

**Material Safety Data Sheet**

Version 3.0  
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**1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : **Aluminum oxide**

Product Number : 544833  
Brand : Aldrich

Company : Sigma-Aldrich Canada, Ltd  
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OAKVILLE ON L6H 6J8  
CANADA

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**2. COMPOSITION/INFORMATION ON INGREDIENTS**

Synonyms : Alumina  
Aluminium oxide

Formula :  $Al_2O_3$   
Molecular Weight : 101.96 g/mol

CAS-No.	EC-No.	Index-No.	Concentration [%]
<b>Aluminium oxide</b>			
1344-28-1	215-691-6	-	-

**3. HAZARDS IDENTIFICATION****Emergency Overview****Target Organs**

Lungs, Bone

**WHMIS Classification**

Not Rated

Not Rated

**HMIS Classification**

Health Hazard: 0

Chronic Health Hazard: \*

Flammability: 0

Physical hazards: 0

**Potential Health Effects****Inhalation**

May be harmful if inhaled. May cause respiratory tract irritation.

**Skin**

May be harmful if absorbed through skin. May cause skin irritation.

**Eyes**

May cause eye irritation.

**Ingestion**

May be harmful if swallowed.

#### 4. FIRST AID MEASURES

**If inhaled**

If breathed in, move person into fresh air. If not breathing give artificial respiration

**In case of skin contact**

Wash off with soap and plenty of water.

**In case of eye contact**

Flush eyes with water as a precaution.

**If swallowed**

Never give anything by mouth to an unconscious person. Rinse mouth with water.

#### 5. FIRE-FIGHTING MEASURES

**Flammable properties**

Flash point no data available

Ignition temperature no data available

**Suitable extinguishing media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Special protective equipment for fire-fighters**

Wear self contained breathing apparatus for fire fighting if necessary.

**Further information**

The product itself does not burn. Do not use halocarbon extinguishers.

#### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions**

Avoid dust formation.

**Environmental precautions**

No special environmental precautions required.

**Methods for cleaning up**

Sweep up and shovel. Keep in suitable, closed containers for disposal.

#### 7. HANDLING AND STORAGE

**Handling**

Provide appropriate exhaust ventilation at places where dust is formed.

**Storage**

Keep container tightly closed in a dry and well-ventilated place.

Light sensitive.

#### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Components with workplace control parameters**

Components	CAS-No.	Value	Control parameters	Update	Basis
Aluminium oxide	1344-28-1	TWA	3 mg/m3	2005-12-07	Canada. Worker's Compensation Act, Occupational Health and Safety Regulations (BC Reg 296/97 as amended), 7.2 [B.C. Reg. 382/2004, s.1]

Remarks	The 8-hour TWA listed in the Table is for the total dust. The substance also has an 8-hour TWA of 3 mg/m3 for the respirable fraction. The value is for particulate matter containing no asbestos and less than 1% crystalline silica.				
		TWA	3 mg/m3	2005-12-07	Canada. Worker's Compensation Act, Occupational Health and Safety Regulations (BC Reg 296/97 as amended), 7.2 [B.C. Reg. 382/2004, s.1]
	The 8-hour TWA listed in the Table is for the total dust. The substance also has an 8-hour TWA of 3 mg/m3 for the respirable fraction. The value is for particulate matter containing no asbestos and less than 1% crystalline silica.				
		TWA	10 mg/m3	2005-02-03	Canada. Occupational Health and Safety Act [R.S.O. 1990, c.1], Industrial Establishments (R.R.O. 1990, Reg 851),139
		TWA	10 mg/m3	2004-04-30	Canada. Occupational Health and Safety Code 218
		TWA	10 mg/m3	2004-04-30	Canada. Occupational Health and Safety Code 218
		TWA	10 mg/m3	2000-01-12	Canada. Act Respecting Occupational Health and Safety [R.S.Q., c.2.1], Regulation respecting Occupational Health and Safety (O.C.885-2001), Division XV, Sections 130-14
	The standard corresponds to dust containing no asbestos and the percentage in crystalline silica is less than 1 %				

### Personal protective equipment

#### Respiratory protection

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. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### Hand protection

Handle with gloves.

#### Eye protection

Safety glasses

#### Hygiene measures

General industrial hygiene practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

Form	solid
Colour	no data available

### Safety data

pH	9.4 - 10.1 at 20 °C (68 °F)
Melting point	2,038 °C (3,700 °F)
Boiling point	2,980 °C (5,396 °F)
Flash point	no data available
Ignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Vapour pressure	1 hPa (1 mmHg) at 2,158 °C (3,916 °F)
Density	4.000 g/cm <sup>3</sup>
Water solubility	insoluble

## 10. STABILITY AND REACTIVITY

### Storage stability

Stable under recommended storage conditions.

### Conditions to avoid

Exposure to moisture.

### Materials to avoid

Strong acids, Strong bases, Chlorine trifluoride, Ethylene oxide, Halogenated hydrocarbon, Oxygen difluoride, Sodium nitrate, Vinyl compounds

### Hazardous decomposition products

**Hazardous decomposition products formed under fire conditions.**  
Aluminum oxide

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

no data available

### Irritation and corrosion

no data available

### Sensitisation

no data available

### Chronic exposure

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

### Signs and Symptoms of Exposure

Cough, chest pain, Difficulty in breathing, Gastrointestinal disturbance

## Potential Health Effects

<b>Inhalation</b>	May be harmful if inhaled. May cause respiratory tract irritation.
<b>Skin</b>	May be harmful if absorbed through skin. May cause skin irritation.
<b>Eyes</b>	May cause eye irritation.
<b>Ingestion</b>	May be harmful if swallowed.
<b>Target Organs</b>	Lungs, Bone,

## 12. ECOLOGICAL INFORMATION

### Elimination information (persistence and degradability)

no data available

### Ecotoxicity effects

no data available

### Further information on ecology

no data available

## 13. DISPOSAL CONSIDERATIONS

### Product

Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

### Contaminated packaging

Dispose of as unused product.

## 14. TRANSPORT INFORMATION

### DOT (US)

Not dangerous goods

### IMDG

Not dangerous goods

### IATA

Not dangerous goods

## 15. REGULATORY INFORMATION

### TSCA Status

On TSCA Inventory

### DSL Status

All components of this product are on the Canadian DSL list.

### WHMIS Classification

Not Rated

Not Rated

## 16. OTHER INFORMATION

### Further information

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