



MATERIAL SAFETY DATA SHEET

PRODUCT

ALLFLOC

EMERGENCY TELEPHONE NUMBER

Australia: 07 3216 5099

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: ALLFLOC
APPLICATION: POTABLE COAGULANT
COMPANY IDENTIFICATION: Sierra (Aust) Pty Ltd
17 Delta Street
GEEBUNG QLD 4034
Australia
A.B.N. 51 101 066 022
TEL: 07 3216 5099
FAX: 07 3216 5199

Date issued: 10/07/2006

2. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous according to the criteria of the National Occupational Health and Safety Commission (NOHSC). Consult Section 15 for the nature of the hazard(s).

CHEMICAL DESCRIPTION: Aluminium Salts, Polymer, in aqueous solution

CHEMICAL NAME	CAS NO	% (w/w)
Aluminum Hydroxychloride	1327-41-9	1.0 - 10.0
Other ingredients determined not to be hazardous		to 100%

3. HAZARDS IDENTIFICATION

HUMAN HEALTH HAZARDS - ACUTE

EYE CONTACT
Can cause moderate irritation.

SKIN CONTACT
Can cause mild irritation. Frequent or prolonged contact with product may defat and dry the skin, leading to discomfort and dermatitis.

INGESTION
Not a likely route of exposure. There may be irritation to the gastro-intestinal tract with nausea and vomiting.

INHALATION
Not a likely route of exposure. Aerosols or product mist may irritate the upper respiratory tract.

HUMAN HEALTH HAZARDS - CHRONIC
No adverse effects expected other than those mentioned above.

4. FIRST AID MEASURES

EYE CONTACT
Immediately flush eye with water for at least 15 minutes while holding eyelids open. If only one eye is affected be sure to use care not to contaminate the other eye with the run-off. Get medical attention.

MATERIAL SAFETY DATA SHEET

PRODUCT

ALLFLOC

EMERGENCY TELEPHONE NUMBER

Australia: 07 3216 5099

SKIN CONTACT

Immediately flush with plenty of water for at least 15 minutes. Contaminated clothing should be removed under running water. Get medical attention.

INGESTION

Get medical attention. Do not induce vomiting without medical advice. If conscious, washout mouth and give water to drink. If reflexive vomiting occurs, rinse mouth and repeat administration of water. Contact the Poison's Information Centre (eg Australia 13 1126; New Zealand 0800 764 766).

INHALATION

Remove to fresh air, treat symptomatically. If symptoms develop, seek medical advice.

NOTE TO PHYSICIAN

Based on the individual reactions of the patient, the physician's judgement should be used to control symptoms and clinical condition.

5. FIRE FIGHTING MEASURES

FLASH POINT : None

HAZCHEM CODE: 2X

EXTINGUISHING MEDIA

Not expected to burn. Use extinguishing media appropriate for surrounding fire.

FIRE AND EXPLOSION HAZARD

May evolve oxides of nitrogen (NO_x) under fire conditions. May evolve oxides of carbon (CO_x) under fire conditions. May evolve HCl under fire conditions. Contact with reactive metals (e.g. aluminium) may result in the generation of flammable hydrogen gas.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTING

In case of fire, wear a full face positive-pressure self contained breathing apparatus and protective suit.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS

Restrict access to area as appropriate until clean-up operations are complete. Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection). Stop or reduce any leaks if it is safe to do so. Ventilate spill area if possible. Ensure clean-up is conducted by trained personnel only. Do not touch spilled material. Have emergency equipment (for fires, spills, leaks, etc.) readily available. Notify appropriate government, occupational health and safety and environmental authorities.

METHODS FOR CLEANING UP

SMALL SPILLS: Soak up spill with absorbent material. Place residues in a suitable, covered, properly labeled container. Wash affected area. **LARGE SPILLS:** Contain liquid using absorbent material, by digging trenches or by diking. Reclaim into recovery or salvage drums or tank truck for proper disposal. Clean contaminated surfaces with water or aqueous cleaning agents. Contact an approved waste hauler for disposal of contaminated recovered material. Dispose of material in compliance with regulations indicated in Section 13 (Disposal Considerations).

ENVIRONMENTAL PRECAUTIONS

Prevent material from entering sewers or waterways.

7. HANDLING AND STORAGE

MATERIAL SAFETY DATA SHEET

PRODUCT

ALLFLOC

EMERGENCY TELEPHONE NUMBER

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HANDLING

Do not get in eyes, on skin, on clothing. Do not take internally. Use with adequate ventilation. Ensure all containers are labelled. Keep the containers closed when not in use. Have emergency equipment (for fires, spills, leaks, etc.) readily available. Avoid generating aerosols and mists.

STORAGE CONDITIONS

Store in suitable labelled containers. Store the containers tightly closed. Store separately from bases. Store separately from oxidizers.

SENSITIVITY TO STATIC DISCHARGE

Not expected to be sensitive to static discharge.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMITS

The following component(s) have been assigned an exposure standard by NOHSC (Australia) and/or other Agencies:

OCCUPATIONAL EXPOSURE LIMITS	TWA mg/m3
ACGIH/TLV	
ALUMINUM, SOLUBLE SALTS, AS /AL/	2
AUSTRALIA	
ALUMINIUM, SOLUBLE SALTS, AS AL	2
NEW ZEALAND	
ALUMINIUM, AS AL, SOLUBLE SALTS	2
OSHA/PEL	
ALUMINUM, AS /AL/, SOLUBLE SALTS	2

ENGINEERING MEASURES

General ventilation is recommended. Use local exhaust ventilation if necessary to control airborne mist and vapor.

PERSONAL PROTECTION

GENERAL ADVICE

The use and choice of personal protection equipment is related to the hazard of the product, the workplace and the way the product is handled. In general, we recommend as a minimum precaution that safety glasses with side-shields and workclothes protecting arms, legs and body be used. In addition any person visiting an area where this product is handled should at least wear safety glasses with side-shields.

RESPIRATORY PROTECTION

Respiratory protection is not normally needed. If the occupational exposure limit is likely to be exceeded, an approved respirator must be selected and used in accordance with AS/NZS 1715 and AS/NZS 1716. A dust, mist, fume cartridge may be used. 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.

HAND PROTECTION

Neoprene gloves Nitrile gloves Breakthrough time not determined as preparation, consult PPE manufacturers.

SKIN PROTECTION

See general advice.

EYE PROTECTION

When handling this product, the use of splash chemical goggles is recommended.

MATERIAL SAFETY DATA SHEET

PRODUCT

ALLFLOC

EMERGENCY TELEPHONE NUMBER

Australia: 07 3216 5099

HYGIENE RECOMMENDATIONS

Use good work and personal hygiene practices to avoid exposure. Keep an eye wash fountain available. Keep a safety shower available. If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse. Always wash thoroughly after handling chemicals. When handling this product never eat, drink or smoke.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	Liquid
APPEARANCE	Colorless
ODOR	None
FLASH POINT	None
SPECIFIC GRAVITY	1.19 - 1.23 @ 23 °C
SOLUBILITY IN WATER	Complete
pH (100%)	2 - 3
VOC CONTENT	0 % Calculated

Note: These physical properties are typical values for this product and are subject to change.

10. STABILITY AND REACTIVITY

STABILITY

Stable under normal conditions. After 24 hours dilute solutions of less than 3% will start to hydrolyse to a white turbid solution.

HAZARDOUS POLYMERIZATION

Hazardous polymerization will not occur.

CONDITIONS TO AVOID

Avoid extremes of temperature.

MATERIALS TO AVOID

Contact with strong oxidizers (e.g. chlorine, peroxides, chromates, nitric acid, perchlorate, concentrated oxygen, permanganate) may generate heat, fires, explosions and/or toxic vapors. Contact with strong alkalies (e.g. ammonia and its solutions, carbonates, sodium hydroxide (caustic), potassium hydroxide, calcium hydroxide (lime), cyanide, sulfide, hypochlorites, chlorites) may generate heat, splattering or boiling and toxic vapors. Contact with reactive metals (e.g. aluminium) may result in the generation of flammable hydrogen gas.

HAZARDOUS DECOMPOSITION PRODUCTS

Under fire conditions: Oxides of nitrogen
Oxides of carbon
HCl

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY DATA :

No toxicity studies have been conducted on this product.

SENSITIZATION :

This product is not expected to be a sensitizer.

CARCINOGENICITY :

MATERIAL SAFETY DATA SHEET

PRODUCT

ALLFLOC

EMERGENCY TELEPHONE NUMBER

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None of the substances in this product are listed as carcinogens by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP) or the American Conference of Governmental Industrial Hygienists (ACGIH).

HUMAN HAZARD CHARACTERIZATION :

Based on our hazard characterization, the potential human hazard is: Low

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL EFFECTS :

No toxicity studies have been conducted on this product.

ENVIRONMENTAL HAZARD CHARACTERIZATION

Based on our hazard characterization, the potential environmental hazard is: Moderate

13. DISPOSAL CONSIDERATIONS

Hazardous wastes must be transported by a licensed hazardous waste transporter and disposed of or treated in a properly licensed hazardous waste treatment, storage, disposal or recycling facility. Consult local, state, and federal regulations for specific requirements.

Empty drums should be taken for recycling, recovery, or disposal through a suitably qualified or licensed contractor.

14. TRANSPORT INFORMATION

The information in this section is for reference only and should not take the place of a shipping paper (bill of lading) specific to an order. Please note that the proper Shipping Name / Hazard Class may vary by packaging, properties, and mode of transportation. Typical Proper Shipping Names for this product are as follows.

LAND TRANSPORT (ADG):

Proper Shipping Name	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
Technical Name(s)	ALUMINIUM HYDROXYCHLORIDE
UN/ID No	UN 3264
Hazard Class - Primary	8
Packing Group	II
IERG No:	37
HAZCHEM CODE:	2X

Dangerous goods of Class 8 (Acids) are incompatible in a placard load with any of the following:

- Class 1 Explosives
- Class 4.3 Dangerous when wet substances
- Class 5.1 Oxidising agents
- Class 5.2 Organic peroxides
- Class 6 Cyanides only
- Class 7 Radioactive substances

and are incompatible with food or food packaging in any quantity.

AIR TRANSPORT (ICAO/IATA)

Proper Shipping Name	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
Technical Name(s)	ALUMINIUM HYDROXYCHLORIDE

MATERIAL SAFETY DATA SHEET

PRODUCT

ALLFLOC

EMERGENCY TELEPHONE NUMBER

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UN/ID No	UN 3264
Hazard Class - Primary	8
Packing Group	II
IATA Cargo Packing Instructions	812
IATA Cargo Aircraft Limit	30 L
IATA Passenger Packing Instructions	Y808 / 808
IATA Passenger Aircraft Limit	0.5 L / 1 L

MARINE TRANSPORT (IMDG/IMO)

Proper Shipping Name	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
Technical Name(s)	ALUMINIUM HYDROXYCHLORIDE
UN/ID No	UN 3264
Hazard Class - Primary	8
Packing Group	II
EmS-Nr.	F-A, S-B

15. REGULATORY INFORMATION

AUSTRALIA:

Hazardous according to the criteria of the National Occupational Health and Safety Commission (NOHSC).

CLASSIFICATION: IRRITANT / Xi

Contains: Aluminum Hydroxychloride

RISK PHRASES:

R36 Irritating to eyes.

SAFETY PHRASES:

S24/25 Avoid contact with skin and eyes.

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S28 After contact with skin, wash immediately with plenty of water.

S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

General Approval:

The National Health and Medical Research Council approved the use of polydimethyldiallyl ammonium chloride and polyaluminium chloride for treatment of drinking water in Australia, subject to certain conditions (NHRMC June 1982, 93rd session pp 19-20 and NHRMC June 79, 88th Session pp17-18).

Allfloc meets these conditions and is suitable for potable applications when dosed at less than 140 mg/L, and when the level of PAC in the water after treatment does not exceed 20 mg/L.

Polydimethyldiallyl ammonium chloride and polyaluminium chloride have also been approved by the National Food Authority for use as a processing aid used in packaged water and in water used as an ingredient in other foods (NFA Standard A16, Table VI).

NICNAS:

All substances in this product comply with the National Industrial Chemicals Notification & Assessment Scheme (NICNAS).

MATERIAL SAFETY DATA SHEET

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SUSDP SCHEDULE Not Listed

NEW ZEALAND:

This product complies with Parts XI - XV of the HSNO Act (1996).

NZ SCHEDULE Not Listed

INTERNATIONAL CHEMICAL CONTROL LAWS

TOXIC SUBSTANCES CONTROL ACT (TSCA)

This product has not been evaluated for TSCA and may contain substances not found on the TSCA 8(b) Inventory List. This product may be used under the TSCA 5(h)(3) Research Exemption if all requirements are met.

16. OTHER INFORMATION

This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures should be evaluated so that appropriate handling practices and training programs can be established to insure safe workplace operations. Please consult your local sales representative for any further information.

REFERENCES

Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices, American Conference of Governmental Industrial Hygienists, OH., (Ariel Insight(tm) CD-ROM Version), Ariel Research Corp., Bethesda, MD.

Hazardous Substances Data Bank, National Library of Medicine, Bethesda, Maryland (TOMES CPS(tm) CD-ROM Version), Micromedex, Inc., Englewood, CO.

IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Man, Geneva: World Health Organization, International Agency for Research on Cancer.

Integrated Risk Information System, U.S. Environmental Protection Agency, Washington, D.C. (TOMES CPS(tm) CD-ROM Version), Micromedex, Inc., Englewood, CO.

Annual Report on Carcinogens, National Toxicology Program, U.S. Department of Health and Human Services, Public Health Service.

Title 29 Code of Federal Regulations, Part 1910, Subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration (OSHA), (Ariel Insight(tm) CD-ROM Version), Ariel Research Corp., Bethesda, MD.

Registry of Toxic Effects of Chemical Substances, National Institute for Occupational Safety and Health, Cincinnati, OH, (TOMES CPS(tm) CD-ROM Version), Micromedex, Inc., Englewood, CO.

Ariel Insight(tm) (An integrated guide to industrial chemicals covered under major regulatory and advisory programs), North American Module, Western European Module, Chemical Inventories Module and the Generics Module (Ariel Insight(tm) CD-ROM Version), Ariel Research Corp., Bethesda, MD.

The Teratogen Information System, University of Washington, Seattle, WA (TOMES CPS(tm) CD-ROM Version), Micromedex, Inc., Englewood, CO.

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