



# Chemifloc Ltd.

## SAFETY DATA SHEET PolyAluminium Chloride 10%

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II

### 1: Identification of the substance/preparation and of the company/undertaking

#### Identification of the substance or preparation

**Product Name:** Polyaluminium chloride solution (10%) in water. Polyaluminium Chloride Hydroxide, Polyaluminium Chloride Hydroxide Sulfate, PAC, PACS

**Chemical Name:** Polyaluminium chloride hydroxide

**Use of the preparation:**

Used as a chemical for the treatment of drinking water, has received appropriate approval by the European Committee for Standardisation.

#### Company/Undertaking identification

**Supplier:** Chemifloc Ltd  
Smithstown, Shannon,  
Co. Clare,  
Rep. of Ireland.  
Tel: 00353 61 708699  
Fax: 00353 61 708698  
e-mail: [info@chemifloc.ie](mailto:info@chemifloc.ie)

**Emergency Telephone Number: 00353 61 708699**

### 2: Hazards Identification

Hazard Class: **C: Corrosive**

Risk Phrase: R34 – Causes burns

Material causes burns to eyes, skin and gastrointestinal tract. Effect is mild for 10%.

### 3: Composition/Information on Ingredients

The material is formed by the action of hydrochloric and sulphuric acids on aluminium trihydroxide. Total aluminium content 5.3% (measured as  $Al_2O_3$ , 10%)

Ingredient Name	CAS Number	%	EC Number	Classification	Risk Phrases
Poyaluminium Chloride	1327-41-9	10	215-477-2	C	R34
Water	7732-18-5	To 100%	231-791-2	Not classified	

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in section 8.

#### 4: First Aid Measures

- Inhalation:** Remove to fresh air and loosen clothing. Seek medical attention if symptoms are severe.
- Eyes:** Wash out thoroughly with water or saline solution for a minimum of 15 minutes; seek medical attention.
- Skin:** Remove contaminated clothing, wash skin thoroughly with plenty of water for minimum 15 minutes. In severe cases seek medical attention.
- Ingestion:** If confined to the mouth area give large quantities of water as a mouthwash, ensure the water is not swallowed. If substance has been swallowed, give 250ml of water to dilute in stomach. Do not induce vomiting. In severe cases seek medical attention.

#### 5: Fire-Fighting Measures

Use full acid-resistant protective clothing.  
Material is not combustible, but may release toxic vapours (hydrogen chloride, oxides of sulphur) when heated above 200°C. If fumes are present, use an approved full-face-respirator with acid cartridge.  
Use extinguishing media appropriate to the surrounding fire conditions.  
Use water to keep containers cool. Do not release runoff to sewers or waterways.

#### 6: Accidental, Release Measures

Wear appropriate protective clothing.  
Do not allow runoff to enter sewers or waterways.  
Small spills of liquid, neutralise with soda ash or lime, absorb liquid with sand.  
Large spills of liquid, contain, then neutralise with caustic soda solution, and dispose in accordance with local regulations. Alumina sludge formed can be disposed of as a neutral waste.

#### 7: Handling and Storage

- Transport:** Delivered in 20/24 tonne, rubber lined, stainless-steel tankers, or plastic IBCs.
- Storage:** Store in vessels suitable for solutions of low pH such as rubber-lined stainless steel, plastic, or glass reinforced plastic.  
Stainless steel vessels are not recommended.  
*See additional comments about storage tanks in Section 16.*
- Handling:** Handle with care as an acid.  
Avoid contact with skin and eyes.  
Wear appropriate acid-resistant protective clothing.

#### 8: Exposure Controls/Personal Protection

EH40/2005 listing under soluble aluminium salts – WEL 8 hour exposure 2 mg/m<sup>3</sup>.

Personal protective measures as appropriate to quantity used.

- Respiratory:** N/A.
- Hand Protection:** Rubber or PVC gloves.
- Eye protection:** Goggles or face shield affording complete eye protection.
- Other measures:** Plastic apron, sleeves, boots – if handling large quantities

## 9: Physical and Chemical Properties

General information	
Appearance	Clear Liquid
Colour	Colourless to Pale Yellow
Odour	Odourless
Molecular Formula	$\text{Al(OH)}_a\text{Cl}_b(\text{SO}_4)_c$ with $(a+b+2c) = 3$ , and $a > 1.05$ .
Important health, safety and environmental information	
pH	1.5 – 2.0
Vapour Pressure:	30mm Hg at 0°C.
Freezing point	-15°C
Density g/cm <sup>3</sup> at 20°C.	1.210
Solubility	Miscible in water. Diluted solutions hydrolyse to precipitate $\text{Al(OH)}_3$ .
Viscosity (mPa.s)	4 cP at 20°C (10%)

## 10: Stability and Reactivity

Solution is acidic and may react with metal to liberate flammable hydrogen gas.  
Reacts aggressively with some metal surfaces (e.g. galvanised metal, aluminium, copper, zinc, and alloys of these metals).  
Incompatible with other polyaluminium salts. Special care has to be taken regarding mixing with products previously used in order to avoid gel formation or precipitation.  
Avoid contact with chlorites, hypochlorites, and sulphites.  
Incompatible with iron salts and aluminium sulfate

## 11: Toxicological Information

**Skin Contact:** May cause burns - mild burns with 10%.

**Eye Contact:** May cause corneal damage.

**Ingestion:** Harmful if swallowed. Ingestion may result in damage to mucous membranes, nausea, vomiting, sore throat, abdominal pain and diarrhoea.

## 12: Ecological Information

Polyaluminium Chloride is acidic, and so will cause damage to flora and fauna.  
The material should not be allowed to spill into controlled waters in large amounts, as sufficient quantities will affect aquatic life forms. In such cases the Environment Protection Agency or Local Authority should be contacted.  
Once diluted and neutralised no lasting effects will occur. Material is not bio accumulative.

## 13: Disposal Considerations

Do not dispose directly into rivers or drains.  
Small spills may be neutralised with sodium carbonate, lime, or calcium carbonate, and flushed to sewer.  
Large amounts of Polyaluminium Chloride should be contained, and then be neutralised with a weak alkali solution. The resulting suspension (mainly alumina) may be regarded as neutral waste and disposal should be in accordance with local or state or national legislation.

## 14: Transport Information

Proper Shipping Name: CORROSIVE LIQUID, N.O.S. (Polyaluminium Chloride Solution)  
UN Number: 1760  
RID/ADR: Class 8  
Hazard ID Number: 80  
Classification Code: C9  
Packing Group: PG III

## 15: Regulatory Information

Poyaluminium Chloride Solution is classed as **Corrosive** for supply, and packaging will carry the following information:

Risk phrase: R34: Causes burns.  
Safety phrases: S 26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
S 27: Take off immediately all contaminated clothing.  
S 37/39: Wear suitable gloves and eye/face protection.

## 16: Other Information

References: Poyaluminium chloride solutions are used as chemicals for the treatment of drinking water, as approved by the European Committee for Standardisation under EN 883:2004. The Transport and Regulatory Information given are in accordance with EN 883:2004.

### Notes on storage conditions and product stability

Poyaluminium chloride solutions are stable indefinitely when stored under benign conditions (sealed vessel, constant temperature). However, some users may experience product instability, which can arise from two potential problems:

1) The product is designed to break down on contact with water, to allow water treatment to occur. As a result, water vapour condensing on inside tank surfaces may lead to colourless crystals forming when the water drops back into the bulk liquid. These crystals can only be dissolved using hot water. Condensation should thus be minimised by tank design and location. If possible, avoid tanks that are dark in colour, in direct sunlight, and off the ground, as these factors will lead to large day/night temperature fluctuations.

2) Long-term storage in open/vented vessels may result in evaporation of water, leading to over concentration of the 10% PAC, and formation of a very fine, cream-coloured deposit. This deposit is easily dissolved in cold water.

Chemifloc Limited thus recommends that tanks be designed to minimise temperature effects, have a top hatch to allow routine quarterly inspection for any deposits, and have a bottom drain in case the need for washout occurs.

History: This data sheet was prepared in accordance with EC Regulation No. 1907/2006 concerning REACH.  
This version replaces Version 2, Jan 2009.

Date of issue: 27-10-2009

Revision: 3.

### **Notice to reader**

To the best of our knowledge, the information provided in this Safety Data Sheet is accurate as at the date of its issue. The information it contains is being given for safety guidance purposes and relates only to the specific material and uses described in it. This information does not necessarily apply to that material when combined with other material(s) or when used otherwise than as described herein. Final determination of the suitability of any material is the sole responsibility of the user. All materials may represent unknown hazards and should be used with caution. Chemifloc Ltd disclaims any liability for loss or damage resulting from the use of any data, information or recommendations set out in this Safety Data Sheet.