

SAFETY DATA SHEET

Activated Alumina

Date of Preparation: 05/15/2014

SDS #: 004-16830-00MSDS

SECTION 1: IDENTIFICATION

Product Identification: Aluminum Oxide, $\text{Al}_2\text{O}_3 \cdot \text{H}_2\text{O}$

CAS Number: 1333-84-2

Volumes: 500 g, 2.5 kg

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

Recommended Use: Absorbent; dehydration agent; catalyst support

Restrictions: For laboratory use only.

Supplier Information:

Micromeritics Instrument Corp.
4356 Communications Drive
Norcross, GA 30093-2901 USA

Contact: Human Resources
Phone: (770) 662-3636
Fax: (770) 662-3696

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

SECTION 2: HAZARDS IDENTIFICATION

GHS Classification: Not Applicable

Signal word: Not Applicable

Hazard Statement:

H305: May be harmful if swallowed and enters airways

H316: Causes mild skin irritation

Pictograms:



Precautionary Statements:

P261 - Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray

P280 - Wear eye protection/ face protection

P285 - In case of inadequate ventilation wear respiratory protection

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water

Potential Health Effects

Primary Entry Routes: Not Applicable

Target Organs: Not Applicable

Acute Effects

Inhalation: Exposure to dust particles generated from this material may cause irritation of the respiratory tract. Exposure to high concentrations may cause coughing and difficulty breathing.

Eye: Large amounts of dust may cause mechanical irritation.

Skin: May cause skin irritation. May cause dermatitis.

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

Carcinogenicity: Not Applicable

Medical Conditions Aggravated by Long-Term Exposure: Not Applicable

Chronic Effects: Prolonged or repeated exposure to dust may cause pulmonary problems.

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 3: 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 4: FIRST-AID MEASURES

Inhalation: Move personnel to fresh air. If necessary, give oxygen.

Eye Contact: Rinse immediately with water. Seek medical attention if necessary.

Skin Contact: Wash immediately with water. Seek medical attention if skin irritation persists.

Ingestion: No immediate hazards. If large quantities are ingested, seek medical attention.

Note to Physicians: Not Applicable

Special Precautions/Procedures: Not Applicable

SECTION 5: FIRE-FIGHTING MEASURES

Flammability Classification: Not Applicable

Extinguishing Media: Not Applicable

Unusual Fire or Explosion Hazards: Not an explosion hazard

Hazardous Combustion Products: Chlorine Trifluoride reacts violently with Aluminum Oxide producing a flame.

Fire-Fighting Instructions: Not Applicable

Fire-Fighting Equipment: Wear breathing apparatus and chemical protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

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

Small Spills: Use appropriate tools to put the spilled solid in a convenient waste disposal container.

Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

Large Spills:

Containment: Not Applicable

Cleanup: Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

Regulatory Requirements: Not Applicable

SECTION 7: HANDLING AND STORAGE

Handling: Avoid dust formation in confined areas. Avoid contact with the skin, eyes and clothing. Ensure adequate ventilation.

Storage: Keep container tightly closed in a cool, well-ventilated place.

Storage stability: Keep container dry.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Not Applicable

Ventilation: Sufficient to meet exposure limits listed in Section 3.

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: Safety glasses, chemical resistant protective gloves.

Safety Stations: Not Applicable

Contaminated Equipment: Not Applicable

Comments: Not Applicable

Exposure Limits:

OSHA PEL

5 (mg/m³) Inhalation Respirable

15 (mg/m³)

ACGIH TLV

10 (mg/m³)

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Flash Point: Not Applicable

Flash Point Method: Not Applicable

Burning Rate: Nonflammable

Autoignition Temperature: Not Applicable

LEL: Not Applicable

UEL: Not Applicable

Physical State: Crystalline or gelatinous granules, pellets, or powder

Appearance and Odor: Off-white in color; odorless

Odor Threshold: Not Applicable

Vapor Pressure: Not Applicable

Vapor Density (Air=1): Not Applicable

Formula Weight: Not Applicable

Density: Loose bulk: 44 - 52 lb/ft³ (0.7 - 0.83 g/cc)

Specific Gravity (H₂O=1, at 4 °C): 3.2

pH: ~10 (20% slurry solution)

Water Solubility: Insoluble; soluble in concentrated acids and alkalis

Other Solubilities: Not Applicable

Boiling Point: Not Applicable

Freezing/Melting Point: 3700°F (2038°C)

Viscosity: Not Applicable

Refractive Index: Not Applicable

Surface Tension: Not Applicable

% Volatile: Not Applicable

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

Acute/Chronic Potential Health Effects:

Skin: May cause skin irritation. The product gets hot as it adsorbs water. Burns to moist or wet skin tissue may result if contact is prolonged.

Eyes: Dust may cause eye irritation

Toxicity Data:

Acute Inhalation Effects: Slightly hazardous

Acute Oral Effects: Not Applicable

Chronic Effects: Not Applicable

Carcinogenicity: Not Applicable

Mutagenicity: Not Applicable

Teratogenicity: Not Applicable

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity: Not Available

Environmental Fate: Not Available

Environmental Degradation: Not Available

Soil Absorption/Mobility: Not Available

SECTION 13: DISPOSAL CONSIDERATIONS

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

Disposal Regulatory Requirements: Not Available

Container Cleaning and Disposal: Not Available

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: Zuniga, A.

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.