MATERIAL SAFETY DATA SHEET
Aluminium potassium sulfate dodecahydrate

Section 1 - Chemical Product and Company Identification

MSDS Name: Aluminium potassium sulfate dodecahydrate
Catalog Numbers: 21748-0000, 21748-0010, 21748-5000, 42326-0000, 42326-0010, 42326-5000
Synonyms: Alum; Potassium alum dodecahydrate
Company Identification: Acros Organics BVBA
Janssen Pharmaceuticaalaaan 3a
2440 Geel, Belgium
Company Identification: (USA)
Acros Organics
One Reagent Lane
Fair Lawn, NJ 07410
For information in the US, call: 800-ACROS-01
For information in Europe, call: +32 14 57 52 11
Emergency Number, Europe: +32 14 57 52 99
Emergency Number US: 201-796-7100
CHEMTREC Phone Number, US: 800-424-9300
CHEMTREC Phone Number, Europe: 703-527-3887

Section 2 - Composition, Information on Ingredients

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Chemical Name</th>
<th>%</th>
<th>EINECS#</th>
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<tbody>
<tr>
<td>7784-24-9</td>
<td>Aluminium potassium sulfate dodecahydrate</td>
<td>&gt;98%</td>
<td>unlisted</td>
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</table>

Hazard Symbols: XN

Risk Phrases: 22 36/38

Section 3 - Hazards Identification

EMERGENCY OVERVIEW
Harmful if swallowed. Irritating to eyes and skin.

Potential Health Effects

Eye: Causes eye irritation.
Skin: Causes skin irritation. May be harmful if absorbed through the skin.
Ingestion: May cause irritation of the digestive tract. May be harmful if swallowed.
Inhalation: May cause respiratory tract irritation. May be harmful if inhaled.
Chronic:

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:** Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

**Ingestion:** Get medical aid. Wash mouth out with water.

**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.

**Notes to Physician:** Treat symptomatically and supportively.

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### 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.

**Extinguishing Media:** Use water spray, dry chemical, carbon dioxide, or chemical foam.

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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. Do not let this chemical enter the environment.

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### Section 7 - Handling and Storage

**Handling:** Avoid contact with skin and eyes. Avoid ingestion and inhalation.

**Storage:** Store in a cool, dry place. Store in a tightly closed container.

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### 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**

CAS# 7784-24-9:
- United Kingdom, WEL - TWA: (aluminum, soluble salts): 2 mg/m3 TWA
- United Kingdom, WEL - STEL: (aluminum, soluble salts): 6 mg/m3 STEL
- Belgium - TWA: (aluminum, soluble salts): 2 mg/m3 VLE (as Al)
- France - VME: (aluminum, soluble salts): 2 mg/m3 VME
- Germany: (aluminum, soluble salts): 2 mg/m3 VME
- Malaysia: (aluminum, soluble salts): 2 mg/m3 TWA (as Al)
- Spain: (aluminum, soluble salts): 2 mg/m3 VLA-ED (as Al)

**Personal Protective Equipment**

**Eyes:** Wear chemical splash goggles.

**Skin:** Wear appropriate protective gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

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### Section 9 - Physical and Chemical Properties

**Physical State:** Crystals

**Color:** white
Odor: odorless
pH: 3.0-3.5 (10% aq.solution)

Vapor Pressure: Not available
Viscosity: Not available
Boiling Point: Not available

Freezing/Melting Point: 92 deg C (197.60°F)
Autoignition Temperature: Not available
Flash Point: Not available
Explosion Limits: Lower: Not available
Explosion Limits: Upper: Not available

Decomposition Temperature:
Solubility in water: 140 g/l (20°C)
Specific Gravity/Density:

Molecular Formula: AlKO8S2.12H2O
Molecular Weight: 474.39

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.
Conditions to Avoid: Incompatible materials.
Incompatibilities with Other Materials: Strong oxidizing agents, aluminum, copper, steel, zinc.
Hazardous Decomposition Products: Carbon monoxide, oxides of sulfur, carbon dioxide, aluminum oxide.
Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

RTECS#: CAS# 7784-24-9: WS5690000
LD50/LC50: RTECS: Not available.
Carcinogenicity: Aluminium potassium sulfate dodecahydrate - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
Other: See actual entry in RTECS for complete information. The toxicological properties have not been fully investigated.

Section 12 - Ecological Information

Other: Do not empty into drains.

Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - Transport Information

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<thead>
<tr>
<th>Shipping Name:</th>
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<th>IMO</th>
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<td>Packing Group:</td>
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</table>

Section 15 - Regulatory Information

European/International Regulations
European Labeling in Accordance with EC Directives
Hazard Symbols: XN
Risk Phrases:
   R 22 Harmful if swallowed.
   R 36/38 Irritating to eyes and skin.
Safety Phrases:
   S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
   S 37/39 Wear suitable gloves and eye/face protection.

WGK (Water Danger/Protection)
   CAS# 7784-24-9: Not available

Canada

US Federal

TSCA
   CAS# 7784-24-9 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 (40CFR720.3(u)(2)).

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Section 16 - Other Information

   MSDS Creation Date: 7/16/1996
   Revision #1 Date: 1/04/2005
   Revisions were made in Sections: General revision.

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantibility 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 the company 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 howsoever arising, even if the company has been advised of the possibility of such damages.

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