in skin irritation and dermatitis. Can be fatal if absorbed through skin. **INGESTION:** Adipoyl chloride is corrosive and may be fatal if swallowed. Hexane ingestion may result in vomiting; aspiration (breathing) of vomitus into lungs must be avoided as even small quantities may result in aspiration pneumonitis. To the best of our knowledge, the chemical, physical and toxicological properties for this mixture have not been thoroughly investigated. **INHALATION:** Vapors may be irritating to nose, throat and respiratory tract. High vapor concentrations may produce CNS depression.

**Emergency and First Aid Procedures** **EYES:** Flush thoroughly with water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get immediate medical attention. **SKIN:** Remove contaminated clothing. Flush skin with water. Follow by washing with mild soap and water. If irritation develops, get medical attention. **INGESTION:** If swallowed, do NOT induce vomiting. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs. Get immediate medical attention. **INHALATION:** Remove to fresh air and provide oxygen if breathing is difficult. Give artificial respiration if not breathing. Get medical attention.

**SECTION VI REACTIVITY DATA**

<b>Stability</b>	<b>Unstable</b>		<b>Conditions to Avoid</b>	Moisture, excessive heat, spark, ignition sources, contamination.
	<b>Stable</b>	X		

**Incompatibility (Materials to Avoid)** Moisture, strong oxidizers.

**Hazardous Decomposition Products** Thermal decomposition or burning will produce carbon dioxide and/or carbon monoxide and chlorine gas.

<b>Hazardous Polymerization</b>		<b>Conditions to Avoid</b>	Not applicable.
<b>May Occur</b>	<b>Will Not Occur</b>		
	X		

**SECTION VII SPILL OR LEAK PROCEDURES**

**Steps to be taken in case material is released or spilled** Remove all source of ignition. Wearing suitable protective clothing, absorb spilled material in vermiculite, sand, earth. Place in a fiber carton. Incinerate. Wash spill area well with soap and 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)** In the laboratory work in fume hood. If necessary wear a NIOSH/MSHA-approved organic vapor respirator.

<b>Ventilation</b>	<b>Local Exhaust</b>	<b>Recommended.</b>	<b>Special</b>	No.
	<b>Mechanical (General)</b>	<b>Recommended.</b>	<b>Other</b>	No.

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

**Other Protective Equipment** Smock, apron, eye wash station, goggles, ventilation hood, fire extinguisher.

**SECTION IX SPECIAL PRECAUTIONS**

**Precautions to be Taken in Handling & Storing** Store in a cool, dry, well-ventilated place away from oxidizers and fire hazards. Wash thoroughly after handling.  
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.  
Do not inhale or ingest. Avoid eye and skin contact. Remove and wash contaminated clothing.

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

<b>Revision</b> No. 3	<b>Date</b> 5/14/98	<b>Approved</b> Michael Raszeja	<b>Chemical Safety Coordinator</b> 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**

<b>Product</b>	NYLON MAKING KIT (SOLUTION A)	 <b>CHEMTREC</b> 800-424-9300 Day 716-226-6177  <b>NFPA HAZARD RATING</b> LEAST SLIGHT MODERATE HIGH EXTREME 0 1 2 3 4  <b>HMIS *</b> Health 1 Fire 3 Reactivity 0
<b>Chemical Synonyms</b>	Synthesis (Nylon 66 Kit)	
<b>Formula</b>	Mixture.	
<b>Unit Size</b>	Up to 250 mL.	
<b>C.A.S. No.</b>	Mixture.	

**SECTION II INGREDIENTS OF MIXTURES**

Principal Component(s)	%	TLV Units
Adipoyl Chloride: (CAS No. 111-50-2)	4.6%	None established.
Hexane: (CAS No. 110-54-3)	95.4%	180 mg/m <sup>3</sup> (Air).

**DANGER! EXTREMELY FLAMMABLE! HARMFUL IF INHALED, SWALLOWED OR ABSORBED THROUGH SKIN. CAN CAUSE NERVOUS SYSTEM INJURY UPON PROLONGED INHALATION.**

**SECTION III PHYSICAL DATA**

<b>Melting Point (°F)</b>	Data not available.	<b>Specific Gravity (H<sub>2</sub>O = 1)</b>	0.70 @ 20°C
<b>Boiling Point (°F)</b>	90°-96°C (195°-206°F) Hexane	<b>Percent Volatile by Volume (%)</b>	100%
<b>Vapor Pressure (mm Hg)</b>	119 mm @ 37°C (100°F) Hexane	<b>Evaporation Rate (n-Butyl Ac. =1)</b>	4.3 (Hexane)
<b>Vapor Density (Air=1)</b>	3.3 (Hexane)		
<b>Solubility in Water</b>	Negligible.		
<b>Appearance &amp; Odor</b>	Colorless liquid; acrid hydrocarbon odor.		

**SECTION IV FIRE AND EXPLOSION HAZARD DATA**

<b>Flash Point (Method Used)</b>	-15°C (5°F) Hexane (TOC)	<b>Flammable Limits in Air % by Volume</b>	Hexane	Lower	Upper
				1	8

**Extinguisher Media** Use water fog, foam, dry chemical or carbon dioxide. Do not use direct stream of water.

**SPECIAL FIREFIGHTING PROCEDURES**

In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective clothing.

(1996 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.7, GUIDE PAGE NO. 128)

**UNUSUAL FIRE AND EXPLOSION HAZARDS**

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

D.O.T. **HEXANES, 3, UN 1208, PG II**

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



**ALDON CORPORATION**

# MATERIAL SAFETY DATA SHEET

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

MSDS No. NN 271-1B  
Effective Date May 14, 1998

## SECTION V HEALTH HAZARD DATA

NN 271-1B

**Threshold Limited Value** None established for this mixture by (ACGIH 1983-84). TWA (Ceiling limit for sodium hydroxide solid) is 2 mg/m<sup>3</sup> (ACGIH 1983-84). For Hexanediamine: Inhalation 10 minute ALC: 1,580 ppm in mice. Skin absorption LC50: 1,100 mg/kg in rabbits. Oral LD50: 792-1127 mg/kg in rats.

**Effects of Overexposure**  
**SKIN:** Contact may cause severe burns and/or allergic skin reaction.  
**EYES:** May cause severe burns. **INGESTION:** Harmful if swallowed.  
**INHALATION:** May cause upper and lower respiratory tract irritation. Exercise appropriate procedures to minimize potential hazards.

**Emergency and First Aid Procedures**  
**SKIN:** Flood with water, then wash with vinegar. **EYES:** Flush thoroughly with water for 15 minutes, lifting lower and upper eyelids occasionally. Get prompt medical attention. **INGESTION:** If swallowed, if conscious, drink several glasses of water. Call physician immediately. Never give anything by mouth to an unconscious person. **INHALATION:** Remove to fresh air. If illness or discomfort develops, get medical attention.

## SECTION VI REACTIVITY DATA

<b>Stability</b>	<b>Unstable</b>		<b>Conditions to Avoid</b>	Excessive heat and temperature.
	<b>Stable</b>	X		

**Incompatibility (Materials to Avoid)** Decomposes with heat, acids.

**Hazardous Decomposition Products** Ammonia, Hydrogen cyanide, Carbon dioxide.

<b>Hazardous Polymerization</b>		<b>Conditions to Avoid</b>	Not applicable.
<b>May Occur</b>	<b>Will Not Occur</b>		
	X		

## SECTION VII SPILL OR LEAK PROCEDURES

**Steps to be taken in case material is released or spilled** Neutralize with sodium bisulfate 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. Neutralize with sodium bisulfate and flush to sewer with copious amounts of water.

## SECTION VIII SPECIAL PROTECTION INFORMATION

**Respiration Protection (Specify Type)** Work in a well-ventilated area or ventilation hood.

<b>Ventilation</b>	<b>Local Exhaust</b>	<b>Recommended.</b>	<b>Special</b>	No.
	<b>Mechanical (General)</b>	<b>Recommended.</b>	<b>Other</b>	No.

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

**Other Protective Equipment** Lab coat, eye wash station, proper gloves, ventilation hood.

## SECTION IX SPECIAL PRECAUTIONS

**Precautions to be Taken in Handling & Storing** Store in a cool place away from acid and acid fumes. Wash thoroughly after handling. 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. Remove and wash contaminated clothing.

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

<b>Revision</b> No. 3	<b>Date</b> 5/14/98	<b>Approved</b> Michael Raszeja	<b>Chemical Safety Coordinator</b> MR
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## SECTION I NAME 24 HOUR EMERGENCY ASSISTANCE

<b>Product</b>	NYLON MAKING KIT (SOLUTION B)	 <b>CHEMTREC</b> <b>800-424-9300</b> Day 716-226-6177  <b>NFPA HAZARD RATING</b> LEAST SLIGHT MODERATE HIGH EXTREME 0 1 2 3 4  <b>HMIS *</b> HEALTH FIRE REACTIVITY 3 0 0
<b>Chemical Synonyms</b>	Synthesis (Nylon 66 Kit)	
<b>Formula</b>	Mixture.	
<b>Unit Size</b>	Up to 250 mL.	
<b>C.A.S. No.</b>	Mixture.	

## SECTION II INGREDIENTS OF MIXTURES

Principal Component(s)	%	TLV Units
1,6-Hexanediamine: (CAS No. 124-09-4)	6%	None established.
Sodium Hydroxide: (CAS No. 1310-73-2)	2%	2 mg/m <sup>3</sup> (Ceiling Limit).
Water: (CAS No. 7732-18-5)	92%	None established.

**DANGER! CORROSIVE! CAUSES SEVERE BURNS TO SKIN AND EYES. MAY BE FATAL IF SWALLOWED.**

## SECTION III PHYSICAL DATA

<b>Melting Point (°F)</b>	41°C (105°F) Hexanediamine.	<b>Specific Gravity (H<sub>2</sub>O = 1)</b>	Approx. 1.0 @ 20°C
<b>Boiling Point (°F)</b>	204°C (399°F) Hexanediamine.	<b>Percent Volatile by Volume (%)</b>	92%
<b>Vapor Pressure (mm Hg)</b>	3 mm @ 60°C (Hexanediamine).	<b>Evaporation Rate (Water = 1)</b>	1 for 92% of Soln. Voln.
<b>Vapor Density (Air=1)</b>	3.8 (Hexanediamine).		
<b>Solubility in Water</b>	Complete.		
<b>Appearance &amp; Odor</b>	Water clear, colorless liquid; fishy ammonical odor.		

## SECTION IV FIRE AND EXPLOSION HAZARD DATA

<b>Flash Point (Method Used)</b>	85°C (185°F) (COC) Hexanediamine *	<b>Flammable Limits in Air % by Volume Hexanediamine</b>	Lower 0.9	Upper 4.1
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**Extinguisher Media** Water spray; dry chemical (ABC); carbon dioxide (CO<sub>2</sub>).

**SPECIAL FIREFIGHTING PROCEDURES** In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective clothing. Use flooding amounts of water in early stages of fire.  
 \* This solution is not flammable. Fumes of Hexanediamine produced on heating, may in fire conditions be flammable.

**UNUSUAL FIRE AND EXPLOSION HAZARDS** Fire or excessive heat may produce hazardous decomposition products of ammonia, hydrogen cyanide and carbon dioxide gases.

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

D.O.T. CORROSIVE LIQUID, N.O.S., (1,6-HEXANEDIAMINE, SODIUM HYDROXIDE), 8, UN 1760, PG II

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