Holland Company

Aluminum Potassium Sulfate

Safety Data Sheet

HMIS: H = 1, F = 0, R = 0

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product/Chemical name: Potassium Aluminum Sulfate
Synonym: Potassium alum
Chemical family: Inorganic aluminum salt

Emergency Contact: 800-424-9300 Chemtrec (USA & Canada)
001-703-527-3887 Chemtrec (International)

Manufacturer's Name: Holland Company Inc.
Address (Number, Street, City, State, Country): 153 Howland Avenue, Adams, MA 01220 USA

Telephone Number: 413-743-1292
FAX: 413-743-1298
Date Prepared: Rev.: June 2013

SECTION 2. HAZARDS IDENTIFICATION

SIGNAL WORD ! WARNING !

OSHA-USA: Irritant
HMIS Classification: Health = 1, Flammability = 0, Physical Hazards = 0
NFTA Rating: Health = 1, Fire = 0, Reactivity Hazard = 0

Hazard statements-EU
H315-Skin Irritation
H319-Eye irritation
H302-Harmful if swallowed
H335-May cause respiratory irritation

Precautionary Statements-EU
P310+P312 If Swallowed: And feeling unwell contact a poison Control Center or physician.
P305+P351+P338 If in Eyes: Rinse cautiously with water for several minutes. If present and easy to do remove contacts. Continue rinsing.
P302+P352 If on Skin: Wash with soap and water.
SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight %</th>
<th>67/548/EEC Classification (EU)</th>
<th>CLP / Classification Regulation (EC)</th>
<th>REACH No. / EC-No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum potassium sulfate dodecahydrate</td>
<td>100</td>
<td>Xn: R22</td>
<td>H315-Skin Irrit.</td>
<td>____</td>
</tr>
<tr>
<td>CAS# 7784-24-9</td>
<td></td>
<td>Xi: R36/38</td>
<td>H319-Eye Irrit.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>H302-Harmful if swallowed</td>
<td></td>
</tr>
</tbody>
</table>

(see section 16 for full EU text R-phases)

SECTION 4. FIRST AID MEASURES

Eye Contact: Immediately rinse with water. Continue rinsing for at least 15 minutes. Get medical attention.
Skin Contact: Wash with soap and water. If irritation persists get medical attention.
Ingestion: Clean and rinse mouth with water. Do Not induce vomiting. If feeling unwell get medical attention.
Inhalation: Move to fresh air. If not breathing, give artificial respiration. Get medical attention.
Notes to physician: Treat symptomatically and supportively.

SECTION 5. FIRE – FIGHTING MEASURES

Flammability Classification: Non-flammable
Flash Point: NA
Auto Ignition: NA
Burn Rate: NA
LEL: NA
UEL: NA
Hazardous combustion products: Thermal decomposition can lead to the formation of hazardous and irritating gases and vapors.
Suitable extinguishing Media: Water, CO₂, chemical foam.
Advice to firefighters: As in any fire, when appropriate wear self-contained breathing apparatus and protective gear.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Avoid dust formation and have adequate ventilation. Use appropriate personal protective equipment.
Environmental Precautions: Contain and clean up spill. Prevent from entering the environment.
Methods and materials for containment and cleaning up: Sweep, shovel or vacuum into a suitable container for reuse or disposal. Avoid creating dust.
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SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling:
Avoid creating dusty conditions
Use personal protective equipment as appropriate.
Avoid contact with eyes and skin.
Avoid breathing dust.
Do not ingest.
Always wash hands when leaving the work area.
Never eat or drink, smoke, use the toilet, or take medicine without first washing.

Storage
Keep material in closed container stored in a secure, dry location away from incompatible materials.

SECTION 8. EXPOSURE CONTROL / PERSONAL PROTECTION

EU
Exposure Limits: This product as supplied does not contain any hazardous materials with occupational exposure limits established by region specific regulatory bodies.
Biological Limit Value: This product as supplied does not contain any hazardous materials with biological limits established by region specific regulatory bodies.
Derived No effect Level (DNEL): No information available.
Predicted No Effect Concentration (PNEC): No information available.

North America: Soluble aluminum salts respiratory category

<table>
<thead>
<tr>
<th>Category</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA–Final PELs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soluble aluminum salts</td>
<td>None listed</td>
<td>2mg/m³ TWA (as Al) (listed as soluble aluminum salts)</td>
<td>None listed</td>
</tr>
</tbody>
</table>

Engineering Measures:
Ensure adequate ventilation.
Have eyewash and safety shower stations available.
Have work procedures and handling systems that minimize dust formation.

Protective Equipment:
Eyes: Goggles
Skin: Wear appropriate clothing to prevent skin exposure.
Hands: Wear gloves.
Respiratory: If exposure to dust is expected or if irritation is experienced follow OSHA 29CFR 1910.134 or European Standard EN 149 regulations for respirator use.
SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State and Appearance: Solid granules / powder, white color
Odor: Negligible
pH 10% Solution @ 20°C: 3.0-3.5
Vapor Density: NA
Vapor Pressure: NA
Boiling Point: NA
Melting Point: 92°C
Decomposition Temperature: >200°C
Flash point: NA
Autoignition Temperature: NA
Water solubility: 140 g/l @ 20°C
Specific Gravity: 1.757
Formula: AlK(SO₄)₂ • 12H₂O
Molecular Weight: 474.39

SECTION 10. STABILITY AND REACTIVITY

Chemical Stability: Stable under normal conditions.
Possible Hazardous Reactions: Hazardous polymerization does not occur.
Conditions to Avoid: Incompatible products, dust generation.
Incompatible Materials: Strong oxidizing agents, water reactive materials, metals other than stainless alloys.
Hazardous Decomposition Products: Decomposition of dried potassium aluminum sulfate occurs at high temperatures can produce sulfur oxides and other noxious fumes.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute Toxicity: No acute toxicity information is available for this product.
Chronic Toxicity: No known carcinogenic chemicals in this product.
Not listed by: ACGIH, IARC, NTP, OSHA.

Mutagenic Effects: No information available.
Reproductive effects: No information available.
Developmental Effects: No information available.
Endocrine Disruptor Information: None Known.
Sensitivity: No information available.
Target Organs: No information available.
Additional Information: see RTECS # WS5690000
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SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity: No information available.
Persistence and degradability: No information available.
Bioaccumulation potential: No information available.
Mobility in soil: No information available.
Results of PBT and vPvB assessment: No information available.
Other adverse effects: No information available.

SECTION 13. DISPOSAL CONSIDERATIONS

Product and product residues: Dispose of in accordance with local regulations.
USEPA / RCRA: Unused product is not listed as a hazardous waste.
Contaminated Packaging: Dispose of in accordance with local regulations.
Clean and Recycle packaging when possible.

SECTION 14. TRANSPORT INFORMATION

US DOT: Not regulated
Canada TDG: Not regulated
IMDG / IMO: Not regulated
ADR: Not regulated
IATA: Not regulated

SECTION 15. REGULATORY INFORMATION

USA TSCA Inventory: Listed
Canada DSL/NDSL Inventory: Listed
EU / EINECS/ELINCS Inventory: Listed
KECL Inventory: Listed
PICCS: Listed
ENCS: Listed
CHINA: Listed
AICS: Listed
SARA 302 Extremely Hazardous Substance: Not listed
SARA 311/312 Category: No SARA hazards.
SARA 313: Not listed.
CERCLA Hazardous Substance: Not listed
SARA Toxic Chemical (40 CFR 372.65): Not listed
CERCLA Reportable Quantity (RQ): Not listed.
112r: Not listed.
State/Province: State/Province/regional specific regulations have not been determined by Holland Company Inc.
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SECTION 16. OTHER INFORMATION

Full Text R-phrases referenced section 3:
R22-Harmful if swallowed
R36/38 Irritating to eyes and skin.

Disclaimer:
The information provided in this safety data Sheet is believed to be correct and is based on the present state of our knowledge and does not purport to be all inclusive. It is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification.

End of Safety Data Sheet