

SIGMA-ALDRICH

MATERIAL SAFETY DATA SHEET

Date Printed: 06/26/2006

Date Updated: 02/05/2006

Version 1.9

Section 1 - Product and Company Information

Product Name ALUMINUM OXIDE, ACTIVATED, BASIC,
BROCKMANN I, STD GRADE, CA. 150 MESH
Product Number 199443
Brand SIAL

Company Sigma-Aldrich
Address 3050 Spruce Street
SAINT LOUIS MO 63103 US

Technical Phone: 800-325-5832
Fax: 800-325-5052
Emergency Phone: 314-776-6555

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313
ALUMINA ACTIVATED	1344-28-1	Yes

Formula Al₂O₃

Synonyms A 1 (Sorbent) * Abramant * Abramax * Abrarex *
Abrasit * Activated aluminum oxide * Al-3945 E
1/16'' * Al-4126 E 1/16'' * Alcoa F 1 * Almite *
Alon C * Aloxite * Alumina * alpha-Alumina *
alpha-Alumina (ACGIH:OSHA) * Aluminite 37 *
Aluminum oxide (Brockmann) * Aluminum oxide
(ACGIH) * alpha-Aluminum oxide * beta-Aluminum
oxide * gamma-Aluminum oxide * Aluminum
sesquioxide * Alumite (oxide) * Alundum (OSHA) *
Alundum 600 * Al-0109 P * Al-3916 P * Al-3970 P *
Al-1401 P(MS) * Al-0104 T 3/16'' * Al-1404 T
3/16'' * Al-3438 T 1/8'' * Al-3980 T 5/32'' *
Al-4028 T 3/16'' * Brockmann, aluminum oxide *
Cab-O-grip * Catapal S * Catapal SB alumina *
Compalox * Conopal * Diadur * Dialuminum trioxide
* Dispal alumina * Dispal M * Dotment 324 *
Dotment 358 * Dural * Exolon XW 60 * F 360
(Alumina) * Faserton * Fasertonerde * G 0 (Oxide)
* G 2 (Oxide) * GK (Oxide) * Hypalox II * Jubenon
R * KA 101 * Ketjen B * KHP 2 * LA 6 * Lucalox *
Ludox CL * Martoxin * Microgrit WCA * Poraminar *
PS 1 (Alumina) * Q-Loid A 30 * RC 172DBM *
ALUMINA, SAPPHIRE

RTECS Number: BD1200000

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Target organ(s): Lungs. Bones.

HMIS RATING

HEALTH: 0*

FLAMMABILITY: 0

REACTIVITY: 1

NFPA RATING

HEALTH: 0

FLAMMABILITY: 0

REACTIVITY: 1

*additional chronic hazards present.

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

ORAL EXPOSURE

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

INHALATION EXPOSURE

If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.

DERMAL EXPOSURE

In case of contact, immediately wash skin with soap and copious amounts of water.

EYE EXPOSURE

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

CONDITIONS OF FLAMMABILITY

Material may have an exothermic reaction above 200°C with halocarbon vapors and may produce toxic hydrochloric acid and phosgene.

FLASH POINT

N/A

AUTOIGNITION TEMP

N/A

FLAMMABILITY

N/A

EXTINGUISHING MEDIA

Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Specific Hazard(s): Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Exercise appropriate precautions to minimize direct contact with skin or eyes and prevent inhalation of dust.

METHODS FOR CLEANING UP

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

HANDLING

User Exposure: Avoid inhalation. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

STORAGE

Suitable: Keep tightly closed.

SPECIAL REQUIREMENTS

Very hygroscopic.

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS

Safety shower and eye bath. Mechanical exhaust required.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks.

Hand: Protective gloves.

Eye: Chemical safety goggles.

GENERAL HYGIENE MEASURES

Wash thoroughly after handling.

EXPOSURE LIMITS, RTECS

Country	Source	Type	Value
USA	MSHA Standard		
Remarks: Nuisance Particulates.			
USA	OSHA.	PEL	8H TWA 15 MG/M3, TOTAL DUST
New Zealand	OEL		
Remarks: check ACGIH TLV			

EXPOSURE LIMITS

Country	Source	Type	Value
Poland		NDS	2 MG/M3
Poland		NDSch	16 MG/M3
Poland		NDSP	-

Section 9 - Physical/Chemical Properties

Appearance	Physical State: Solid	
Property	Value	At Temperature or Pressure
Molecular Weight	101.96 AMU	
pH	9.4 - 10.1	20 °C
BP/BP Range	2,980 °C	
MP/MP Range	2,038 °C	
Freezing Point	N/A	
Vapor Pressure	1 mmHg	2,158 °C
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
SG/Density	4 g/cm3	

Bulk Density	N/A
Odor Threshold	N/A
Volatile%	N/A
VOC Content	N/A
Water Content	N/A
Solvent Content	N/A
Evaporation Rate	N/A
Viscosity	N/A
Surface Tension	N/A
Partition Coefficient	N/A
Decomposition Temp.	N/A
Flash Point	N/A
Explosion Limits	N/A
Flammability	N/A
Autoignition Temp	N/A
Refractive Index	1.76 - 1.7680
Optical Rotation	N/A
Miscellaneous Data	N/A
Solubility	Solubility in Water: Insoluble.

N/A = not available

Section 10 - Stability and Reactivity

STABILITY

Stable: Stable.

Conditions to Avoid: Moisture.

Materials to Avoid: Strong acids, Strong bases, Chlorine trifluoride, Ethylene oxide, Halocarbons, Oxygen difluoride, Sodium nitrate, Vinyl acetate.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Aluminum oxide.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information

ROUTE OF EXPOSURE

Skin Contact: May cause skin irritation.

Skin Absorption: May be harmful if absorbed through the skin.

Eye Contact: May cause eye irritation.

Inhalation: May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.

Ingestion: May be harmful if swallowed.

TARGET ORGAN(S) OR SYSTEM(S)

Bones. Lungs.

SIGNS AND SYMPTOMS OF EXPOSURE

Exposure can cause: Coughing, chest pains, difficulty in breathing. Gastrointestinal disturbances. Damage to the lungs.

Prolonged exposure can cause:

IRRITATION DATA

Eyes

Rabbit

Remarks: No irritation effect

Skin

Rabbit

Remarks: No irritation effect

CHRONIC EXPOSURE - CARCINOGEN

Result: This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

Species: Rat

Route of Application: Intrapleural

Dose: 90 MG/KG

Result: Lungs, Thorax, or Respiration:Tumors.

Tumorigenic:Equivocal tumorigenic agent by RTECS criteria.

Species: Rat

Route of Application: Implant

Dose: 200 MG/KG

Result: Tumorigenic:Neoplastic by RTECS criteria.

Tumorigenic:Tumors at site or application.

Species: Rat

Route of Application: Implant

Dose: 200 MG/KG

Result: Tumorigenic:Tumors at site or application.

Tumorigenic:Equivocal tumorigenic agent by RTECS criteria.

ACGIH CARCINOGEN LIST

Rating: A4

Section 12 - Ecological Information

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT

Proper Shipping Name: None

Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.

IATA

Non-Hazardous for Air Transport: Non-hazardous for air transport.

Section 15 - Regulatory Information

US CLASSIFICATION AND LABEL TEXT

US Statements: Target organ(s): Lungs. Bones.

UNITED STATES REGULATORY INFORMATION

SARA LISTED: Yes

DEMINIMIS: 0.1 %

NOTES: This product is subject to SARA section 313 reporting requirements.

TSCA INVENTORY ITEM: Yes

CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: Yes

NDSL: No

Section 16 - Other Information

DISCLAIMER

For R&D use only. Not for drug, household or other uses.

WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2006 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.