1. Identification

Product Identifier: Aluminium Sulphate

Other means of identification: Aluminium sulfate, alum.

Recommended use of the chemical and restrictions on use: Used in water treatment. Used in the cleaning, paper, textile and leather industries with various industrial uses. Also used as an oxidising/reducing agent. No information for uses advised against.

Details of manufacturer or importer:
Supplier: RealChem Australia
ABN No: 72 612 326 431
Street Address: 41 Mogul Court, Deer Park, VIC 3023 Australia
Telephone: 03 8390 5776
Web Address: www.realchem.com.au

Emergency telephone number: 000 (Available 24 hours)

2. Hazards Identification

Classification of the substance or mixture: This material is classified as hazardous according to the criteria of Regulation (EC) No. 1272/2008 (CLP), the Globally Harmonised System of Classification, Labelling and Packaging and Safe Work Australia.

Corrosive to Metals – Category 1
Serious Eye Damage/Irritation – Category 1

Label elements/pictogram:

Signal Word: Danger

Hazard Statements:
H290: May be corrosive to metals
H318: Causes serious eye damage

Prevention Precautionary Statements:
P102: Keep out of reach of children
P103: Read label before use
P234: Keep only in original container
P280: Wear protective clothing, gloves, eye/face protection and suitable dust mask

Response Precautionary Statements:
P101: If medical advice is needed, have product container or label at hand
P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing
P310: Immediately call a POISON CENTRE or doctor/physician
P390: Absorb spillage to prevent material damage

Storage Precautionary Statements:
P405: Store locked up
P406: Store in a corrosive resistant container with a resistant inner liner

Disposal Statements:
P501: Dispose of contents/container in accordance with local, regional, national and international regulations

Poison Schedule: Not a scheduled Poison.

3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>CAS No.</th>
<th>EC No.</th>
<th>Concentration of Ingredients (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminium sulfate</td>
<td>10043-01-3</td>
<td>233-135-0</td>
<td>&gt;99</td>
</tr>
</tbody>
</table>

4. First Aid Measures

Description of necessary first aid measures: For advice, contact a Poisons Information Centre (eg. Phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor at once.

Ingestion: If swallowed, rinse mouth with water. Give a glass of water. If vomiting occurs, give further water. Contact a Poisons information Centre or doctor for advice.

Skin Contact: If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. If swelling, redness, blistering or irritation occurs seek medical advice.

Inhalation: If inhaled, remove from contaminated area into fresh air. Remove contaminated clothing. Allow patient to assume a comfortable position. Keep warm and at rest until fully recovered. If symptoms develop seek medical advice.

Eye Contact: If in eyes, hold eyelids apart and immediately flush the eye continuously with running water. Remove contact lenses if present, and safe to do so. Continue flushing until advised to stop by a Poisons Information Centre or a doctor. Transport to hospital or a medical centre.

Symptoms caused by exposure: Refer to Section 11 for Toxicological Information

Medical attention and special treatment: Treat symptomatically. Can cause corneal burns.

5. Fire Fighting Measures

Hazchem Code: 2X

Suitable extinguishing equipment: Water fog, fine water spray, foam, dry chemical powder or carbon dioxide.

Specific hazards arising from the chemical: Non-combustible material. Hygroscopic. Corrosive to aluminium.

Special protective equipment and precautions for fire fighters: Aluminium sulfate will decompose on heating producing toxic sulfur oxide and sulfur dioxide gases. Fire fighters to wear full protective clothing and self-contained breathing apparatus if risk of exposure to product or toxic fumes.
6. Accidental Release Measures

**Personal precautions, protective equipment and emergency procedures:** Clear area of all unprotected personnel. Stop the source of the leak, if safe to do so. Clean up immediately. Avoid contact with eyes, skin and clothing. Avoid breathing dust. Wear protective equipment to prevent skin and eye contact and the inhalation of dust.

**Environmental precautions:** If contamination of crops, sewers or waterways has occurred advise local emergency services.

**Methods and materials for containment and clean up:**

**Large spills**
Sweep, or vacuum up material, avoiding dust generation or dampen spilled material with water to suppress airborne dust. Collect spilled product and place in sealable containers or drums for disposal. Clean contaminated area and objects with plenty of water and detergent. Contain and absorb wash water for disposal.

**Small spills**
Sweep, or vacuum up material, avoiding dust generation or dampen spilled material with water to suppress airborne dust. Collect spilled product and place in a sealable container for disposal. Clean contaminated area and objects with plenty of water and detergent.

7. Handling and Storage

**Precautions for safe handling:** Avoid contact with skin, eyes and clothing. Avoid breathing dust. Use only in well ventilated areas. Wear protective clothing when mixing or using. Wash hands thoroughly after use.

**Conditions for safe storage, including any incompatibilities:** Store in a dry, clean, cool, well ventilated place away from sunlight. Store in the original, labelled container and keep container tightly closed when not in use. Store container upright and away from water and aluminium.

8. Exposure Controls/Personal Protection

**Control parameters**

**Exposure standards:** No workplace exposure standard has been assigned for this specific material by Safe Work Australia. However for non-specific dusts:

DUST, INHALABLE – TWA = 10mg/m³

8-hour Time-weighted average (TWA) means the maximum average airborne concentration of a substance when calculated over an eight-hour working day, for a five-day working week.

If the directions for use on the product label are followed, exposure of individuals using the product should not exceed the above standards. The standard was created for workers who are routinely, potentially exposed during product manufacture.

Exposure standards represent airborne concentrations of individual substances which, according to current knowledge, should neither impair the health of, nor cause undue discomfort to, nearly all workers. Exposure standards are guides to be used in the control of occupational health hazards. All atmospheric contaminants should be kept to as low a level that is practical. These exposure standards should not be used to define a line between a safe and dangerous concentration of a chemical. They are not a measure of relative toxicity.
Biological monitoring: No biological monitoring required.

Appropriate engineering controls: Ensure ventilation is adequate to maintain air concentrations below Exposure Standards. Avoid generating and inhaling dusts. Use with local exhaust ventilation or while wearing dust mask. Keep containers closed when not in use.

Personal protective equipment: Manufacturing, Packaging and Transport: Personal protective equipment should be used only when other control measures (eg. elimination, substitution, isolation and engineering controls) have been found to be impracticable or in conjunction with one or more control measures. When needed wear overalls, safety glasses/chemical goggles, impervious gloves and a dust mask meeting the requirements of AS/NZS 1715 AS/NZS 1716 (Australian/New Zealand Standard™ respiratory protective devices). Available information suggests that gloves made from nitrile rubber should be suitable for intermittent contact. However, due to variations in glove construction and local conditions, the user should make a final assessment.

Recommendations for consumer use: Wear safety glasses and gloves. Avoid inhaling dust. Wash hands after use.

9. Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance/odour</td>
<td>Practically odourless, white powder.</td>
</tr>
<tr>
<td>Solubility</td>
<td>364g/L. Soluble in water.</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>Not available.</td>
</tr>
<tr>
<td>pH</td>
<td>Not available.</td>
</tr>
<tr>
<td>Specific gravity/density</td>
<td>1.7</td>
</tr>
<tr>
<td>Melting point</td>
<td>770°C</td>
</tr>
<tr>
<td>Initial boiling point</td>
<td>Not available.</td>
</tr>
<tr>
<td>Boiling point range</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Flammability</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Flammability limits</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>Not available.</td>
</tr>
<tr>
<td>Rel. vap. Density, air=1</td>
<td>&gt;1</td>
</tr>
<tr>
<td>Partition co-efficient</td>
<td>Not available.</td>
</tr>
<tr>
<td>Autoignition Temp</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Decomposition Temp</td>
<td>Not available.</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

Reference\textsuperscript{2,3}

10. Stability and Reactivity

Reactivity/Incompatible materials: Hygroscopic. Corrosive to aluminium.\textsuperscript{1}

Chemical stability: Stable under normal conditions of use.

Conditions to avoid: Avoid contact with foodstuffs. Keep containers tightly closed when not in use. Avoid extremes of temperature and direct sunlight. Avoid contact with incompatible materials.

Possibility of hazardous reactions: No hazardous reactions when stored and handled within normal conditions of use.
Hazardous decomposition products: Oxides of carbon and nitrogen, smoke and other toxic fumes including sulfur oxide and sulfur dioxide gases.

11. Toxicological Information

No adverse effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:

**Acute Toxicity**

*Ingestion:* Swallowing can result in nausea, vomiting and irritation of the gastrointestinal tract.

*Skin contact:* Product is not expected to be absorbed through the skin.

*Inhalation:* Inhalation of dust may result in respiratory irritation.

**Corrosion/Irritation**

*Skin Contact:* Contact with skin may result in irritation.***

*Eye contact:* Corrosive to eyes. Can cause corneal burns that may result in permanent injury.***

**Respiratory and skin sensitisation**

This product is not expected to cause respiratory nor skin sensitisation.

**Other toxic effects**

This product is not expected to be a germ cell mutagen and cause heritable genetic damage.

This product is not expected to be carcinogenic and cause cancer.

This product is not expected to be a reproductive toxicant and impair fertility nor cause irreversible effects in the offspring.

There is not sufficient data to presume that this product causes specific organ toxicity following a single or repeated exposure.

This product is not expected to present an aspiration hazard.

12. Ecological Information

**Ecotoxicity:** Avoid contaminating waterways. May be harmful to aquatic species.***

*96hr LC50 (Salvelinius fontinalis, fish, static test):* 3.6 mgL.***

**Persistence and degradability:** No information available.

**Bioaccumulative potential:** No information available.

**Mobility in soil:** No information available.

**Other adverse effects:** Not dangerous to the ozone layer.

13. Disposal Considerations

**Disposal methods:** Do not empty into drains. Refer to State Land Waste Management Authority.
## 14. Transport Information

### Road and Rail Transport
DANGEROUS GOODS - Classified as Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail.

- **Class/Division:** 8 CORROSIVE SUBSTANCE  
- **UN No.:** 3260  
- **Packing Group:** III  
- **Proper Shipping Name:** CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (ALUMINIUM SULPHATE)  
- **Hazchem Code:** 2X  

**Environmental hazards for transport purposes:** Not a marine pollutant according to the criteria of the International Maritime Dangerous Goods Code (IMDG) for transport by sea.

**Special precautions for transport:** Not to be loaded with explosives (Class 1), dangerous when wet substances (Class 4.3), oxidising agents (Class 5.1), organic peroxides (Class 5.2), cyanides of Class 6, radioactive substances (Class 7) or food and food packaging in any quantity, however exemptions may apply. Note that concentrated strong acids are incompatible with concentrated strong alkalis.

**Additional information:** Not applicable.

### Marine Transport
DANGEROUS GOODS - Classified as Dangerous Goods according to the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.

- **Class/Division:** 8 CORROSIVE SUBSTANCE  
- **UN No.:** 3260  
- **Packing Group:** III  
- **Proper Shipping Name:** CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (ALUMINIUM SULPHATE)

### Air Transport
DANGEROUS GOODS - Classified as Dangerous Goods according to the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.

- **Class/Division:** 8 CORROSIVE SUBSTANCE  
- **UN No.:** 3260  
- **Packing Group:** III  
- **Proper Shipping Name:** CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (ALUMINIUM SULPHATE)
15. Regulatory Information

Safety, health and environmental regulations:

None of the components of this product are listed in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

The product’s CAS number is listed on the Australian Inventory of Chemical Substances (AICS).

This material is not listed as subject to the following international agreements:
- An ozone depleting substance according to the Montreal Protocol.
- A persistent organic pollutant according to the Stockholm Convention.
- As requiring Prior Informed Consent according to the Rotterdam Convention.

This material is listed as subject to the following international agreements:
- As Dangerous Goods (Hazardous Waste) according to the Basel Convention on Hazardous Waste
  - Acidic solutions or acids in solid form
- A marine pollutant, according to the Prevention of Pollution from Ships (MARPOL).
  - Annex III - Harmful Substances carried in Packaged Form

16. Other Information

References
3. Supplier Safety Data Sheet (Date not specified)

Reason for Issue

Supersedes Revision: Not applicable.
Reason for Issue: First issue.

This Safety Data Sheet was prepared by SDS Writers (www.sdswriters.com).

The information contained in this Safety Data Sheet is intended to give general guidance on how to safely handle the product in the workplace. Since the supplier of this product cannot anticipate or control the conditions under which it may be used, each user must, prior to usage, assess and control the risks arising from the use of this product. If clarification or further information is needed, the user should contact the product supplier, listed on the first page of this document.

The supplier’s responsibility for the product as sold is subject to the terms and conditions of sale, a copy of which is available on request.

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End of SDS.