



# SAFETY DATA SHEET

## NYACOL® AL20, AL20DW

REVISION: 6/12/2013  
SUPERSEDES: 12/17/2012

### Section 1: Identification:

Identification of Substance: Aluminum Hydroxide Oxide  
 Product Name: NYACOL® AL20 and AL20DW  
 Synonym: Colloidal Alumina. Alumina dispersion in water.  
 CAS Number: 24623-77-6  
 Company Identification: Nyacol Nano Technologies, Incorporated  
 Megunko Road, P.O. Box 349, Ashland, MA 01721 U.S.A.  
 508-881-2220  
 In Case of Emergency: CHEMTREC: 800-424-9300  
 24 Hours/Day: 7 Days/Week  
 E-mail Contact: [info@nyacol.com](mailto:info@nyacol.com)  
 Internet: [www.nyacol.com](http://www.nyacol.com)  
 Recommended Use: Ceramics. Textiles. Papermaking.  
 Restrictions on Use: For industrial use only, not for food, drug or home use.

### Section 2: Hazard(s) Identification

Health	Environmental	Physical
Acute toxicity, Dermal (Category 5)	Not a dangerous substance	Not a dangerous substance
Corrosion/Damage/Irritation Eye (Category 2B)		

**GHS label element including precautionary statements:** P102 Keep out of reach of children.  
 P331 Do NOT induce vomiting. P311 Call a POISON CENTER or doctor/physician if ingested.  
 Signal Word / Pictogram: Warning No pictogram required.  
 Emergency Overview: White liquid. No odor. Keep spills out of surface waters.  
 OSHA Hazards: Not applicable.  
 Primary routes of entry: Inhalation. Absorption.  
 Target organs: Skin. Eyes.

Hazard Statement(s): List Out	Precautionary Statement(s): List Out
H320 – Causes eye irritation.	P264 – Wash face, hands and any exposed skin thoroughly after handling. P305+P351+P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present an easy to do. Continue rinsing. P337+P313 – If eye irritation persists, get medical advice/attention.
H313 – May be harmful in contact with skin.	P312 – Call a POISON CENTER or doctor/physician if you feel unwell.

### Section 3: Composition / Information on Ingredients

Component Name:	CAS Number	Exposure Limits	Percent By Weight
Aluminum Hydroxide Oxide:	24623-77-6	2 mg/M <sup>3</sup>	20 – 25
Nitric Acid:	7697-37-2	5 mg/M <sup>3</sup>	<1
Water	7732-18-5	None.	75 – 79
Component Name:	EINECS Number	RTECS Number	REACH Number
Aluminum Hydroxide Oxide:	246-368-8	BD0950000	05-2117294577-26-0000
Nitric Acid:	231-714-2	QU5775000	05-2117294593-32-0000
Water	231-791-2	ZC0110000	None.



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Synonyms: Colloidal Alumina. Alumina dispersion in water.  
Impurities: None known.  
Stabilizing Additives: None known.

### Section 4: First-Aid Measures

Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes. Hold eyelids apart while flushing to rinse entire surface of the eye and lids with water. If irritation persists, get medical attention.

Skin Contact: In case of contact, wash with soap and water. Remove contaminated clothing. Wash clothing before reuse.

Inhalation: Remove person from exposure source. Consult medical professional.

Ingestion: Give water. Do not induce vomiting unless directed by medical professional. Seek medical professional. Never give anything by mouth to an unconscious person.

Advice to Physicians: No recommendations.

First Aid Facilities: Eye wash station.

### Section 5: Fire-Fighting Measures

Flammability of the product: Material will not burn in a fire. Containers can build pressure if exposed to heat or fire.

Extinguishing Media: All are acceptable. Cool containers with water spray.

Not Suitable: None known.

Protective Equipment: Wear standard full firefighter turn-out gear (full bunker gear) and respiratory protection (SCBA).

Special Hazard Arising from the Chemical: None known.

### Section 6: Accidental Release Measures

Personal Precautions and PPE: Eye protection and impervious gloves. An approved air-purifying respirator should be worn if dust or mist is present.

Environmental Precautions: Water contamination should be avoided.

Method for Cleaning Up:

Spill: Contain spill or leak with sand, clay or absorbents. Recover liquid for recycle or disposal. Do not allow spills into sewers or surface waters. Place absorbents, waste products and contaminated soil into containers for disposal.

### Section 7: Handling and Storage

Precautions During Handling: Avoid generating mist or dust during use.

Storage: Store in cool, dry area. Do not freeze.

### Section 8: Exposure Controls / Personal Protection

Ingredient(s): NYACOL® AL20 and AL20DW

Engineering Controls: Use exhaust ventilation to keep airborne concentrations below exposure limits.

Hygiene Measures: Change contaminated clothing. Wash hands after working with substance.

Personal Protective Equipment (PPE):

Respiratory:	When respiratory protection required or concentrations are unknown, use an approved air-purifying respirator equipped with dust cartridge.
Hands:	Wear impervious gloves such as neoprene.
Eyes:	Wear approved safety glasses.
Skin:	Wear clean body-covering clothing; impervious gloves such as neoprene.
Environmental Exposure Controls:	Adverse effects of this material on the environment have not been evaluated. Proper disposal techniques to isolate and recover material should be implemented.

### Section 9: Physical and Chemical Properties

Appearance (Physical State, Color):	White liquid. AL20 and AL20DW are water-based materials.
Odor:	None.
Vapor Pressure:	2260 kPa (17 mm Hg) at 20° C water.
Density:	1200 kg/M <sup>3</sup>
pH:	4
Boiling Point:	100° C (212° F) water
Freezing Point:	0° C (32° F) water
Flashpoint:	None.
Oxidizing Properties:	Not an oxidizer.
Solubility(ies):	Soluble in all proportions.
Specific Gravity:	1.2 (water = 1)
Volatile by Weight:	75 - 80
Viscosity:	<15 cP
Partition coefficient:	Not applicable.
Explosion Limits:	Not applicable.
Evaporation Rate:	Slow (Butyl Acetate = 1).

### Section 10: Stability and Reactivity

Chemical Stability:	NYACOL <sup>®</sup> AL20 and AL20DW are stable under normal ambient and anticipated storage and handling conditions.
Conditions to Avoid:	No recommendation.
Incompatible Materials:	Not available.
Hazardous Decomposition Products:	Oxides of nitrogen.
Hazardous Polymerization:	Will not occur.

### Section 11: Toxicological Information

<u>LD<sub>50</sub>, Rat, Oral:</u>	<b>Aluminum Hydroxide Oxide:</b> >2000 mg/kg
	<b>Nitric Acid:</b> >90 mL/kg
	<b>Water:</b> None reported.

#### Acute Effects:

Skin Contact:	Irritant. No published data available. Dry skin has been reported.
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Eye Contact:	Irritant. No published data available. Should be irritating based on pH.
Inhalation:	Not available.
Ingestion:	Not available.
Target Organ Effects:	Acute.
Chronic Effects:	None known.
Medication Conditions Aggravated by Over-exposure:	No data available.
Carcinogenicity:	No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA, or ACGIH.

### Section 12: Ecological Information

Ecotoxicity (aquatic and terrestrial):	Not available.
Persistence and degradability:	Not available.
Bioaccumulative potential:	Not available.
Mobility in Soil:	Not available.
Acute Aquatic Toxicity:	Not available.
Chronic Aquatic Toxicity:	Not available.
Environmental Effects:	Not available.
Other Adverse Effects:	Not available.

### Section 13: Disposal Considerations

This information presented only applies to the materials as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the property waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

Disposal Considerations:	Evaporate water from sol and dispose of the solids in a landfill.
United States:	Not a RCRA regulated waste.

### Section 14: Transport Information

U.S. Department of Transportation (DOT):	
Proper Shipping Name:	NYACOL® AL20 and AL20DW
Hazard Class:	Not regulated United Nations (UN) Number. Not applicable.
UN/NA Number:	Not applicable, does not meet dangerous goods criteria.
Transport Hazard Class(es):	Not applicable, does not meet dangerous goods criteria.
Packing Group:	Not applicable, does not meet dangerous goods criteria.
ICAO/IATA:	Not applicable, does not meet dangerous goods criteria.
IMO Shipping Name:	Not applicable, does not meet dangerous goods criteria.
IATA Shipping Name:	Not applicable, does not meet dangerous goods criteria.
ADR Shipping Name:	Not applicable, does not meet dangerous goods criteria.
RID Shipping Name:	Not applicable, does not meet dangerous goods criteria.
Labels Required:	Not applicable.
Special Precautions:	None.
<u>International Maritime Organization (IMDG):</u>	Not applicable, does not meet dangerous goods criteria.

### Section 15: Regulatory Information

<u>U.S. Federal Regulations:</u>	
EPA TSCA Act:	All ingredients listed.
D.O.T. Regulations:	See Section 14.



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Delayed Hazard:	None known.
Fire Hazard:	Material will not burn in a fire.
Pressure Hazard:	None known.
Reactivity Hazard:	None known.
SARA 313 Components:	Does not contain any Section 313 materials above the 1% level.
<u>U.S. State Regulations:</u>	
California Proposition 65:	No ingredients listed.
State Right-to-Know Laws:	Section 3 of this SDS lists all components of NYACOL® AL20 and AL20DW.
<u>International Regulations:</u>	Check with governmental or regional regulations.
<u>Canadian Regulations:</u>	
Domestic Substance List:	All ingredients listed.
WHMIS:	Aluminum Hydroxide Oxide: Not Controlled. Nitric Acid: Disclose at 1%.
Transportation of Dangerous Goods:	Not applicable. NYACOL® AL20 and AL20DW does not meet dangerous goods criteria.
Controlled Products Regulations:	This SDS contains all the information items specified in Schedule 1, Column 3 of the Controlled Products Regulations in a 16-heading format.
<u>International Lists:</u>	Check with governmental or regional regulations.
All ingredients are included:	Australia (AICS). Europe (EINECS). Canada (DSL).
<u>EU Regulations:</u>	
Classification:	Not harmful.
Symbol:	None.
Risk Phrases:	None.
Safety Phrases:	None.

### Section 16: Other Information

National Fire Protection Association (U.S.A.) 704 Hazard Rating:	Health-0, Flammability-0, Reactivity-0, Special-None
HMS® Hazard Rating:	Health-0, Flammability-0, Reactivity-0, Protective Equipment – E; Safety Glasses, Gloves, Dust Respirator.
Recommended Use:	NYACOL® AL20 and AL20DW is recommended for use in ceramics, textiles and papermaking. Other uses have not been investigated and may have other hazards. For industrial use only, not for food, drug or home use.
Work Alert:	Workers using NYACOL® AL20 and AL20DW should read and understand this SDS and be trained in the proper use of this material.
Other Special Considerations:	None known.
SDS Prepared By:	Robert J. Nehring Nyacol Nano Technologies, Incorporated Telephone: 508-881-2220 U.S.A.
Revision Date:	June 12, 2013
Supersedes:	October 7, 2010



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This MSDS has been prepared with data from Nyacol Nano Technologies, Inc.'s laboratories, raw material suppliers, and government publications. Information herein is accurate to the best of our knowledge. Suggestions are made without warranty or guarantee of results. Before using, the user should determine the suitability of the products for the intended use, and the user assumes the risk and liability in connection therewith. We do not suggest violation of any existing patents or give permission to practice any patented invention without license.

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