

# Safety Data Sheet

Hazardous Chemical, Dangerous Goods

## 1. MATERIAL AND SUPPLY COMPANY IDENTIFICATION

Product name: **Aluminium Sulphate**

**Synonyms Product Code** Aluminum sesquisulfate

Aluminum trisulfate

Cake alum

**Recommended use:** Hydrated grades as Alum are high volume commercial chemicals. Sizing paper, lakes, alums, dyeing mordant, agent in fire fighting foams, cloth fireproofing, white leather tannage, pH control in paper industry, waterproofing agent for concrete, deodorizer and decolouriser in petroleum refining, sewage precipitating agent and for water purification. Medical use: Astringent, treatment of jellyfish stings.

## 2. HAZARDS IDENTIFICATION

This material is hazardous according to criteria of EPA New Zealand.

**HSNO Approval Code:** HSR003958

### Signal Word

Warning

### Hazard Classifications

- 6.1D - Substances that are acutely toxic - Oral
- 6.1E - Substances that are acutely toxic - Inhalation - vapours, dusts or mists
- 8.1A - Substances that are corrosive to metals
- 6.3A - Substances that are irritating to the skin
- 6.4A - Substances that are irritating to the eye
- 9.1B - Substances that are ecotoxic in the aquatic environment - Fish (H411)
- 9.3C - Substances that are harmful to terrestrial vertebrates

### Hazard Statements

H290 May be corrosive to metals.

H302 Harmful if swallowed.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H333 May be harmful if inhaled.

H411 Toxic to aquatic life with long lasting effects.

H433 Harmful to terrestrial vertebrates.

### Prevention Precautionary Statements

P102 Keep out of reach of children.

P103 Read label before use.

P234 Keep only in original container.

P264 Wash hands, face and all exposed skin thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P273 Avoid release to the environment.

P280 Wear protective clothing, gloves, eye/face protection and suitable respirator.

### Response Precautionary Statements

P101 If medical advice is needed, have product container or label at hand. P301+P310 IF

SWALLOWED: Immediately call a POISON CENTER or doctor/physician. P302+P352 IF ON

SKIN: Wash with plenty of soap and water.

P304+P312 IF INHALED: Call a POISON CENTER or doctor/physician if you feel unwell.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P321 Specific treatment (see product label).

P330 Rinse mouth.

P332+P313 If skin irritation occurs: Get medical advice/attention.

P337+P313 If eye irritation persists: Get medical advice/attention.

P362 Take off contaminated clothing and wash before reuse.

P390 Absorb spillage to prevent material damage.

P391 Collect spillage.

#### Storage Precautionary Statement

P406 Store in original container with a resistant inner liner.

#### Disposal Precautionary Statement

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

### DANGEROUS GOOD CLASSIFICATION

Classified as Dangerous Goods by the criteria of the "Australian Code for the Transport of Dangerous Goods by Road & Rail" and the "New Zealand NZS5433: Transport of Dangerous Goods on Land".

**Dangerous Goods Class: 8**

### 3. COMPOSITION INFORMATION

#### CHEMICAL ENTITY CAS NO PROPORTION

Sulfuric acid, aluminium salt (3:2) 10043-01-3 >99 % (w/w) hydrolysis produces  
Sulfuric acid 7664-93-9 NotSpec. % (w/w) \_\_\_\_\_

100%

### 4. FIRST AID MEASURES

If poisoning occurs, contact a doctor or Poisons Information Centre (Phone Australia 131 126, New Zealand 0800 764 766).

**Inhalation:** Remove victim from exposure - avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. Seek medical advice if effects persist.

**Skin Contact:** If skin or hair contact occurs, immediately remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre or a Doctor; or for 15 minutes and transport to Doctor or Hospital.

**Eye contact:** If in eyes, hold eyelids apart and flush the eyes continuously with running water. Continue flushing until advised to stop by the Poisons Information Centre or a Doctor; or for at least 15 minutes and transport to Doctor or Hospital.

**Ingestion:** Rinse mouth with water. If swallowed, do NOT induce vomiting. Give a glass of water to drink. Never give anything by the mouth to an unconscious patient. If vomiting occurs give further water. Immediately call Poisons Centre or Doctor.

**PPE for First Aiders:** Wear safety shoes, overalls, gloves, chemical goggles, respirator. Use with adequate ventilation. If inhalation risk exists wear organic vapour/particulate respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716. 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. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

**Notes to physician:** Treat symptomatically.

## 5. FIRE FIGHTING MEASURES

**Hazchem Code:** 2X

**Suitable extinguishing media:** If material is involved in a fire use water fog (or if unavailable fine water spray), alcohol resistant foam, standard foam, dry agent (carbon dioxide, dry chemical powder).

**Specific hazards:** Non-combustible material.

**Fire fighting further advice:** Not applicable.

## 6. ACCIDENTAL RELEASE MEASURES

### SMALL SPILLS

Wear protective equipment to prevent skin and eye contamination. Avoid inhalation of vapours or dust. Wipe up with absorbent (clean rag or paper towels). Collect and seal in properly labelled containers or drums for disposal.

### LARGE SPILLS

Clear area of all unprotected personnel. Slippery when spilt. Avoid accidents, clean up immediately. Wear protective equipment to prevent skin and eye contamination and the inhalation of dust. Work up wind or increase ventilation. Cover with damp absorbent (inert material, sand or soil). Sweep or vacuum up, but avoid generating dust. Collect and seal in properly labelled containers or drums for disposal. If contamination of crops, sewers or waterways has occurred advise local emergency services.

**Dangerous Goods - Initial Emergency Response Guide No:** 37

## 7. HANDLING AND STORAGE

**Handling:** Avoid eye contact and skin contact. Avoid inhalation of dust.

**Storage:** Store in a cool, dry, well-ventilated place and out of direct sunlight. Store away from foodstuffs. Store away from incompatible materials described in Section 10. Store away from sources of heat and/or ignition. Store in corrosive resistant container with a resistant inner liner. Keep container standing upright. Keep containers closed when not in use - check regularly for spills.

This material is classified as a Class 8 Corrosive as per the criteria of the "New Zealand NZS5433: Transport of Dangerous Goods on Land" and/or the "Australian Code for the Transport of Dangerous Goods by Road & Rail" and must be stored in accordance with the relevant regulations.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**National occupational exposure limits:**

TWA STEL NOTICES  
ppm mg/m<sup>3</sup> ppm mg/m<sup>3</sup>

Sulphuric acid 1 6.7A As published by WorkSafe New Zealand.

WES-TWA (Workplace Exposure Standard - Time-weighted average). The average airborne concentration of a substance calculated over an eight-hour working day.

WES-Ceiling (Workplace Exposure Standard - Ceiling). A concentration that should not be exceeded at any time during any part of the working day.

WES-STEL (Workplace Exposure Standard - Short-term exposure limit). The 15-minute time weighted average exposure standard. Applies to any 15-minute period in the working day and is designed to protect the worker against adverse effects of irritation, chronic or irreversible tissue change, or narcosis that may increase the likelihood of accidents. The WES-STEL is not an alternative to the WES-TWA; both the short-term and time

weighted average exposures apply. Exposures at concentrations between the WES-TWA and the WES-STEL should be less than 15 minutes, should occur no more than four times per day, and there should be at least 60 minutes between successive exposures in this range.

6.7A - Confirmed carcinogen. Carcinogen - known or presumed human carcinogen: the substance is either known to be carcinogenic to humans, or data indicates sufficient evidence in animal studies to demonstrate a causal relationship between human exposure and the development of cancer, or an increase in tumours.

These Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept too as low a level as is workable. These exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

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

**Biological Limit Values:** As per the WorkSafe New Zealand the ingredients in this material do not have a Biological Limit Allocated.

**Engineering Measures:** Ensure ventilation is adequate to maintain air concentrations below Exposure Standards. Use only in well ventilated areas. Avoid generating and inhaling dusts. Use with local exhaust ventilation or while wearing dust mask.

**Personal Protection Equipment:** SAFETY SHOES, OVERALLS, GLOVES, CHEMICAL GOGGLES, RESPIRATOR.

Personal protective equipment (PPE) must be suitable for the nature of the work and any hazard associated with the work as identified by the risk assessment conducted.

Wear safety shoes, overalls, gloves, chemical goggles, respirator. Use with adequate ventilation. If inhalation risk exists wear organic vapour/particulate respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716. 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. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

**Hygiene measures:** Keep away from food, drink and animal feeding stuffs. When using do not eat, drink or smoke. Wash hands prior to eating, drinking or smoking. Avoid contact with clothing. Avoid eye contact and skin contact. Avoid inhalation of dust. Ensure that eyewash stations and safety showers are close to the workstation location.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Form:** Solid  
**Colour:** White  
**Odour:** N Av

**Solubility:** Soluble in water  
**Specific Gravity (20 °C):** N Av  
**Density:** (water = 1) 2.710  
**Relative Vapour Density (air=1):** N App  
**Vapour Pressure (20 °C):** N App  
**Flash Point (°C):** N App  
**Flammability Limits (%):** N App  
**Autoignition Temperature (°C):** N App  
**Melting Point/Range (°C):** 770  
**Boiling Point/Range (°C):** N Av  
**Decomposition Point (°C):** 770  
**pH:** N Av  
**Viscosity:** N App  
**Total VOC (g/Litre):** N Av

**Molecular Weight:** 342.14

(Typical values only - consult specification sheet)

N Av = Not available, N App = Not applicable

## 10. STABILITY AND REACTIVITY

**Chemical stability:** This material is thermally stable when stored and used as directed.

**Conditions to avoid:** Elevated temperatures and sources of ignition.

**Incompatible materials:** Oxidising agents.

**Hazardous decomposition products:** Oxides of carbon and nitrogen, smoke and other toxic fumes.

**Hazardous reactions:** No known hazardous reactions.

## 11. TOXICOLOGICAL INFORMATION

No adverse health 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 Effects

**Inhalation:** Material may be an irritant to mucous membranes and respiratory tract.

**Skin contact:** Contact with skin will result in irritation.

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

**Eye contact:** An eye irritant. Exposure to the dust may cause discomfort due to particulate nature. May cause physical irritation to the eyes.

### Acute toxicity

**Inhalation:** This material has been classified as a 6.1E - Substances that are acutely toxic.

**Skin contact:** This material has been classified as non-hazardous. Acute toxicity estimate (based on ingredients): >5,000 mg/Kg bw

**Ingestion:** This material has been classified as a 6.1D - Substances that are acutely toxic. Acute toxicity estimate (based on ingredients): 300 - 2,000 mg/Kg bw

**Corrosion/Irritancy:** Eye: this material has been classified as a 6.4A - Substances that are irritating to the eye. Skin: this material has been classified as a 6.3A - Substances that are irritating to the skin.

**Sensitisation:** Inhalation: this material has been classified as not a respiratory sensitiser. Skin: this material has been classified as not a skin sensitiser.

**Aspiration hazard:** This material has been classified as non-hazardous.

**Specific target organ toxicity (single exposure):** This material has been classified as non-hazardous.

### Chronic Toxicity

**Mutagenicity:** This material has been classified as non-hazardous.

**Carcinogenicity:** This material has been classified as non-hazardous.

**Reproductive toxicity (including via lactation):**

This material has been classified as non-hazardous.

**Specific target organ toxicity (repeat exposure):** This material has been classified as non-hazardous.

**12. ECOLOGICAL INFORMATION**

Avoid contaminating waterways.

**Acute aquatic hazard:** This material has been classified as non-hazardous. Acute toxicity estimate (based on ingredients): >100 mg/L

**Long-term aquatic hazard:** This material has been classified as non-hazardous. Non-rapidly or rapidly degradable substance for which there are adequate chronic toxicity data available OR in the absence of chronic toxicity data, Acute toxicity estimate (based on ingredients): >100 mg/L, where the substance is not rapidly degradable and/or BCF < 500 and/or log  $K_{ow}$  < 4.

**Ecotoxicity in the soil environment:** This material has been classified as non-hazardous.

**Ecotoxicity to terrestrial vertebrates:** This material has been classified as a 9.3C - Substances that are harmful to terrestrial vertebrates.

**Ecotoxicity to terrestrial invertebrates:** This material has been classified as non-hazardous.

**Ecotoxicity:** No information available.

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

**Bioaccumulative potential:** No information available.

**Mobility:** No information available.

**13. DISPOSAL CONSIDERATIONS**

Persons conducting disposal, recycling or reclamation activities should ensure that appropriate personal protection equipment is used, see "Section 8. Exposure Controls and Personal Protection" of this SDS.

If possible material and its container should be recycled. If material or container cannot be recycled, dispose in accordance with local, regional, national and international Regulations.

**14. TRANSPORT INFORMATION****ROAD AND RAIL TRANSPORT**

Classified as Dangerous Goods by the criteria of the "Australian Code for the Transport of Dangerous Goods by Road & Rail" and the "New Zealand NZS5433: Transport of Dangerous Goods on Land".

**UN No:** 1759

**Dangerous Goods Class:** 8

**Packing Group:** III

**Hazchem Code:** 2X

**Emergency Response Guide No:** 37

**Proper Shipping Name:** CORROSIVE SOLID, N.O.S. (ALUMINIUM SULPHATE)

**Segregation Dangerous Goods:** 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), radioactive substances (Class 7) or food and food packaging in any quantity. Note 1: Concentrated strong alkalis are incompatible with concentrated strong acids. Note 2: Concentrated strong acids are incompatible with concentrated strong alkalis. Note 3: Acids are incompatible with Dangerous Goods of Class 6 which are cyanides. Exemptions may apply.

#### **MARINE TRANSPORT**

Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.

**UN No:** 1759

**Dangerous Goods Class:** 8

**Packing Group:** III

**Proper Shipping Name:** CORROSIVE SOLID, N.O.S. (ALUMINIUM SULPHATE)

#### **AIR TRANSPORT**

Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.

**UN No:** 1759 **Dangerous Goods Class:** 8

**Packing Group:** III

**Proper Shipping Name:** CORROSIVE SOLID, N.O.S. (ALUMINIUM SULPHATE)

### **15. REGULATORY INFORMATION**

#### **This material is not subject to the following international agreements:**

Montreal Protocol (Ozone depleting substances)  
The Stockholm Convention (Persistent Organic Pollutants)  
The Rotterdam Convention (Prior Informed Consent)  
Basel Convention (Hazardous Waste)  
International Convention for the Prevention of Pollution from Ships (MARPOL)

• All components of this product are listed on or exempt from the New Zealand Inventory of Chemical (NZIoC).

**HSNO Approval Code:** HSR003958

Approved handler No

Location test certificate No

Fire extinguishers No

Signage No

Emergency response No

Hazardous atmosphere zone No

### **16. OTHER INFORMATION**

Reason for issue: 5 Yearly Revision

This information was prepared in good faith from the best information available at the time of issue. It is based on the present level of research and to this extent we believe it is accurate. However, no guarantee of accuracy is made or implied and since conditions of use are beyond our control, all information relevant to usage is offered

without warranty. The manufacturer will not be held responsible for any unauthorised use of this information or for any modified or altered versions.

If you are an employer it is your duty to tell your employees, and any others that may be affected, of any hazards described in this sheet and of any precautions that should be taken.

Safety Data Sheets are updated frequently. Please ensure you have a current copy.