1. Identification

GHS Product Identifier: ALUMINIUM POTASSIUM SULFATE

Company Name: CHEM-SUPPLY PTY LTD (ABN 19 008 264 211)

Address: 38 - 50 Bedford Street GILLMAN
SA 5013  Australia

Telephone/Fax Number: Tel: (08) 8440-2000
Fax: (08) 8440-2001

Recommended use of the chemical and restrictions on use: Dyeing (mordant), paper-making, matches, paints, tanning agent, waterproofing agent, purification of water, hardening agent, aluminium salts, food additive, hardening gelatin, baking powder, astringent, cement hardener, explosives, laboratory reagent.

Other Names:
- ALUMINIUM POTASSIUM SULFATE LR
- ALUMINIUM POTASSIUM SULFATE TG
- ALUMINIUM POTASSIUM SULFATE Dodecahydrate BP (Potassium alum, Potash alum)
- ALUMINIUM POTASSIUM SULFATE AR

2. Hazard Identification

GHS classification of the substance/mixture: Classified as non-Hazardous according to the Globally Harmonised System of classification and labelling of Chemicals (GHS) including Work, Health and Safety regulations, Australia.

Not classified as dangerous goods according to the Australian Dangerous Goods Code (ADG).

3. Composition/information on ingredients

Chemical Characterization:
- Name: Aluminium potassium sulfate
- CAS: 7784-24-9
- Proportion: 98-100 %
- Hazard Symbol: None
- Risk Phrase: None

Other Information: Commercially available as the anhydrous salt AlK(SO4)2 and as the hydrate AlK(SO4)2.12H2O.

4. First-aid measures

Inhalation: If inhaled, remove from contaminated area to fresh air immediately. Apply artificial respiration if not breathing. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear.

Ingestion: Give water to drink. DO NOT INDUCE VOMITING. Seek medical advice if symptoms persist.

Skin: Immediately remove contaminated clothing and wash affected area with soap and water. Ensure contaminated clothing is washed before re-use.

Eye contact: If contact with the eye(s) occur, wash with copious amounts of water for approximately 15 minutes holding eyelids(s) open. Take care not to rinse contaminated water into the non-effected eye.

First Aid Facilities: Maintain eyewash fountain and drench facilities in work area.

Advice to Doctor: Treat symptomatically.

Other Information: For advice, contact the National Poisons Information Centre (Phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor.
5. Fire-fighting measures

Specific Methods: Use measures suitable for extinguishing surrounding fire.

Specific hazards arising from the chemical:

Material does not burn.

Precautions in connection with Fire:

Use suitable protective equipment for surrounding fire.

6. Accidental release measures

Personal Precautions: Avoid substance contact. Avoid generation of dusts: do not inhale dusts. Ensure supply of fresh air in enclosed rooms.

Personel Protection:

Wear protective clothing specified for normal operations (see Section 8)

Clean-up Methods - Small Spillages: Sweep up (avoid generating dust) and remove to a suitable, clearly labelled container for disposal in accordance with local regulations.

7. Handling and storage

Precautions for Safe Handling:

Avoid contact with skin, eyes and clothing. Avoid inhalation and ingestion.

Conditions for safe storage, including any incompatibilities:

Store in well ventilated area. Store in a cool, dry place. Keep containers closed at all times.

Corrosiveness:

When heated above 200 °C, this material will combine with moisture to form sulfuric acid. Sulfuric acid is corrosive to many metals.

Additional information on precautions for use:

Do not eat, drink or smoke in work areas. Wash hands thoroughly after handling this material.

8. Exposure controls/personal protection

<table>
<thead>
<tr>
<th>Occupational exposure limit values</th>
<th>Name</th>
<th>STEL</th>
<th>TWA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Aluminium potassium sulfate</td>
<td>mg/m3</td>
<td>ppm</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>-</td>
<td>2</td>
</tr>
</tbody>
</table>

Footnote: Aluminium, soluble salts (as Al)

Other Exposure Information:

A time weighted average (TWA) has been established for Aluminium, soluble salts (as Al) (Safe Work Australia) of 2 mg/m3. The exposure value at the TWA is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. In industrial situations maintain the concentrations values below the TWA. This may be achieved by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods. These methods should be used in preference to personal protective equipment.

Appropriate engineering controls:

Where ventilation is not adequate, respiratory protection may be required. Avoid breathing dust, vapours or mists. Respiratory protection should comply with AS 1716 - Respiratory Protective Devices and be selected in accordance with AS 1715 - Selection, Use and Maintenance of Respiratory Protective Devices. Filter capacity and respirator type depends on exposure levels. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

Respiratory Protection:

The use of a face shield, chemical goggles or safety glasses with side shield protection as appropriate. Must comply with Australian Standards AS 1337 and be selected and used in accordance with AS 1336.

Eye Protection:

Hand Protection:

Hand protection should comply with AS 2161, Occupational protective gloves - Selection, use and maintenance.

Personal Protective Equipment:

Personal protective equipment should not solely be relied upon to control risk and should only be used when all other reasonably practicable control measures do not eliminate or sufficiently minimise risk. Guidance in selecting personal protective equipment can be obtained from Australian, Australian/New Zealand or other approved standards.
Safety Data Sheet

Not classified as hazardous

9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form</td>
<td>Solid</td>
</tr>
<tr>
<td>Appearance</td>
<td>White powder or colourless crystal.</td>
</tr>
<tr>
<td>Odour</td>
<td>Odourless.</td>
</tr>
<tr>
<td>Melting Point</td>
<td>92 °C</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>Losses water at 60-65 °C; becomes anhydrous at 200 °C</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>Soluble (139 g/L @ 20 °C).</td>
</tr>
<tr>
<td>Solubility in Organic Solvents</td>
<td>Freely soluble in glycerol, dilute acid. Insoluble in alcohol and acetone.</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.75</td>
</tr>
<tr>
<td>pH</td>
<td>3.0-3.5 (100 g/L, H2O, 20 °C)</td>
</tr>
<tr>
<td>Flammability</td>
<td>Non combustible material.</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>474.38</td>
</tr>
<tr>
<td>Other Information</td>
<td>Taste: Astringent</td>
</tr>
<tr>
<td></td>
<td>Dielectricity constant: 3.8</td>
</tr>
</tbody>
</table>

10. Stability and reactivity

<table>
<thead>
<tr>
<th>Stability</th>
<th>Stable under normal use conditions.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incompatible</td>
<td>STRONG BASES - can react vigorously. Strong oxidising agents, Corrosive to metals (steels, aluminum, copper, zinc) in the presence of water.</td>
</tr>
<tr>
<td>Hazardous Materials</td>
<td>Corrosive sulfuric acid, aluminum oxide and potassium oxides fumes.</td>
</tr>
<tr>
<td>Decomposition</td>
<td>Corrosive to metals (steels, aluminum, copper, zinc) in the presence of water.</td>
</tr>
<tr>
<td>Products</td>
<td>Will not occur.</td>
</tr>
<tr>
<td>Hazardous</td>
<td>No evidence of carcinogenic properties.</td>
</tr>
<tr>
<td>Polymerization</td>
<td>No evidence of carcinogenic properties.</td>
</tr>
</tbody>
</table>

11. Toxicological Information

<table>
<thead>
<tr>
<th>Route of Exposure</th>
<th>Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ingestion</td>
<td>May cause gastrointestinal irritation, stomach burns, nausea, vomiting, abdominal pain and diarrhea.</td>
</tr>
<tr>
<td>Inhalation</td>
<td>Irritating to the respiratory system, nose and throat. Symptoms include coughing, irritation and shortness of breath.</td>
</tr>
<tr>
<td>Skin</td>
<td>Causes irritation, redness, and pain in contact with skin.</td>
</tr>
<tr>
<td>Eye</td>
<td>Causes irritation, redness and pain.</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>No evidence of carcinogenic properties.</td>
</tr>
<tr>
<td>Chronic Effects</td>
<td>NEUROTOXICITY: Introduction of aluminium compounds directly into the blood stream may contribute to the development of neurological effects resembling senility. Repeated ingestion of large doses of this material may cause an increase loss of phosphate in feces and increase deposits of aluminium in bone.</td>
</tr>
<tr>
<td>Mutagenicity</td>
<td>No evidence of mutagenic properties.</td>
</tr>
</tbody>
</table>

12. Ecological information

<table>
<thead>
<tr>
<th>Ecotoxicity</th>
<th>No ecological data available for this product.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persistence and degradability</td>
<td>No persistence/degradability data available for this product.</td>
</tr>
<tr>
<td>Mobility</td>
<td>No mobility data available for this product.</td>
</tr>
</tbody>
</table>

13. Disposal considerations

| Disposal Considerations | Dispose of according to relevant local, state and federal government regulations. |

14. Transport information
Product Name: ALUMINIUM POTASSIUM SULFATE

Not classified as hazardous

Transport Information

Not classified as a Dangerous Good according to the Australian Code for the Transport of Dangerous Goods by Road and Rail.

15. Regulatory Information

Listed in the Australian Inventory of Chemical Substances (AICS). Not listed under WHS Regulation 2011, Schedule 10 - Prohibited carcinogens, restricted carcinogens and restricted hazardous chemicals.

16. Other Information

External references:
- Safe Work Australia, 'National Code of Practice for the Labelling of Safe Work Hazardous Substances (2011)'.
- Safe Work Australia, 'Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004)]'.
- Safe Work Australia, 'Hazardous Substances Information System, 2005'.
- Safe Work Australia, 'National Code of Practice for the Labelling of Safe Work Hazardous Substances (2011)'.
- Safe Work Australia, 'Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004)]'.
- Safe Work Australia, 'Hazardous Substances Information System, 2005'.
- Safe Work Australia, 'National Code of Practice for the Labelling of Safe Work Hazardous Substances (2011)'.
- Safe Work Australia, 'Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004)]'.
- Safe Work Australia, 'Hazardous Substances Information System, 2005'.
- Safe Work Australia, 'National Code of Practice for the Labelling of Safe Work Hazardous Substances (2011)'.
- Safe Work Australia, 'Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004)]'.
- Safe Work Australia, 'Hazardous Substances Information System, 2005'.
- Safe Work Australia, 'National Code of Practice for the Labelling of Safe Work Hazardous Substances (2011)'.
- Safe Work Australia, 'Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004)]'.
- Safe Work Australia, 'Hazardous Substances Information System, 2005'.
- Safe Work Australia, 'National Code of Practice for the Labelling of Safe Work Hazardous Substances (2011)'.
- Safe Work Australia, 'Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004)]'.
- Safe Work Australia, 'Hazardous Substances Information System, 2005'.
- Safe Work Australia, 'National Code of Practice for the Labelling of Safe Work Hazardous Substances (2011)'.
- Safe Work Australia, 'Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004)]'.
- Safe Work Australia, 'Hazardous Substances Information System, 2005'.
- Safe Work Australia, 'National Code of Practice for the Labelling of Safe Work Hazardous Substances (2011)'.
- Safe Work Australia, 'Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004)]'.
- Safe Work Australia, 'Hazardous Substances Information System, 2005'.
- Safe Work Australia, 'National Code of Practice for the Labelling of Safe Work Hazardous Substances (2011)'.
- Safe Work Australia, 'Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004)]'.
- Safe Work Australia, 'Hazardous Substances Information System, 2005'.
- Safe Work Australia, 'National Code of Practice for the Labelling of Safe Work Hazardous Substances (2011)'.
- Safe Work Australia, 'Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004)]'.
- Safe Work Australia, 'Hazardous Substances Information System, 2005'.
- Safe Work Australia, 'National Code of Practice for the Labelling of Safe Work Hazardous Substances (2011)'.
- Safe Work Australia, 'Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004)]'.
- Safe Work Australia, 'Hazardous Substances Information System, 2005'.
- Safe Work Australia, 'National Code of Practice for the Labelling of Safe Work Hazardous Substances (2011)'.
- Safe Work Australia, 'Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004)]'.
- Safe Work Australia, 'Hazardous Substances Information System, 2005'.
- Safe Work Australia, 'National Code of Practice for the Labelling of Safe Work Hazardous Substances (2011)'.
- Safe Work Australia, 'Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004)]'.
- Safe Work Australia, 'Hazardous Substances Information System, 2005'.
- Safe Work Australia, 'National Code of Practice for the Labelling of Safe Work Hazardous Substances (2011)'.
- Safe Work Australia, 'Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004)]'.
- Safe Work Australia, 'Hazardous Substances Information System, 2005'.
- Safe Work Australia, 'National Code of Practice for the Labelling of Safe Work Hazardous Substances (2011)'.
- Safe Work Australia, 'Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004)]'.