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MSDS Cover Sheet

micromeritics[®]
 INSTRUMENT CORPORATION
 ONE MICROMERITICS DR.
 NORCROSS, GA 30093-1877 U.S.A.

ACTIVATED ALUMINA, 500g

						DWN BY	M.Day
						ENGR	J. Mocny
C	Revise page numbers	MD	06/08/04		040236	ENGR SIG	P. Hendrix
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SIZE	NUMBER	PAGE
A	004/16830/00MSDS	X of 4

Micromeritics Material Safety Data Sheet

Title : Activated Alumina, 500g
Date of Preparation : 06/08/04

MSDS No. : 004-16830-00MSDS
Revision : C

Section 1 - Chemical Product and Company Identification

Product/Chemical Name: Aluminum oxide

Chemical Formula: Al₂O₃ • xH₂O

CAS Number: 1333-84-2

Other Designations: Activated alumina F-1, F-20, F-200, HF-200, S-100, F-1 (E), CG-20, OF-2000, Active bed supports, SRU

General Use: Absorbent; dehydration agent; catalyst support

Supplier: Micromeritics Instrument Corp.

1 Micromeritics Dr.

Norcross, GA 30093-1877 USA

Contact:

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Manufacturer: Aluminum Company of America, 181 Thorn Hill Rd., Warrendale, PA 15086-7527, Phone (412)553-2881, Emergency phone: (412)553-4001.

Section 2 - Composition / Information on Ingredients

Ingredient Name	CAS Number	% wt or % vol
Al ₂ O ₃	1333-84-2	90.0-95.0 97.0 (max)
*Na ₂ O		0.3-0.6 0.6 (max)
*SiO ₂		0.01-0.02 0.2 (max)
*Fe ₂ O ₃		0.03-0.1 0.1 (max)
Loss on ignition (water)		4.0-7.0 7.0 (max)
*Expressed as oxide equivalent		

Trace Impurities:

Ingredient	OSHA PEL		ACGIH TLV		NIOSH REL		NIOSH
	TWA	STEL	TWA	STEL	TWA	STEL	IDLH
Alumina dust	10, 5 (Resp) mg/m ³	none estab.	10 mg/m ³ (Total)	none estab.	none estab.	none estab.	none estab.

ALCOA PEL: Respirable fraction – 5

No LD₅₀ or LC₅₀ found for oral, dermal or inhalation routes of administration.

Section 3 - Hazards Identification

☆☆☆☆☆ **Emergency Overview** ☆☆☆☆☆

HMIS	
H	1
F	0
R	1
PPE†	
†Sec. 8	

Potential Health Effects

Primary Entry Routes: Not Applicable

Target Organs: Not Applicable

Acute Effects

Inhalation: Not Applicable

Eye: Not an irritant

Skin: Not an irritant

Ingestion: No toxicity (according to AIHA Hygienic Guide, Alumina)

Carcinogenicity: Not Applicable

Medical Conditions Aggravated by Long-Term Exposure: Not Applicable

Chronic Effects: Not Applicable

The desiccant properties of Alcoa Activated Alumina may cause irritation to the eyes and upper respiratory tract. Alumina is a low health risk by inhalation. Alumina should be treated as a nuisance dust, as specified by the American Conference of Governmental Industrial Hygienics (ACGIH).

Section 4 - First Aid Measures

Inhalation: Not Applicable

Eye Contact: Not Applicable

Skin Contact: Not Applicable

Ingestion: Not Applicable

Note to Physicians: Not Applicable

Special Precautions/Procedures: Not Applicable

Section 5 - Fire-Fighting Measures

Flash Point: Not Applicable

Flash Point Method: Not Applicable

Burning Rate: Nonflammable

Autoignition Temperature: Not Applicable

LEL: Not Applicable

UEL: Not Applicable

Flammability Classification: Not Applicable

Extinguishing Media: Not Applicable

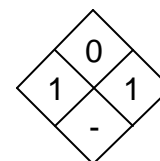
Unusual Fire or Explosion Hazards: Not an explosion hazard

Hazardous Combustion Products: Not Applicable

Fire-Fighting Instructions: Not Applicable

Fire-Fighting Equipment: Not Applicable

NFPA



Section 6 - Accidental Release Measures

Spill /Leak Procedures: Clean up using dry procedures; avoid dusting

Small Spills: Not Applicable

Large Spills

Containment: Not Applicable

Cleanup: Not Applicable

Regulatory Requirements: Not Applicable

Section 7 - Handling and Storage

Handling Precautions: Not Applicable
Storage Requirements: Not Applicable
Regulatory Requirements: Not Applicable

Section 8 - Exposure Controls / Personal Protection

Engineering Controls: Not Applicable
Ventilation: Sufficient to meet exposure limits listed in Section 2.
Administrative Controls: Not Applicable
Respiratory Protection: Use NIOSH-approved respirator protection where exposure limit is or may be exceeded. Select the appropriate respirator (dust respirator, etc.) based on the actual or potential airborne contaminants and their concentrations present.
Protective Clothing/Equipment: Not Applicable
Safety Stations: Not Applicable
Contaminated Equipment: Not Applicable
Comments: Not Applicable

Section 9 - Physical and Chemical Properties

Physical State: Crystalline or gelatinous granules, pellets, or powder	Water Solubility: Insoluble; soluble in concentrated acids and alkalis
Appearance and Odor: Off-white in color; odorless	Other Solubilities: Not Applicable
Odor Threshold: Not Applicable	Boiling Point: Not Applicable
Vapor Pressure: Not Applicable	Freezing/Melting Point: 3700°F (2038°C)
Vapor Density (Air=1): Not Applicable	Viscosity: Not Applicable
Formula Weight: Not Applicable	Refractive Index: Not Applicable
Density: Loose bulk: 44 - 52 lb/ft ³ (0.7 - 0.83 g/cc)	Surface Tension: Not Applicable
Specific Gravity (H₂O=1, at 4 °C): 3.2	% Volatile: Not Applicable
pH: ~10 (20% slurry solution)	Evaporation Rate: Not Applicable

Section 10 - Stability and Reactivity

Stability: Not Applicable
Polymerization: Not Applicable
Chemical Incompatibilities: None
Conditions to Avoid: Not Applicable
Hazardous Decomposition Products: Not Applicable
Reactivity: Generates heat with water. None with air, heat and strong oxidizers. Non-corrosive.

Section 11- Toxicological Information

Toxicity Data:

Eye Effects: Not a irritant

Skin Effects: Not a irritant

Acute Inhalation Effects: Not Applicable

Acute Oral Effects: Not Applicable

Chronic Effects: Not Applicable

Carcinogenicity: Not Applicable

Mutagenicity: Not Applicable

Teratogenicity: Not Applicable

Section 12 - Ecological Information

Ecotoxicity: Not Applicable

Environmental Fate: Not Applicable

Environmental Degradation: Not Applicable

Soil Absorption/Mobility: Not Applicable

Section 13 - Disposal Considerations

Disposal: Waste considered as inert material, suitable for landfill.

Disposal Regulatory Requirements: Not Applicable

Container Cleaning and Disposal: Not Applicable

Section 14 - Transport Information

DOT Transportation Data (49 CFR 172.101):

Shipping Name: Not regulated

Shipping Symbols: Not Applicable

Hazard Class: Not regulated

ID No.: Not regulated

Packing Group: Not Applicable

Label: Not Applicable

Special Provisions (172.102): Not Applicable

Packaging Authorizations

a) Exceptions: Not Applicable

b) Non-bulk Packaging: Not Applicable

c) Bulk Packaging: Not Applicable

Quantity Limitations

a) Passenger, Aircraft, or Railcar: Not Applicable

b) Cargo Aircraft Only: Not Applicable

Vessel Stowage Requirements

a) Vessel Stowage: Not Applicable

b) Other: Not Applicable

Canadian TDG Hazard Class & PIN – Not regulated

Section 15 - Regulatory Information

EPA Regulations: Not Applicable

OSHA Regulations: Not Applicable

State Regulations: Not Applicable

NOTES: Chemical substance components have been reported to the EPA Office of Toxic Substances in accordance with the requirements of the Toxic Substances Control Act (Title 40 CFR Part 710).

The reportable chemical substances in this product are regulated by the OSHA Hazard Communication Standard (29 CFR 1910.1200) solely because they are listed by ACGIH. However, they do not fit any of the five proposed hazard categories under Sections 311 and 312 of SARA.

For purposes of SARA III reporting, this substance contains the following listed ingredients: Aluminum oxide (Section 313 list)

None of the materials in this mixture are on the EPA list of extremely hazardous substances (Section 302 of SARA).

Section 16 - Other Information

Prepared By: FP

Revision Notes: Not Applicable

Additional Hazard Rating Systems: Not Applicable

Disclaimer: The information presented herein is believed to be accurate and was obtained from sources believed to be reliable. However, the information is provided without any representation or warranty, expressed or implied, with respect to its accuracy or completeness. It is the users' responsibility to determine the suitability of this product and the relevance of this information for their use.

References: American Industrial Hygiene Association (AIHA) Hygienic Guide Series (Revised June 1978). U.S. Dept. of Health and Human Services, NIOSH: Registry of Toxic Effects of Chemical Substances, 1985-86 Edition. Sax, N. Irving: Dangerous Properties of Industrial Materials, Van Nostrand Reinhold Co., Inc., 1984.