

# MSDS Cover Sheet



INSTRUMENT CORPORATION  
 4356 COMMUNICATIONS DRIVE.  
 NORCROSS, GA 30093-2901 U.S.A.

## ACTIVATED ALUMINA, 500g

REV	REVISION DESCRIPTION	BY	DATE	CHK	REL. NO.	DWN BY	
D	Customer Request for an updated MSDS	SI	08/04/11		110227	ENGR	M.Day
C	Revise page numbers	MD	06/08/04	JM	040236	ENGR SIG	J. Mocny
B	Revision	MD	03/20/03	JM	030174	HR SIG	P. Hendrix
A	Revision	MD	2/26/03	JM	030116	QA SIG	J. Mocny
-	Formal Release	FP	1/20/01	JP	010011D	ES SIG	A. Dovin
							K. Massengill

SIZE	NUMBER	PAGE
A	004/16830/00MSDS	X of 4



# Micromeritics Material Safety Data Sheet

Title : Activated Alumina, 500g  
Date of Preparation : 08/04/11

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

## Section 1 - Chemical Product and Company Identification

**Product/Chemical Name:** Aluminum oxide

**Chemical Formula:** Al<sub>2</sub>O<sub>3</sub> • xH<sub>2</sub>O

**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

<b>Supplier:</b>	Micromeritics Instrument Corp. 4356 Communications Drive Norcross, GA 30093-2901 USA	<b>Contact:</b>	Human Resources Phone: (770) 662-3620 Fax: (770) 662-3696
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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 <sub>2</sub> O <sub>3</sub>	1333-84-2	90.0-95.0 97.0 (max)
*Na <sub>2</sub> O		0.3-0.6 0.6 (max)
*SiO <sub>2</sub>		0.01-0.02 0.2 (max)
*Fe <sub>2</sub> O <sub>3</sub>		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 <sup>3</sup>	none estab.	10 mg/m <sup>3</sup> (Total)	none estab.	none estab.	none estab.	none estab.

**ALCOA PEL:** Respirable fraction – 5

No LD<sub>50</sub> or LC<sub>50</sub> 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

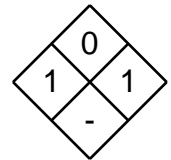
**Unusual Fire or Explosion Hazards:** Not an explosion hazard

**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

<b>Physical State:</b> Crystalline or gelatinous granules, pellets, or powder	<b>Water Solubility:</b> Insoluble; soluble in concentrated acids and alkalis
<b>Appearance and Odor:</b> Off-white in color; odorless	<b>Other Solubilities:</b> Not Applicable
<b>Odor Threshold:</b> Not Applicable	<b>Boiling Point:</b> Not Applicable
<b>Vapor Pressure:</b> Not Applicable	<b>Freezing/Melting Point:</b> 3700°F (2038°C)
<b>Vapor Density (Air=1):</b> Not Applicable	<b>Viscosity:</b> Not Applicable
<b>Formula Weight:</b> Not Applicable	<b>Refractive Index:</b> Not Applicable
<b>Density:</b> Loose bulk: 44 - 52 lb/ft <sup>3</sup> (0.7 - 0.83 g/cc)	<b>Surface Tension:</b> Not Applicable
<b>Specific Gravity (H<sub>2</sub>O=1, at 4 °C):</b> 3.2	<b>% Volatile:</b> Not Applicable
<b>pH:</b> ~10 (20% slurry solution)	<b>Evaporation Rate:</b> 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:

<b>Eye Effects:</b> Not a irritant	<b>Acute Inhalation Effects:</b> Not Applicable
<b>Skin Effects:</b> Not a irritant	<b>Acute Oral Effects:</b> Not Applicable
	<b>Chronic Effects:</b> Not Applicable
	<b>Carcinogenicity:</b> Not Applicable
	<b>Mutagenicity:</b> Not Applicable
	<b>Teratogenicity:</b> 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.