

Material Safety Data Sheet  
Aluminum hydroxide hydrate

ACC# 00933

Section 1 - Chemical Product and Company Identification

**MSDS Name:** Aluminum hydroxide hydrate  
**Catalog Numbers:** A301-500  
**Synonyms:** Aluminum hydroxide (Al(OH)<sub>3</sub>), hydrate; Algeltrate.  
**Company Identification:**  
Fisher Scientific  
1 Reagent Lane  
Fair Lawn, NJ 07410  
**For information, call:** 201-796-7100  
**Emergency Number:** 201-796-7100  
**For CHEMTREC assistance, call:** 800-424-9300  
**For International CHEMTREC assistance, call:** 703-527-3887

Section 2 - Composition, Information on Ingredients

| CAS#      | Chemical Name              | Percent | EMSCS/ELINCS |
|-----------|----------------------------|---------|--------------|
| 1330-44-5 | Aluminum hydroxide hydrate | 100     | unlisted     |

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

**Appearance:** not available solid.  
**Caution!** May cause eye, skin, and respiratory tract irritation. The toxicological properties of this material have not been fully investigated.  
**Target Organs:** No data found.

**Potential Health Effects**  
**Eyes:** May cause eye irritation.  
**Skin:** Dust may cause mechanical irritation.  
**Ingestion:** Ingestion of large amounts may cause gastrointestinal irritation. The toxicological properties of this substance have not been fully investigated. Ingestion of large amounts may cause pain, constipation or diarrhea.  
**Inhalation:** May cause respiratory tract irritation. The toxicological properties of this substance have not been fully investigated.  
**Chronic:** No information found. Prolonged exposure may cause osteonodacia (softening of

Section 4 - First Aid Measures

**Eyes:** Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.  
**Skin:** Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists. Wash clothing before reuse.  
**Ingestion:** Do not induce vomiting. If victim is conscious and alert, give 2-4 cupsful of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.  
**Inhalation:** Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear.  
**Notes to Physician:** Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

**General Information:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Non-combustible, substance itself does not burn but may decompose upon heating to produce irritating, corrosive and/or toxic fumes.  
**Extinguishing Media:** Substance is noncombustible; use agent most appropriate to extinguish surrounding fire.  
**Flash Point:** Not applicable.  
**Autoignition Temperature:** Not applicable.  
**Explosion Limits, Lower:** Not available.  
**Upper:** Not available.  
**NFPA Rating:** (estimated) Health: 1; Flammability: 0; Instability: 1

Section 6 - Accidental Release Measures

**General Information:** Use proper personal protective equipment as indicated in Section 8.  
**Spills/Leaks:** Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation.

Section 7 - Handling and Storage

**Handling:** Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with skin and eyes. Avoid ingestion and inhalation.  
**Storage:** Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.  
**Exposure Limits**

| Chemical Name              | ACGIH       | NIOSH       | OSHA - Final PELs |
|----------------------------|-------------|-------------|-------------------|
| Aluminum hydroxide hydrate | none listed | none listed | none listed       |
| Aluminum hydroxide         | none listed | none listed | none listed       |

**OSHA Vacated PELs:** Aluminum hydroxide hydrate: No OSHA Vacated PELs are listed for this chemical. Aluminum hydroxide: No OSHA Vacated PELs are listed for this chemical.

**Personal Protective Equipment**  
**Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.  
**Respirators:** A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88-2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

Section 9 - Physical and Chemical Properties

**Physical State:** Solid  
**Appearance:** not available  
**Odor:** none reported  
**pH:** not available.  
**Vapor Pressure:** not available.  
**Vapor Density:** not available.  
**Evaporation Rate:** not available.  
**Viscosity:** not available.  
**Boiling Point:** not available.  
**Freezing/Melting Point:** not available.  
**Decomposition Temperature:** not available.  
**Solubility:** Insoluble in water.  
**Specific Gravity/Density:** not available.  
**Molecular Formula:** Al(OH)<sub>3</sub>·nH<sub>2</sub>O  
**Molecular Weight:** 78.0007

Section 10 - Stability and Reactivity

**Chemical Stability:** Stable under normal temperatures and pressures. Absorbs carbon dioxide from the air. Absorbs acids. When coprecipitated with bismuth hydroxide and reduced by hydrogen, becomes violently flammable in air.  
**Conditions to Avoid:** Exposure to air, violently reacts with chlorinated rubbers.  
**Incompatibilities with Other Materials:** Strong oxidizing agents, chlorinated rubber.  
**Hazardous Decomposition Products:** Violently reacts with chlorinated rubber, aluminum oxide.  
**Hazardous Polymerization:** Has not been reported.

Section 11 - Toxicological Information

**RTCS#:**  
**CAS#** 1330-44-5 unlisted.  
**CAS#** 21645-51-2; 80094000  
**LD50/LC50:**  
Not available.  
**Carcinogenicity:**  
CAS# 1330-44-5: Not listed by ACGIH, IARC, NTP, or CA Prop 65.  
CAS# 21645-51-2: Not listed by ACGIH, IARC, NTP, or CA Prop 65.  
**Epidemiology:** Several mortality studies of aluminum reduction plant workers have showed no excess deaths due to organic brain disorders of the dementia type. No information found.  
**Teratogenicity:** No information found.  
**Reproductive Effects:** No information found.  
**Mutagenicity:** No information found.  
**Neurotoxicity:** No information found.  
**Other Studies:**

Section 12 - Ecological Information

No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.  
**RCRA P-Series:** None listed.  
**RCRA U-Series:** None listed.

Section 14 - Transport Information

| US DOT                                 | Canada TDG                             |
|--|--|
| <b>Shipping Name:</b><br>Not Regulated | <b>Shipping Name:</b><br>Not Regulated |
| <b>Hazard Class:</b>                   |  |
| <b>UN Number:</b>                      |  |
| <b>Packaging Group:</b>                |  |

Section 15 - Regulatory Information

**US FEDERAL**  
**TSCA**  
CAS# 1330-44-5 is not on the TSCA Inventory because it is a hydrate. It is considered to be listed if the CAS number for the anhydrous form is on the Inventory (40CFR261.3(u)(2)).  
CAS# 21645-51-2 is listed on the TSCA Inventory.  
**Health & Safety Reporting List**  
None of the chemicals are on the Health & Safety Reporting List.  
**Chemical Test Rules**  
None of the chemicals in this product are under a Chemical Test Rule.  
**Section 12(b)**  
None of the chemicals are listed under TSCA Section 12(b).  
**TSCA Significant New Use Rule**  
None of the chemicals in this material have a SNUR under TSCA.  
**CECLA Hazardous Substances and corresponding RQs**  
None of the chemicals in this material have an RQ.  
**SARA Section 302 Extremely Hazardous Substances**  
None of the chemicals in this product have a TPO.  
**SARA Codes**  
CAS # 21645-51-2: delayed.  
**Section 313**  
No chemicals are reportable under Section 313.  
**Clean Air Act:**  
This material does not contain any hazardous air pollutants.  
This material does not contain any Class 1 Ozone depleters.  
This material does not contain any Class 2 Ozone depleters.  
**Clean Water Act:**  
None of the chemicals in this product are listed as Hazardous Substances under the CWA.  
None of the chemicals in this product are listed as Priority Pollutants under the CWA.  
None of the chemicals in this product are listed as Toxic Pollutants under the CWA.  
**OSHA:**  
None of the chemicals in this product are considered highly hazardous by OSHA.  
**STATE**  
CAS# 1330-44-5 is not present on state lists from CA, PA, MN, MA, FL, or NJ.  
CAS# 21645-51-2 is not present on state lists from CA, PA, MN, MA, FL, or NJ.  
**California Prop 65**  
California No Significant Risk Level: None of the chemicals in this product are listed.  
**European/International Regulations**  
**European Labeling in Accordance with EC Directives**  
**Hazard Symbols:**  
not available.  
**Risk Phrases:**  
**Safety Phrases:**  
S1/2: Avoid contact with skin and eyes.  
**WGK (Water Danger/Protection)**  
CAS# 1330-44-5: No information available.  
CAS# 21645-51-2: 0  
**Canada - DSL/NDSL**  
CAS# 21645-51-2 is listed on Canada's DSL List.  
**Canada - WHMIS**  
This product has a WHMIS classification of Not Controlled.  
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.  
**Canadian Ingredient Disclosure List**

Section 16 - Additional Information

**MSDS Creation Date:** 9/02/1997  
**Revision #:** Date: 07/03/2009  
The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, however arising, even if Fisher has been advised of the possibility of such damages.