Material Safety Data Sheet
Aluminum Sulfate Octadecahydrate

ACC# 00981

Section 1 - Chemical Product and Company Identification

MSDS Name: Aluminum Sulfate Octadecahydrate
Catalog Numbers: A613 500, A613-500, A613500
Synonyms: Aluminum trisulfate, sulfuric acid aluminum salt
Company Identification:
Fisher Scientific
1 Reagent Lane
Fairlawn, 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

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Chemical Name</th>
<th>Percent</th>
<th>FINECS/ELINCS</th>
</tr>
</thead>
<tbody>
<tr>
<td>7784-31-8</td>
<td>Aluminum Sulfate Octadecahydrate</td>
<td>100</td>
<td>unlisted</td>
</tr>
</tbody>
</table>

Section 3 - Hazards Identification

EMERGENCY OVERVIEW
Appearance: white. **Caution!** This is expected to be a low hazard for usual industrial handling. May cause mechanical eye and skin irritation. May cause respiratory and digestive tract irritation. **Target Organs:** None.

**Potential Health Effects**

**Eye:** Dust may cause mechanical irritation.

**Skin:** May cause skin irritation. Low hazard for usual industrial handling.

**Ingestion:** Ingestion of large amounts may cause gastrointestinal irritation.

**Expected to be a low ingestion hazard.**

**Inhalation:** May cause respiratory tract irritation. Low hazard for usual industrial handling.

**Chronic:** No information found.

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**Section 4 - First Aid Measures**

**Eyes:** Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids. Get medical aid.

**Skin:** Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists.

**Ingestion:** If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid.

**Inhalation:** Remove from exposure 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.

**Antidote:** None reported.

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**Section 5 - Firefighting 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.

**Extinguishing Media:** For small fires, use water spray, dry chemical, carbon dioxide or chemical foam.

**Autoignition Temperature:** Not applicable.

**Flash Point:** Not applicable.

**NFPA Rating:** Not published. Explosion Limits, Lower: Not available. Upper: Not available.

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**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. Avoid generating dusty conditions.
Section 7 - Handling and Storage

Handling: 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. Keep from contact with oxidizing materials. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from water.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Use adequate ventilation to keep airborne concentrations low.

Exposure Limits

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA - Final PELs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum Sulfate Octadecahydrate</td>
<td>none listed</td>
<td>none listed</td>
<td>none listed</td>
</tr>
</tbody>
</table>

OSHA Vacated PELs: Aluminum Sulfate Octadecahydrate: 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.

Skin: Wear appropriate gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to minimize contact with skin.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

Section 9 - Physical and Chemical Properties

Physical State: Solid

Appearance: white

Odor: None reported

pH: Acidic in solution.

Vapor Pressure: Negligible.

Vapor Density: Not available.

Evaporation Rate:

Viscosity: Not available.

Boiling Point: Not available.

Freezing/Melting Point: 189 deg F

Decomposition Temperature: 189 deg F

Solubility: 86.9% at 32°F

Specific Gravity/Density: 1.69 at 62°F

Molecular Formula: Al₂(SO₄)₃·18H₂O

Molecular Weight:
Section 10 - Stability and Reactivity

Chemical Stability: Stable.
Conditions to Avoid: Incompatible materials, moisture.
Incompatibilities with Other Materials: Incompatible with strong oxidizing agents.
Decomposes in water which may generate quantities of heat or pressure.
Hazardous Decomposition Products: Oxides of sulfur, aluminum oxide.
Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:
CAS# 7784-31-8: WS5697000
LD50/LC50:
CAS# 7784-31-8:
Oral, mouse: LD50 = >9 gm/kg;
Oral, rat: LD50 = >9 gm/kg;
Carcinogenicity:
CAS# 7784-31-8: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.
Epidemiology: No data available.
Teratogenicity: No data available.
Reproductive Effects: No data available.
Neurotoxicity: No data available.
Mutagenicity: No data available.
Other Studies: No data available.

Section 12 - Ecological Information

Ecotoxicity: Not available.
Environmental Fate: Not available.
Physical/Chemical: Not available.
Other: Not available.

Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.
RCRA D-Series Maximum Concentration of Contaminants: None listed.
RCRA D-Series Chronic Toxicity Reference Levels: None listed.
RCRA F-Series: None listed.
RCRA P-Series: None listed.
RCRA U-Series: None listed.

Section 14 - Transport Information
Section 15 - Regulatory Information

US FEDERAL

TSCA
CAS# 7784-31-8 is not listed on the TSCA inventory. It is for research and
development use only.

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 12b
None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule
None of the chemicals in this material have a SNUR under TSCA.

SARA

Section 302 (RQ)
None of the chemicals in this material have an RQ.

Section 302 (TPQ)
None of the chemicals in this product have a TPQ.

SARA Codes
CAS # 7784-31-8: acute, chronic.

Section 313
This material contains Aluminum Sulfate Octadecahydrate (listed as ALUMINUM),
100%, (CAS# 7784-31-8) which is subject to the reporting requirements of Section
313 of SARA Title III and 40 CFR Part 373.

Clean Air Act:
This material does not contain any hazardous air pollutants. This material does not
contain any Class 1 Ozone depletors. This material does not contain any Class 2
Ozone depletors.

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# 7784-31-8 is not present on state lists from CA, PA, MN, MA, FL, or NJ.
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:**

WGK (Water Danger/Protection)
CAS# 7784-31-8: No information available.

Canada

None of the chemicals in this product are listed on the DSL/NDSL list. WHMIS: Not available.

CAS# 7784-31-8 is not listed on Canada's Ingredient Disclosure List.

**Exposure Limits**
CAS# 7784-31-8 (listed as aluminum): OEL-AUSTRALIA:TWA 10 mg/m3 OEL-AUSTRALIA:TWA 2 mg/m3 (salts) OEL-AUSTRALIA:TWA 5 mg/m3 (fumes) OEL-AUSTRALIA:TWA 5 mg/m3 (resp. dust) OEL-BELGIUM:TWA 10 mg/m3 OEL-BELGIUM:UM:TWA 2 mg/m3 (salts) OEL-BELGIUM:TWA 5 mg/m3 (fumes) OEL-BELGIUM:WA 5 mg/m3 (resp. dust) OEL-DENMARK:TWA 10 mg/m3 (resp. dust) OEL-DENMARK:TWA 2 mg/m3 (salts) OEL-DENMARK:TWA 5 mg/m3 (fumes) OEL-DENMARK:FINLAND:D:TWA 2 mg/m3 (salts) OEL-FRANCE:TWA 10 mg/m3 OEL-FRANCE:TWA 2 mg/m3 (salts) OEL-FRANCE:TWA 5 mg/m3 (fumes) OEL-FRANCE:TWA 5 mg/m3 (resp. dust) OEL-GERMANY:TWA 6 mg/m3 OEL-HUNGARY:STEL 5 mg/m3 OEL-HUNGARY:Y:TWA 2 mg/m3; STEL 4 mg/m3 (salts) JAN9 OEL-THE NETHERLANDS:TWA 10 mg/m3 (resp. dust) OEL-THE NETHERLANDS:TWA 2 mg/m3 (salts) OEL-RUSSIA:STEL 2 mg/m3 OEL-SWEDEN:TWA 10 mg/m3 (resp. dust) OEL-SWEDEN:TWA 2 mg/m3 (salts) OEL-SWEDEN:TWA 4 mg/m3 OEL-SWEDEN:TWA 5 mg/m3 (resp. dust) OEL-SWITZERLAND:TWA 2 mg/m3 (salts) OEL-SWITZERLAND:TWA 6 mg/m3 (fumes) OEL-SWITZERLAND:TWA 6 mg/m3 OEL-SWITZERLAND:TWA 6 mg/m3 (resp. dust) OEL-UNITED KINGDOM:TWA 10 mg/m3; STEL 20 mg/m3 OEL-UNITED KINGDOM:TWA 2 mg/m3 (salts) OEL IN BULGARIA, COLOMBIA, JOR

**Section 16 - Additional Information**

**MSDS Creation Date:** 3/07/1995

**Revision #4 Date:** 9/02/1997

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