MATERIAL SAFETY DATA SHEET

SECTION 1 - IDENTIFICATION OF THE MATERIAL AND SUPPLIER

PRODUCT NAME:	**Aqua~Health Dropout**
Other Names:	Aluminium Sulphate
Manufacturers' Code:	34742
Pack Size:	2 kg
Recommended Use:	Flocculation agent
Supplier's Details:	Waterco Limited 36 South Street Rydalmere, NSW 2116 Ph: (02) 9898 8600
Emergency Phone Number:	Business hours only (02) 9898 8682 General Information

24 Hour Emergency Number:

Australia:	Poisons Information Centre Australia Wide **Ph 13 1126**
New Zealand:	Poisons INFORMATION CENTRE **0800 POISON (0800 764 766)**

SECTION 2 - HAZARD IDENTIFICATION

STATEMENT OF HAZARDOUS NATURE

Classified as a hazardous substance according to the criteria of the National Occupational Health and Safety Commission.

UN Number:	None allocated
UN Proper Shipping Name:	None allocated
Dangerous Goods Class:	None allocated
Packing Group:	None allocated
Hazchem Code:	None allocated

Risk Phrases:

R36/37/38	Irritating to eyes, respiratory system and skin.

Safety Phrases:

S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S24/25	Avoid contact with skin and eyes.
S36/37/39	Wear suitable protective clothing, gloves and eye/face protection.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Entity†	Synonyms	CAS Number	Concentration
Aluminium sulphate	Sulfuric acid, aluminium salt (3:2), hexadecahydrate	16828-11-8	100%

† Where they are present in this product and other ingredients of this material are not hazardous, as defined by either inclusion in the *List of Designated Hazardous Substance* or classified in accordance with the *Approved Criteria for Defining a Hazardous Substance*, and published by the National Occupational Health and Safety Commission/AGPS, 1999

SECTION 4 - FIRST AID MEASURES

First Aid: Take a copy of this MSDS to medical advisers if signs or symptoms of overexposure occur and seek medical attention is required.

Swallowed: DO NOT INDUCE VOMITING. Have victim drink 240 to 300 ml (8 to 10 oz) of water. If vomiting occurs naturally, rinse mouth and repeat administration of water. If breathing has stopped, trained personnel should begin artificial respiration or, if the heart has stopped, cardiopulmonary resuscitation (CPR) immediately. Obtain medical attention.

Skin: As quickly as possible, flush contaminated area with lukewarm, gently running water for at least 20 minutes, by the clock. Under running water, remove contaminated clothing, shoes and leather goods (e.g. Watchbands, belts). If irritation persists, obtain medical attention. Completely decontaminate clothing, shoes and leather goods before re-use or discard.

Eye: Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 20 minutes, by the clock, holding the eyelid(s) open. Take care not to rinse contaminated water into the non-affected eye. If irritation persists, obtain medical attention.

Inhaled: If victim is semi-conscious or unconscious, take proper precaution to ensure your own safety when moving victim. Remove the source of contamination or move the victim to fresh air. Ensure airways are clear and have qualified person give oxygen through a face mask if breathing is difficult. If victim has stopped breathing begin artificial respiration, or if heart has stopped, cardiopulmonary resuscitation (CPR). If irritation persists seek medical attention.

First Aid Facilities: Eye wash fountains and normal wash room facilities.

Advice to Doctor: Treat symptomatically or consult a Poison Information Centre.

SECTION 5 -FIRE FIGHTING MEASURES

Hazchem Code: None allocated.

Extinguishers: Foam, carbon dioxide and dry powder.

Combustion Products: Forms aluminium oxide and sulphur trioxide at temperatures above 650ºC.

Other Precautions: Do not use water. This material reacts with water to produce corrosive sulphuric acid.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Increase ventilation. Evacuate all unnecessary personnel. Wear Breathing Apparatus (B.A.) and full protective clothing to minimise skin exposure. Collect the material and place into a suitable labelled container. Do not dilute material but contain. If large quantities of this material enter the waterways contact the Environmental Protection Authority, or your local Waste Management Authority.

SECTION 7 - HANDLING AND STORAGE

Handling: Use dust-tight containers. Prevent accumulations of dust. Avoid generating mist or dust. Use smallest possible amounts in designated areas with adequate ventilation. Have emergency equipment (for fires, spills leaks, etc.) readily available. Label containers. Keep containers closed when not is use. Empty containers may contain residues which are hazardous.

Storage: Store in original containers or in corrosion-resistant containers. Store in a cool, dry place. Keep solutions at manufacturer's recommended temperature to prevent crystallization. Keep containers tightly closed. Structural materials, including lighting and ventilation systems in the storage area, should be corrosion resistant.

Incompatibilities: Avoid water – forms acidic solution. Avoid strong bases and strong oxidising agents.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Standards: No ingredients in this product have exposure standards, as outlined in the standard *Exposure Standards for Atmospheric Contaminants in the Occupational Environment* third edition, published by the National Occupational Health and Safety Commission/AGPS, 1995.

Engineering Controls: Engineering control methods to reduce hazardous exposures are preferred. Methods include mechanical (local exhaust) ventilation, process or personnel enclosure and control of process conditions. Use local exhaust ventilation to control airborne dust. Use a corrosion-resistant ventilation system separate from other exhaust ventilation systems. Exhaust directly to the outside. Supply sufficient replacement air to make up for air removed by exhaust systems.

Personal Protective Equipment:

Clothing: The use of plastic aprons, sleeves, overalls and rubber boots is recommended.

Skin Protection: The use of Nitrile rubber gloves is recommended.

Eye Protection: The use of face shields, chemical goggles or safety glasses with side shield protection is recommended.

Respiratory Protection: The use of a Class P1 half face-piece respirator with replaceable filter complying with Australian/New Zealand Standards AS/NZS 1715 and AS/NZS 1716 is recommended.

Personal Hygiene: Always wash hands after using this product. Always wash hands before eating or drinking.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance/Odour:	Odourless, white lustrous solid. Anhydrous salt is hygroscopic (absorbs moisture from the air).
pH:	Exceeds 2.9 (aqueous solution, 1 g/1 ml water)
Vapour Pressure:	Not available
Boiling Point/Range:	Not available
Freezing/Melting Point:	86.5ºC with decomposition (hydrate)
Solubility in Water:	Practically insoluble
Specific Gravity/Density:	2.71 @ 25 ºC (anhydrous)
Flash Point:	Not applicable
Lower Flammability Limit:	Not applicable
Upper Flammability Limit:	Not applicable

SECTION 10 - STABILITY AND REACTIVITY

Chemical Stability: Normally stable. React with water.

Incompatible Material: Avoid water – forms acidic solution. Avoid strong bases and strong oxidising agents. Corrosive to metals such as aluminium if in contact with moisture.

Hazardous Decomposition Products: Sulphuric acid.

SECTION 11 -TOXICOLOGICAL INFORMATION

Toxicology Information: LD_{50} (oral, mouse) – 6207 mg/kg
LD_{50} (oral, rat) – 1930 mg/kg
LD_{50} (intraperitoneal, mouse) – 270 mg/kg

Acute Effects:

Swallowed: May cause abdominal pain, nausea or vomiting. Concentrated solutions (over 20%) can cause burns of the mouth, bleeding stomach, uncoordination, muscle spasms and kidney injury.

Skin: Dust and concentrated solutions will cause irritation, especially of open cuts.

Eye: Dust will cause irritation and inflammation of the eyes. Concentrated solutions may cause severe eye damage.

Inhaled: Dust forms sulphuric acid in contact with moisture in air or in tissues; can cause sore throat, coughing and irritation of nose and throat. High concentrations may cause congestion and constriction of airways.

Chronic Effects:

Skin: Prolonged or repeated exposure can cause irritation and numbing of fingers.

Ingestion: Repeated ingestion of this material may cause phosphate deficiency, which can weaken bones.

SECTION 12 -ECOLOGICAL INFORMATION

No data available.

SECTION 13 - DISPOSAL CONSIDERATIONS

Disposal Methods and Containers: Disposal of this material should be undertaken by a registered chemical disposal company.

SECTION 14 - TRANSPORT INFORMATION

UN Number:	None allocated
UN Proper Shipping Name:	None allocated
Dangerous Goods Class:	None allocated
Packing Group:	None allocated
Hazchem Code:	None allocated

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

SECTION 15 - REGULATORY INFORMATION

Product: Aluminium sulphate (CAS: 16828-11-8) is found in the following regulatory lists:

AICS Listing

High Volume Industrial Chemicals List (HVICL)

New Zealand Inventory of Chemicals (NZIoC) HSNO Approval Code: HSR004338

SECTION 16 - OTHER INFORMATION

Worker Training: As a minimum all workers using this product should be shown a copy of this MSDS before first use.

Date of Preparation of this MSDS:	August 2006
Revised:	October, 2008 - Address Changed
Revised:	December 2010 – Hazard Identification, Regulatory Information

This MSDS contains only safety-related information. For other data see product literature.

Acronyms:

ADG Code	Australian Code for the Transport of Dangerous Goods by Road and Rail, 7th Edition

AICS	Australian Inventory of Chemical Substances
CAS number	Chemical Abstracts Service Registry Number
Hazchem Number	Emergency action code of numbers and letters that provide information to emergency services especially fire fighters
IARC	International Agency for Research on Cancer
ASCC	Office of the Australian Safety and Compensation Council
NOS	Not otherwise specified
NTP	National Toxicology Program (USA)
R-Phrase	Risk Phrase
SUSDP	Standard for the Uniform Scheduling of Drugs & Poisons
UN Number	United Nations Number

This material safety data sheet (MSDS):

1. Is produced by Waterco Ltd for use in Australia, and is based on information supplied to Waterco Ltd by our suppliers.
2. Summarises our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace,
3. Has been formatted to MSDS format accepted by the National Occupational Health and Safety Commission for use in Australia.
4. Has been produced following the principles and recommendation outline in the *National Code of Practice for the Preparation of Material Safety Data Sheet* published by the National Occupational Health and Safety Commission/AGPS, Canberra, 2003.

Each user must review this MSDS in the context of how the product will be handled and used in the workplace. If clarification or further information is needed to ensure that an appropriated risk assessment can be made, the user should contact Waterco Ltd.

If this MSDS is a copy, or more than five years old, contact Waterco Ltd for a new one.