

**MSDS** Material Safety Data Sheet

From: Avantor Performance Materials, Inc.  
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24 Hour Emergency Telephone: 908-859-2151  
CHEMTREC: 1-800-424-9300

National Response in Canada  
CANUTEC: 613-996-6666

Outside U.S. and Canada  
Chemtrec: 703-527-3887

**NOTE:** CHEMTREC, CANUTEC and National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.

All non-emergency questions should be directed to Customer Service, 1-855-AVANTOR (855-282-6867) for assistance.

## Aluminum Hydroxide

### 1. Product Identification

**Synonyms:** Aluminum hydrate; Aluminum trihydrate; Hydrated alumina  
**CAS No.:** 21645-51-2  
**Molecular Weight:** 78.00  
**Chemical Formula:** Al(OH)<sub>3</sub>  
**Product Codes:** 0518

### 2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Aluminum Hydroxide	21645-51-2	98 - 100%	Yes

### 3. Hazards Identification

#### Emergency Overview

**WARNING! CAUSES IRRITATION TO EYES AND RESPIRATORY TRACT.**

SAF-T-DATA<sup>(tm)</sup> Ratings (Provided here for your convenience)

Health Rating: 1 - Slight  
Flammability Rating: 0 - None  
Reactivity Rating: 1 - Slight  
Contact Rating: 2 - Moderate  
Lab Protective Equip: GOGGLES; LAB COAT; PROPER GLOVES  
Storage Color Code: Green (General Storage)

#### Potential Health Effects

**Inhalation:**

Causes irritation to the respiratory tract. Symptoms may include coughing, shortness of breath.

**Ingestion:**

Not expected to be a health hazard via ingestion.

**Skin Contact:**

Not expected to be a health hazard from skin exposure.

**Eye Contact:**

Causes irritation, redness, and pain.

**Chronic Exposure:**

Repeated exposure may cause symptoms similar to those listed for acute effects. Prolonged contact with skin may result in minor mechanical irritation.

**Aggravation of Pre-existing Conditions:**

No information found.

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## 4. First Aid Measures

**Inhalation:**

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**Ingestion:**

Not expected to require first aid measures. If large amounts were swallowed, give water to drink and get medical advice.

**Skin Contact:**

Wash exposed area with soap and water. Get medical advice if irritation develops.

**Eye Contact:**

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

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## 5. Fire Fighting Measures

**Fire:**

Not considered to be a fire hazard.

**Explosion:**

Not considered to be an explosion hazard.

**Fire Extinguishing Media:**

Use any means suitable for extinguishing surrounding fire.

**Special Information:**

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

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## 6. Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Sweep up and containerize for reclamation or disposal. Vacuuming or wet sweeping may be used to avoid dust dispersal.

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## 7. Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from incompatible substances. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

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## 8. Exposure Controls/Personal Protection

### **Airborne Exposure Limits:**

None established.

### **Ventilation System:**

In general, dilution ventilation is a satisfactory health hazard control for this substance. However, if conditions of use create discomfort to the worker, a local exhaust system should be considered.

### **Personal Respirators (NIOSH Approved):**

For conditions of use where exposure to dust or mist is apparent and engineering controls are not feasible, a particulate respirator (NIOSH type N95 or better filters) may be worn. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-face positive-pressure, air-supplied respirator. **WARNING:**

Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

### **Skin Protection:**

Wear protective gloves and clean body-covering clothing.

### **Eye Protection:**

Use chemical safety goggles and/or full face shield where dusting or splashing of solutions is possible. Maintain eye wash fountain and quick-drench facilities in work area.

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## 9. Physical and Chemical Properties

### **Appearance:**

White Powder.

### **Odor:**

Odorless.

### **Solubility:**

Practically insoluble in water.

### **Specific Gravity:**

2.42

### **pH:**

> 7 (Basic).

### **% Volatiles by volume @ 21C (70F):**

0

### **Boiling Point:**

No information found.

### **Melting Point:**

300C (572F)

### **Vapor Density (Air=1):**

Not applicable.

### **Vapor Pressure (mm Hg):**

Not applicable.

### **Evaporation Rate (BuAc=1):**

No information found.

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## 10. Stability and Reactivity

### **Stability:**

Stable under ordinary conditions of use and storage. Aluminum hydroxide forms a gel on prolonged contact with water; absorbs acids and carbon dioxide.

### **Hazardous Decomposition Products:**

May produce oxides of aluminum.

### **Hazardous Polymerization:**

Will not occur.

### **Incompatibilities:**

Strong acids, strong oxidizers. Aluminum hydroxide can react dangerously with bismuth.

**Conditions to Avoid:**

Moisture and incompatibles.

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## 11. Toxicological Information

No LD50/LC50 information found relating to normal routes of occupational exposure.

-----\Cancer Lists\-----

Ingredient	---NTP Carcinogen---		IARC Category
	Known	Anticipated	
Aluminum Hydroxide (21645-51-2)	No	No	None

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## 12. Ecological Information

**Environmental Fate:**

No information found.

**Environmental Toxicity:**

No information found.

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## 13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

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## 14. Transport Information

Not regulated.

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## 15. Regulatory Information

-----\Chemical Inventory Status - Part 1\-----

Ingredient	TSCA	EC	Japan	Australia
Aluminum Hydroxide (21645-51-2)	Yes	Yes	Yes	Yes

-----\Chemical Inventory Status - Part 2\-----

Ingredient	Korea	--Canada--		Phil.
		DSL	NDSL	
Aluminum Hydroxide (21645-51-2)	Yes	Yes	No	Yes

-----\Federal, State & International Regulations - Part 1\-----

Ingredient	-SARA 302-		-----SARA 313-----	
	RQ	TPQ	List	Chemical Catg.
Aluminum Hydroxide (21645-51-2)	No	No	No	No

-----\Federal, State & International Regulations - Part 2\-----

Ingredient	CERCLA	-RCRA- 261.33	-TSCA- 8(d)
----- Aluminum Hydroxide (21645-51-2)	No	No	No

Chemical Weapons Convention: No      TSCA 12(b): No      CDTA: No  
SARA 311/312: Acute: Yes      Chronic: Yes      Fire: No      Pressure: No  
Reactivity: No      (Pure / Solid)

**Australian Hazchem Code:** None allocated.

**Poison Schedule:** None allocated.

**WHMIS:**

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

## 16. Other Information

**NFPA Ratings:** Health: 1 Flammability: 0 Reactivity: 0

**Label Hazard Warning:**

WARNING! CAUSES IRRITATION TO EYES AND RESPIRATORY TRACT.

**Label Precautions:**

Avoid contact with eyes, skin and clothing.

Wash thoroughly after handling.

Avoid breathing dust.

Keep container closed.

Use only with adequate ventilation.

**Label First Aid:**

In case of eye contact, immediately flush eyes with plenty of water for at least 15 minutes. Remove material from skin and clothing. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In all cases, get medical attention.

**Product Use:**

Laboratory Reagent.

**Revision Information:**

No Changes.

**Disclaimer:**

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