

Safety Data Sheet ALUMINIUM SULFATE

SDS no. CBKP8SU8 • Version 1.0 • Date of issue: 2023-11-10

SECTION 1: Identification

GHS Product identifier

Product name ALUMINIUM SULFATE

Other means of identification

Aluminum trisulfate
Cake Alum
Patent Alum
Aluminium sulfate octadecahydrate
ALUMINIUM SULFATE 14 Hydrate
ALUMINIUM SULFATE 18 Hydrate

Recommended use of the chemical and restrictions on use

Sizing paper, lakes, alums, dyeing mordant foaming agent in fire foams, cloth fireproofing, white leather tannage, catalyst in manufacturing ethane, pH control in paper industry, water proofing agent for concrete, clarifier for fats and oils, lubricating compositions, deodoriser and decolouriser in petroleum refining, sewage precipitating agent, water purification, food additive, antiperspirants, agricultural pesticides and laboratory reagent.

Supplier's details

Name ChemSupply Australia Pty Ltd
Address 38-50 Bedford Street
5013 Gillman South Australia
Australia

Telephone 08 8440 2000
email www.chemsupply.com.au

Emergency phone number

CHEMCALL 1800 127 406 (Australia) / +64-4-917-9888 (International)

SECTION 2: Hazard identification

General hazard statement

Classified as dangerous goods according to the Australian Dangerous Goods Code (ADG).

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

Classification of the substance or mixture

GHS classification in accordance with: UN GHS revision 7

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- Serious eye damage/eye irritation, Cat. 1
- Corrosive to metals, Cat. 1

GHS label elements, including precautionary statements

Pictograms



Signal word

Danger

Hazard statement(s)

H290

May be corrosive to metals

H318

Causes serious eye damage

Precautionary statement(s)

P234

Keep only in original packaging.

P280

Wear protective gloves/protective clothing/eye protection/face protection.

P305+P351+P338

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 CENTER/doctor/physician

P390

Absorb spillage to prevent material-damage.

P406

Store in a corrosive resistant/... container with a resistant inner liner.

Other hazards which do not result in classification

Other Information: POTENTIAL FOR ACCUMULATION: Ingested material is not easily absorbed. It reacts with phosphate, forming an insoluble compound which is readily passed out of the body. Inhaled dust may accumulate in the lungs until slowly cleared.

SECTION 3: Composition/information on ingredients

Mixtures

Molecular weight: 666.42185944214

Components

| Component | CAS no. | Concentration |
|--|------------|----------------|
| Aluminum Sulfate Hydrate | 17927-65-0 | 100 % (weight) |
| CLASSIFICATIONS: Serious eye damage/eye irritation, Cat. 1; Corrosive to metals, Cat. 1. HAZARDS: H290 - May be corrosive to metals; H318 - Causes serious eye damage. | | |

SECTION 4: First-aid measures

Description of necessary first-aid measures

If inhaled

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

In case of skin contact

Wash affected areas with copious quantities of water immediately. Remove contaminated clothing and wash before re-use. If persistent irritation occurs, obtain medical attention.

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In case of eye contact

If contact with the eye(s) occurs, wash with copious amounts of water for approximately 15 minutes holding eyelid(s) open. Take care not to rinse contaminated water into the non-affected eye. Seek medical attention.

If swallowed

Rinse mouth thoroughly with water immediately, repeat until all traces of product have been removed. DO NOT INDUCE VOMITING. Seek medical advice if effects persist.

Most important symptoms/effects, acute and delayed

Treat symptomatically based on judgement of doctor and individual reactions of the patient.

Indication of immediate medical attention and special treatment needed, if necessary

For advice, contact the National Poisons Information Centre (Phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor.

SECTION 5: Fire-fighting measures

Suitable extinguishing media

Use fire extinguishing media appropriate for surrounding environment. Use water spray, dry chemical, carbon dioxide, or appropriate foam.

Specific hazards arising from the chemical

Emits toxic fumes of aluminium oxide and sulfur oxides at temperatures above 770°C (decomposition).

Special protective actions for fire-fighters

Fire fighters should wear full protective clothing and self-contained breathing apparatus (SCBA) operated in positive pressure mode. Fight fire from safe location.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

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

Ensure adequate ventilation. Use personal protective equipment. For personal protection see section 8.

Environmental precautions

Should not be released into the environment.

Methods and materials for containment and cleaning up

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

SECTION 7: Handling and storage

Precautions for safe handling

Avoid ingestion and inhalation of material. Do not breathe dust. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

Conditions for safe storage, including any incompatibilities

Store in original containers or in corrosion-resistant containers. Store in a cool, dry place. Keep containers tightly closed.

Corrosive to metals such as aluminium if in contact with moisture.

SECTION 8: Exposure controls/personal protection

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Appropriate engineering controls

Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, gas, etc.) below recommended exposure limits.

Individual protection measures, such as personal protective equipment (PPE)

Eye/face 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.

Skin protection

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

Clean impervious clothing should be worn. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.

Body protection

Clean clothing or protective clothing should be worn, preferably with an apron. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.

Respiratory protection

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.

SECTION 9: Physical and chemical properties

Basic physical and chemical properties

| | |
|--|--|
| Physical state | Solid |
| Appearance | Colourless, white lustrous crystals or granules. |
| Color | Colourless |
| Odor | Odourless. |
| Odor threshold | No data available. |
| Melting point/freezing point | 770 °C (decomposition) |
| Boiling point or initial boiling point and boiling range | No data available. |
| Flammability | No data available. |
| Lower and upper explosion limit/flammability limit | No data available. |
| Flash point | No data available. |
| Explosive properties | No data available. |
| Auto-ignition temperature | No data available. |
| Decomposition temperature | No data available. |
| Oxidizing properties | No data available. |
| pH | 2.5-4.0 (20 g/l, H ₂ O, 20 °C) |
| Kinematic viscosity | No data available. |
| Solubility | Solubility in Water: Soluble (364 g/L @ 20 °C). Material hydrolyze in water to form sulfuric acid. Solubility in Organic Solvents: Insoluble in alcohol. |
| Partition coefficient n-octanol/water (log value) | No data available. |
| Vapor pressure | No data available. |
| Evaporation rate | No data available. |
| Density and/or relative density | Specific Gravity: 1.69 at 17 °C (water = 1) |
| Relative vapor density | No data available. |
| Particle characteristics | No data available. |

Supplemental information regarding physical hazard classes

No data available.

Further safety characteristics (supplemental)

Other Information: Taste: Sweet, Mildly astringent.

SECTION 10: Stability and reactivity

Reactivity

Stable under normal conditions of storage and handling.

Chemical stability

Stable.

Possibility of hazardous reactions

Hazardous Polymerization: Will not occur.

Conditions to avoid

Corrosive to metals in the presence of water.

Incompatible materials

Water, strong bases and strong oxidising agents. Ammonia, water and amines.

Hazardous decomposition products

Carbon monoxide, carbon dioxide, sulfur oxides.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

May be harmful if ingested. Causes irritation of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract. Symptoms include of abdominal pain, diarrhea, nausea and vomiting. Concentrated solutions (over 20%) can cause burns of the mouth, nausea, vomiting, bleeding stomach, incoordination, muscle spasms and kidney injury.

May be harmful if inhaled. May cause irritation to mucous membranes and upper respiratory tract with acute symptoms as sore throat, shortness of breath, and coughing. High concentrations may cause congestion and constriction of airways.

Skin corrosion/irritation

May cause skin irritation with acute symptoms of redness, itching and pain.

Serious eye damage/irritation

Corrosive to eyes causing irritation, redness, pain and inflammation. Risk of serious damage to eyes.

Respiratory or skin sensitization

No data available.

Germ cell mutagenicity

No data available.

Carcinogenicity

No data available.

Reproductive toxicity

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No data available.

Summary of evaluation of the CMR properties

No data available.

Specific target organ toxicity (STOT) - single exposure

No data available.

Specific target organ toxicity (STOT) - repeated exposure

No data available.

Aspiration hazard

No data available.

Additional information

Chronic Effects: Prolonged or repeated exposure can cause irritation and numbing of the fingers. Repeated ingestion of this material may cause phosphate deficiency, which can weaken bones. Introduction of aluminium compounds directly into the blood stream may contribute to the development of neurological effects resembling senility.

SECTION 12: Ecological information

Toxicity

Adverse ecological effects cannot be excluded in the event of improper handling or disposal.

Persistence and degradability

No data available.

Bioaccumulative potential

No data available.

Mobility in soil

No data available.

Results of PBT and vPvB assessment

No data available.

Endocrine disrupting properties

No data available.

Other adverse effects

No data available.

SECTION 13: Disposal considerations

Disposal methods

Product disposal

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers.

Other disposal recommendations

Do not discharge this material into waterways, drains and sewers.

SECTION 14: Transport information

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ADG (Road and Rail)

UN Number: 3260

Class: 8

Packing Group: III

Proper Shipping Name: CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (ALUMINIUM SULFATE)

Hazchem emergency action code (EAC)

2X

IMDG

UN Number: 3260

Class: 8

Packing Group: III

EMS Number:

Proper Shipping Name: CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (ALUMINIUM SULFATE)

IATA

UN Number: 3260

Class: 8

Packing Group: III

Proper Shipping Name: CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (ALUMINIUM SULFATE)

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product in question

Australia SUSMP

Poison Schedule: NS

SECTION 16: Other information

Further information/disclaimer

ChemSupply Australia Pty Ltd does not warrant that this product is suitable for any use or purpose. The user must ascertain the suitability of the product before use or application intended purpose. Preliminary testing of the product before use or application is recommended. Any reliance or purported reliance upon ChemSupply Australia Pty Ltd with respect to any skill or judgement or advice in relation to the suitability of this product of any purpose is disclaimed. Except to the extent prohibited at law, any condition implied by any statute as to the merchantable quality of this product or fitness for any purpose is hereby excluded. This product is not sold by description. Where the provisions of Part V, Division 2 of the Trade Practices Act apply, the liability of ChemSupply Australia Pty Ltd is limited to the replacement of supply of equivalent goods or payment of the cost of replacing the goods or acquiring equivalent goods.

Preparation information

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Standard for the Uniform Scheduling of Medicines and Poisons, Commonwealth of Australia

National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.'

Safe Work Australia, 'National Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals', July 2020.

Safe Work Australia, 'National Guide for Classifying Hazardous Chemicals', July 2020.

Safe Work Australia, Workplace Exposure Standards for Airborne Contaminants, December 2019

Safe Work Australia, Hazardous Chemical Information System (HCIS), hcis.safeworkaustralia.gov.au

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IATA, Dangerous Goods Regulations (DGR)

IMO, International Maritime Dangerous Goods Code (IMDG)