

SIGMA-ALDRICH

Material Safety Data Sheet

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Version 1.11

According to 91/155/EEC

1 - Product and Company Information

Product Name ANTI-BUMPING GRANULES, ~1-3 MM

Product Number 85106

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2 - Composition/Information on Ingredients

Product Name	CAS #	EC no	Annex I Index Number
ALUMINA ACTIVATED	1344-28-1	215-691-6	None

Formula Al<sub>2</sub>O<sub>3</sub>

Molecular Weight 101.96 AMU

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 \* Dispall alumina \* Dispall 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

3 - Hazards Identification

SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT

Not hazardous according to Directive 67/548/EC.

4 - First Aid Measures

#### AFTER INHALATION

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

#### AFTER SKIN CONTACT

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

#### AFTER EYE CONTACT

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.

#### AFTER INGESTION

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

#### 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.

##### EXTINGUISHING MEDIA

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

##### SPECIAL RISKS

Specific Hazard(s): Emits toxic fumes under fire conditions.

#### SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

#### 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.

#### 7 - Handling and Storage

##### HANDLING

Directions for Safe Handling: Avoid inhalation. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

##### STORAGE

Conditions of Storage: Keep tightly closed.

SPECIAL REQUIREMENTS: Very hygroscopic.

#### 8 - Exposure Controls / Personal Protection

##### ENGINEERING CONTROLS

Safety shower and eye bath. Mechanical exhaust required.

## GENERAL HYGIENE MEASURES

Wash thoroughly after handling.

## EXPOSURE LIMITS

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

## EXPOSURE LIMITS - DENMARK

Source	Type	Value
OEL	TWA	10 mg/m3

## EXPOSURE LIMITS - GERMANY

Source	Type	Value
TRGS 900	OEL	6 mg/m3, A

## EXPOSURE LIMITS - NORWAY

Source	Type	Value
	OEL	10 mg/m3

Remarks: 1)

## EXPOSURE LIMITS - SWEDEN

Source	Type	Value
	LLV (Level)	15 mg/m3

## EXPOSURE LIMITS - SWITZERLAND

Source	Type	Value
OEL	OEL	6 mg/m3

Remarks: A

#### EXPOSURE LIMITS - UNITED KINGDOM

Source	Type	Value
OEL	TWA	4 mg/m3

Remarks: respirable dust

#### PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: Wear dust mask.

Hand Protection: Protective gloves.

Eye Protection: Chemical safety goggles.

#### 9 - Physical and Chemical Properties

Appearance                      Physical State: Solid

Property	Value	At Temperature or Pressure
pH	9.4 - 10.1	20 °C
BP/BP Range	2,980 °C	
MP/MP Range	2,038 °C	
Flash Point	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Oxidizing Properties	N/A	
Explosive Properties	N/A	
Explosion Limits	N/A	
Vapor Pressure	1 mmHg	2,158 °C
SG/Density	4 g/cm3	

Partition Coefficient N/A

Viscosity N/A

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Vapor Density	N/A
Saturated Vapor Conc.	N/A
Evaporation Rate	N/A
Bulk Density	N/A
Decomposition Temp.	N/A
Solvent Content	N/A
Water Content	N/A
Surface Tension	N/A
Conductivity	N/A
Miscellaneous Data	N/A
Solubility	Solubility in Water:Insoluble.

## 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

## 11 - Toxicological Information

RTECS NUMBER: BD1200000



#### IRRITATION DATA

Eyes

Rabbit

Remarks: No irritation effect

Skin

Rabbit

Remarks: No irritation effect

#### SIGNS AND SYMPTOMS OF EXPOSURE

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

#### 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 INFORMATION

Lungs. Bones.

#### 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.

Rat

Route of Application: Intrapleural

Result: Tumorigenic:Equivocal tumorigenic agent by RTECS criteria. Lungs, Thorax, or Respiration:Tumors.

Rat

Route of Application: Implant

Result: Tumorigenic:Neoplastic by RTECS criteria.

Tumorigenic:Tumors at site or application.

Rat

Route of Application: Implant

Result: Tumorigenic:Equivocal tumorigenic agent by RTECS criteria. Tumorigenic:Tumors at site or application.

## 12 - Ecological Information

No data available.

## 13 - Disposal Considerations

### SUBSTANCE DISPOSAL

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.

## 14 - Transport Information

RID/ADR

Non-hazardous for road transport.

IMDG

Non-hazardous for sea transport.

IATA

Non-hazardous for air transport.

15 - Regulatory Information

Not hazardous according to Directive 67/548/EC.

COUNTRY SPECIFIC INFORMATION

Germany

WGK: No hazard to waters.

SWITZERLAND

SWISS POISON CLASS: FREI

16 - Other Information

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

