



Company Details:

Waterwell Projects (PTY) LTD

Reg No. 2001/018862/07

Waterwell Projects (PTY) LTD
Unit 1 Megazone Park
Hertford Junction R512
Lanseria
1748

Tel: 011 300 9917/8 or 073 077 0973

Fax: 086 605 9360

Poison Centre: +27 21 689 5227

MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

a) Identification of the substance or preparation :

- 1.1 Commercial name: Waterwell Drop & Vac (packed 1kg, 2kg or 25kg)
- 1.2 Chemical name: (Active) Aluminium Sulphate.
- 1.3. Synonyms: Cake alum, Filter alum, Papermaker's alum, Alunogenite, aluminum salt (3:2)
- 1.4. Chemical formula : Mixture - mostly $Al_2(SO_4)_3$
- 1.5. UN No: Not specified
- 1.6. CAS No: 10043-01-3
- 1.6. EEC No: 233-135-0

b) Information of Distributor :

Waterwell Projects (PTY) LTD
Unit 1 Megazone Park
Hertford Junction R512
Lanseria 1748
Tel: 011 300 9917/8 or 073 077 0973
Fax: 086 605 9360

Alternate suppliers:

CJP Chemicals (Pty) Ltd P. O. Box 1353 Cresta 2118 32 Tiger Moth ave Aeroton 2190 Tel: 011 494 6700 Fax: 011 494-6701	or:	Crossmill Chemicals CC P O Box 1272 Lonehill 2062 34 Renico Crescent Lea Glen, Roodepoort, Gauteng 2195 Tel: 011 472 4986 Fax: 011 472 0730
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2. COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS No	% w/w	Hazard classification	Risk phrases
Aluminium Sulphate	10043-01-3	min. 98%	H315 H318	R41
Cationic Polyacrylamide	Not regulated	min. 1%		

3. DESCRIPTION OF HAZARDS

Emergency Overview

Aluminium Sulphate is an odourless, lustrous white to greyish-white crystalline, granular or powdered solid. This material can cause severe irritation and inflammation, or burns to the eyes and skin. Contact with high concentration or prolonged contact may cause permanent damage. Inhalation of high airborne concentrations may cause constriction of the

airways. Dusts can form corrosive sulphuric acid when in contact with moisture in air or tissues. Concentrated solutions are corrosive to the eyes, skin and gastrointestinal tract. When heated to decomposition, Aluminium Sulphate may emit toxic and corrosive fumes of sulphur dioxide and/or sulphur trioxide.

Hazard Statements:	WARNING! Causes eye, skin, respiratory tract, and gastrointestinal tract irritation or burns. Harmful if swallowed or inhaled. Do not get in eyes, on skin or on clothing. Do not breathe dusts. Wash thoroughly after handling. Keep container closed. Use only with adequate ventilation.
Potential Health Effects: Eyes	Aluminium Sulphate can cause severe irritation and inflammation of the eyes. Concentrated solutions may cause permanent damage or blindness.
Potential Health Effects: Skin	Aluminium Sulphate dusts can irritate the skin. Concentrated solutions are corrosive and may cause burns and permanent scarring. Prolonged exposure can cause numbing of the fingers. Prolonged contact can result in dermatitis (dry, red, itchy skin).
Potential Health Effects: Ingestion	May cause burns to the mouth, throat and stomach. Symptoms may include vomiting, nausea, bleeding stomach, and abdominal pain. Ingestion of small amounts of aluminium sulphate may cause a sensation of dryness in the mucous membranes of the mouth and throat. Adverse effects on muscle and kidneys, and gum necrosis have been reported after ingestion of large amounts of aluminium compounds. Repeated ingestion over prolonged period can result in phosphate deficiency, which can cause softening and bending of bones. The approximate fatal dose in humans by ingestion is 30 grams.
Potential Health Effects: Inhalation	Dusts of this Aluminium Sulphate form sulphuric acid when in contact with moisture in air or tissues. Inhalation of dust or mist is irritating to respiratory tract and mouth. Symptoms of irritation may include coughing, congestion and sore throat. Inhalation of high airborne concentrations may cause constriction of the airways and can result in potentially fatal pulmonary edema (accumulation of fluid in lungs). Chronic inhalation may cause permanent lung damage and reduction of lung function, due to potential for the formation of sulphuric acid, which is corrosive.

4. FIRST AID MEASURES

4.1 Contact with the skin: Remove all contaminated clothing. For skin contact, wash thoroughly with soap and water for at least 15 minutes. Seek immediate medical attention if irritation develops or persists.

4.2 Contact with the eyes: Immediately flush eyes with large amounts of room temperature water, occasionally lifting the lower and upper lids, for at least 15 minutes. If symptoms persist after 15 minutes of irrigation, seek medical attention.

4.3 Ingestion DO NOT INDUCE VOMITING, unless directed by medical personnel. Have victim rinse mouth thoroughly with water, if conscious. Never give anything by mouth to a victim who is unconscious or having convulsions. Contact a physician or poison control centre immediately.

4.4 Inhalation Remove source of contamination or move victim to fresh air. Apply artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Get immediate medical attention.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media: Dry chemical, foam, carbon dioxide. Do not use water; corrosive sulphuric acid will form.

5.2 Extinguishing media not to be used: Do not use water

5.3 Special hazards: Product will not ignite, but may burn. Caution: Sufficient heat may produce toxic gases. Product will decompose at its melting Point 770°C. In contact with water and metals, flammable hydrogen gas can be generated which can result in a fire hazard. Sealed containers can rupture violently in the heat of a fire.

5.4 Protective clothing: Fire-fighters should wear full protective clothing. Move container from fire area, if this is without risk. Fight fire from a safe distance. Cool containers with fine water spray, taking care to avoid wetting product

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions: Stop the flow of material, if this can be done without risk. Contain the discharged material. Slippery when spilt. Avoid accidents, clean up immediately. Wear protective equipment to prevent skin and eye contact. Contain - prevent run off into drains and waterways. Use absorbent (soil, sand or other inert material). Neutralise with lime or soda ash. Collect and seal in properly labelled containers or drums for disposal.

6.2 Environmental precautions: Solutions of the compound can be neutralised with lime or similar compound. Avoid contamination of soil, and prevent spill residue from running to groundwater or storm drains.

7. HANDLING AND STORAGE

7.1 Handling: Avoid skin and eye contact and breathing in vapour, mists and aerosols. All employees who handle this material should be trained to handle it safely. Do not breathe dust. Avoid all contact with skin and eyes. Use this product only with adequate ventilation. Wash thoroughly after handling.

7.2 Storage: Store in a cool, dry, well ventilated place. Store away from incompatible materials described in Section 10. Keep containers closed when not in use - check regularly for leaks.

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS: Control airborne dusts and use mechanical ventilation. Local exhaust methods are suggested, where possible, in enclosed or confined spaces. Use a corrosion-resistant ventilation system. Supply ample air replacement. Treatment of exhaust gases may be required to prevent environmental contamination.

RESPIRATORY PROTECTION: None required where adequate ventilation conditions exist. Respiratory protection is required if dust levels are high. An approved dust/mist respirator should be worn in dusty environment.

EYE PROTECTION:

SKIN PROTECTION: Avoid skin and eye contact and inhalation of dust. Wear overalls, safety glasses or goggles and impervious (rubber) gloves. Always wash hands before smoking, eating, drinking or using the toilet

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Lustrous white to grayish-white solid

ODOUR: odourless

PHYSICAL STATE: Crystalline, granules or powder

pH AS SUPPLIED: 3.0-4.0 (5% aqueous solution at 25 deg C)

BOILING POINT: > 1600 °C

MELTING POINT: Decompose at 770°C

VAPOR PRESSURE (mmHg): No data available

VAPOR DENSITY (AIR = 1): No data available

SPECIFIC GRAVITY (H₂O = 1): 1.95 at 4 deg C

SOLUBILITY IN WATER: 87.5 g/100mL at 20 deg C

10 STABILITY AND REACTIVITY

STABILITY: Normally stable. In contact with water, sulphuric acid is formed with evolution of some amount of heat. When exposed to air, loss of combined water molecules by a hydrated material, such as this compound, will result in partial decomposition. Aluminium Sulphate is hygroscopic and will absorb moisture from the air.

CONDITIONS TO AVOID: Avoid contact with moisture, excessive heat and incompatible materials listed below.

INCOMPATIBILITY: Aluminium Sulphate is incompatible with strong oxidizing agents and strong bases (may react violently), moisture and most common metals in presence of moisture.

HAZARDOUS DECOMPOSITION: Thermal decomposition: Sulfur dioxide, sulfur trioxide, and aluminum oxide. In contact with water: sulfuric acid.

11 TOXICOLOGICAL INFORMATION

Accute toxicity: Severely irritating or corrosive to the skin, eyes and gastrointestinal tract. Prolonged exposure to the skin may cause numbing effects. Product can cause severe irritation and inflammation of the eyes. Concentrated solutions may cause permanent damage to eyes or skin, or blindness. Dusts of this product form sulphuric acid when in contact with moisture in air or tissues. Inhalation of dust or mist is irritating to respiratory tract and mouth. Symptoms of irritation may include coughing, congestion and sore throat. High concentrations may cause constriction of the airways. Ingestion may cause burns to the mouth, throat and stomach. Symptoms may include vomiting, nausea, bleeding stomach, and abdominal pain. Soluble aluminium compounds can be absorbed from the gut, and excess levels can be deposited in bone. Once absorbed, aluminium is eliminated rapidly by the kidneys, unless renal failure is present. Repeated ingestion of this product can weaken bones by phosphate deficiency. Ingestion of large amounts of Aluminium Sulphate by humans has resulted in death. Lethality by ingestion is probably due to the corrosive action of the sulphuric acid formed by the hydrolysis of the salt. Ingestion of small amounts of aluminium sulphate may cause a sensation of dryness in the mucous membranes of the mouth and throat.

TOXICOLOGICAL INFORMATION:

- LD50 (Unreported-Rat) 410 mg/kg;
- LD50 (Oral-Mouse) 6207 mg/kg;
- LD50 (Intraperitoneal-Mouse) 274 mg/kg;
- LD50 (Unreported-Mouse) 520 mg/kg;
- LD50 (Unreported-Guinea Pig) 490 mg/kg

12 ECOLOGICAL INFORMATION

Spills into water will result in hydrolysis to sulfuric acid solution with the capability of producing burns. TLm (mosquito fish) 48 hours = 240 ppm; Fatal (fundulus) 36 hours = 14 ppm (fresh water); LC50 (Largemouth bass) 96 hours = 250 ppm

13 DISPOSAL CONSIDERATIONS

Refer to local government authority for disposal recommendations. Dispose of contents/container in accordance with local/regional/national/international regulations.

14 TRANSPORT INFORMATION

14.1 UN no:	Not Applicable
14.2 Shipping Name:	Non-regulated
14.3 Hazard Class:	Not Applicable
14.4 Packing Group:	Not Applicable
14.5 Required Label(s):	None

Additional Info:

When shipped as a single bulk package equal to 5000 pounds or more, this material is regulated as a U.S. DOT hazardous material as the following: RQ, UN 3077, Environmentally Hazardous Substance, Solid, n.o.s., (Aluminium Sulphate), 9, PG III, Label Class 9.

15 REGULATORY INFO

Aluminium Sulphate is designated as a hazardous substance.

RISK PHRASES:	R-41 Risk of serious damage to eyes.
SAFETY PHRASES:	S-39 Wear eye/face protection.
	S-26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

16 ANY OTHER RELEVANT INFORMATION ;

N/A. = none applicable

The information herein is given in good faith and to the best of our knowledge at the current date. The accomplishment of the instructions herein does not exempt the user from following the legal and administrative regulations relative to product, environmental safety and hygiene, which are user's own responsibility. In case of mixture with other substances, ensure that other risks are not generated.

Date of Revision: 21 September 2015 (general revision)