

**POOL SYSTEMS**  
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**MATERIAL SAFETY DATA SHEET**

Date Issued: March 23, 2012

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**PRODUCT NAME: LIFE SPA & HOT TUB ESSENTIALS – WATER CLARIFIER**

CHEMICAL NAME: Polyaluminium Chloride, [AKA : Aluminium Hydroxy Chloride, PAC-AC, Chlorhydrol, Aluminium Chloride Hydroxide, Aluminium Chlorohydrate]

Classified as Hazardous according to the criteria of Worksafe Australia.

UN No.: None                      HAZCHEM: None                      DG CLASS: None Allocated  
Poison Schedule: None    Packaging Group: None    EPG: None

Product Uses: Active ingredient in antiperspirant formulations.

**Ingredients:**

Reference in ACOIN: YES

Name:	CAS Number:	Proportion:
Polyaluminium Chloride	12042-91-0	50%
Water	7732-18-5	to 100%

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**PHYSICAL DATA**

Appearance & odour	: Water clear aqueous solution
Molecular weight	: 174.45
Boiling point (°C)	: ~100
Melting point (°C)	: Not available
Specific Gravity (H <sub>2</sub> O = 1)	: 1.33 - 1.35 at 25°C
pH (7 = neutral)	: 4.15 - 4.50 as 15wt% solution at SG 1.08/25°C
Vapour pressure (kPa)	: Not available or applicable
Relative vapour density (air = 1)	: Not available or applicable
Volatile by weight (%)	: 50 (Includes product change)
Solubility in water	: Completely miscible
Evaporation rate (n-butyl acetate = 100)	: Not relevant

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**FIRE AND EXPLOSION HAZARD DATA**

Flash point (°C) : Material is non-flammable and non-combustible.

Auto ignition point (°C) : Not applicable.

Explosion Limits In Air (% by volume)

Lower	: Not applicable.
Upper	: Not applicable.

Extinguishing media	: Compatible with water, foam, CO <sub>2</sub> and dry chemical. Fires can be attacked with extinguishers to suit local flammable/combustible materials.
Special Procedures	: None.
Unusual hazards	: None known.
Conditions to avoid	: Do not freeze. Material may decompose at high temperatures (after water has evaporated and product dries and reaches calcination temperatures) to evolve Hydrogen Chloride vapour.
Materials to avoid	: None known.
Decomposition products:	Severe overheating may produce Hydrogen Chloride Gas and Aluminium Oxide once water has been driven off.
Hazardous polymerisation	: Will not occur.

**Label safety and risk phrases:** R36/38; Irritating to eyes and skin, S36: Wear suitable protective clothing, S37: Wear suitable gloves, S39: Wear eye/face protection, S24/25: Avoid contact with skin and eyes.

#### HEALTH HAZARD DATA

Threshold limit value : TWA 2 mg (Al) /M<sup>3</sup> (as mist or dry solids) [Ref ACGIH Al salts]

TWA: the Time-Weighted Average airborne concentrations over an eight-hour, for a five-day working week over an entire working life.

#### EFFECTS OF EXPOSURE

Eyes (Contact)	: Irritation and redness.
Skin (Contact & absorption)	: May cause skin irritation with prolonged contact. A mild human skin irritant.
Inhalation (breathing)	: No vapour, product is not volatile. Mist or aerosol could cause irritation to mucous tissue.
Ingestion (swallowing)	: Nausea vomiting, could have systemic effects.

#### FIRST AID

Eyes (contact)	: Flush with water for 15 minutes. Seek medical attention.
Skin (contact)	: Remove contaminated clothing — flush affected areas with soap and water.
Inhalation (breathing)	: No vapour, can only be inhaled as mist or aerosol and any dose will bring on unpleasant reaction, dry mouth taste. Remove from source of mist, allow patient to stabilise breathing in fresh air. If problem or symptoms persist seek medical attention.
Ingestion (swallowing)	: Give water to drink. Induce vomiting. <b>Note:</b> Opinion varies regarding the induction of vomiting, in small doses the induction of vomiting is questionable and should be taken on a case by case basis. This material will cause difficulty in

Water Clarifier

swallowing and it is unlikely that any significant dose could be ingested. If in doubt seek medical advice.

Toxicity data : (ex "Sax's, Dangerous Properties of Industrial Materials" Ed. 8) -  
Skn-hmn 150 mg/3D-I MLD  
Safety Profile : A mild human skin irritant, acts as astringent/antiperspirant.

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### **SPILL OR LEAK PROCEDURE**

**Steps to be taken in case material is released or spilled:** Prevent drain or sewer contamination with absorbent such as sand or sawdust etc.  
Collect for disposal, hose final trace residues to drain.

**Waste disposal method:** Refer to local waste disposal authority.

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### **SAFE HANDLING INFORMATION**

#### **SPECIAL PROTECTION INFORMATION**

Respiratory protection : None required in normal operations. Fit respirator if application generates mist.

Ventilation : Local exhaust recommended.

Protective gloves : PVC or rubber.

Eye protection : Chemical goggles or safety glasses.

Other protective equipment : Not required, aprons and rubber boots can be used in wet conditions but mainly as protection from the water.

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#### **SPECIAL PRECAUTIONS**

Handling & storage : Do not store in metal drums. Store in cool place and out of direct sunlight if possible.

#### **Environmental impact:**

Environmental fate and distribution: Not a persistent pollutant, can cause coagulation of solids in aqueous suspension. Aluminium compounds are common in most soils and are the principle components of Bauxite, a common, naturally occurring mineral. If solids are precipitated from this product they can be expected to become a part of the natural soil profile if not collected. In massive doses, this may form a heavy floc which will settle as silt but until the floc settles it could affect marine life by clogging sensitive respiratory mechanisms in a similar fashion to muds and clays.

Toxicity : Low level toxicity.

Effect on effluent treatment: Used as a coagulant in water treatment, may settle out finely divided solids depending on other factors such as pH, from aqueous streams. May influence pH control as this material in raw state has a pH of ~4, also may add to solids loading in filter cakes and present as a compressible cake. In large quantity this product is likely to make filter cakes "slimey" and wet. This can also cause "blinding of filter cloths" but these will normally respond to hosing or rinsing off.

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**EMERGENCY CONTACTS:**

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Address : PO Box 5225 BRENDALD QLD 4500

[This MSDS consists of 4 pages, please advise if your document does not contain the same number of pages as it will not be complete]

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This MSDS summarises our best knowledge of health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this MSDS and consider the information in the context of how the product will be handled and used in the workplace including in conjunction with other products.

Please contact the company if any further information is required.