

## Material Safety Data Sheet

### TPP-100 COAGULANT PAC 18%

#### **Section 1 - Chemical Product & Company Identification**

**MSDS Name:** Poly Aluminium Chloride

**Rational Formula:**

$Al_n(OH)_m Cl_{(3n-m)}$ ,  $0 < m < 3n$

**Molecular Weight:** Indeterminacy

**Chemical Name & Other Names:**

PAC, Basic Aluminium Chloride,  
Aluminium Chlorohydrate,  
Polyaluminium Chloride, Polyaluminium  
hydrochloride, Polyaluminium Chloride  
Hydroxide.

**Company Identification:**

Tayseer International Chemicals

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#### **Section 2 - Composition/Information On Ingredients**

Chemical Name: Polyaluminium chloride liquid

CAS No: 1327-41-9/39290-78-3

Formula:  $Al_n(OH)_m Cl_{(3n-m)}$

Aluminium Content (%): Min. 16.5 to 19.5% (as  $Al_2O_3$ )

#### **Section 3 - Hazard Identification**

Main Risk

Ingestion: Very astringent to mouth, nose & throat

Contact with eyes: Causes eye irritation

Safety Phrases:

Keep out of reach of children. In case of contact with eye, wash immediately with plenty of water for 15-20 minutes. Seek medical aid. Remove contaminated clothes & shoes.



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Wash affected area with plenty of water. If inhaled, remove the victim to fresh air area & support respiration. Seek medical aid immediately for all types of exposure.

### Section 4 - Physical and Chemical Properties

Appearance and Odour: Clear or slightly opalescent, amber to light pale-yellow coloured liquid with little or no odour

pH (1% aqueous solution): 3.5 - 5.0

Specific Gravity: 1.35 - 1.40

Boiling Point Approx.: 120°C

Flash Point: Not pertinent

Melting Point About: -12°C

Flammable Limit: Non-flammable

Vapour Pressure (mm Hg): Not applicable

Solubility in Water: 100% soluble

Solubility in Organic Solvents: Not soluble

Oxidizing/Explosive Properties: None

### Section 5 - Stability and Reactivity

Stability: As supplied it is stable at normal temperature & pressure.

Conditions to avoid: Avoid contact with bases, chlorides, sulphites, hypochlorites and temperature above 40°C

Material to avoid:

Long term contact with aluminum & alloys, zinc & alloys, carbon & steel

Reactivity

Air: No reaction

Water:

Coagulates substances suspended or dispersed in water to settle quickly to form a filterable sludge.

Acids: With mineral acids bulk precipitation of solid occurs

Alkalis: Bulk precipitation with evolution of heat occurs

Hazardous Decomposition Products: Hydrogen chloride



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## Section 6 - TOXICITY DATA

In contact with skin: Irritant-after prolonged contact with skin produces sores and possible dermatitis.

In contact with eyes: Irritates immediately and could cause severe damage.

Inhalation: Product does not fume .

Ingestion: Very astringent to mouth, nose & throat.

Acute Toxicity: LD50 > 2000 mg/kg.

Chronic Toxicity: Not available

## Section 7 - FIRST AID MEASURES

Skin Contact: Remove contaminated clothing and wash affected area with sufficient quantity of water for 15-20 minutes. Seek medical aid.

Eye Contact: Immediately irrigate with water for at least 15 minutes. Seek medical assistance immediately.

Inhalation: Remove from contaminated area. Obtain medical attention.

Ingestion: Provided patient is conscious, wash out with water. Do not induce vomiting and give 5% sodium bicarbonate solution followed by a demulcent such as milk. If in doubt, seek medical attention.

## Section 8 - FIRE AND EXPLOSION HAZARD DATA

Fire Extinguishing Data: Poly Aluminium chloride is non-inflammable. On burning will emit fumes. Water spray, foam, carbon dioxide or dry powder may be used. Keep containers cool with copious amounts of water.

Would any material saturated with this product be subject to spontaneous combustion? No Fire Fighting Protective equipment: Wear full protective clothing, goggles, masks

Unusual Fire and explosive hazards.: In contact with metals, poly Aluminium chloride may liberate the flammable gas hydrogen.

## Section 9-PERSONAL PROTECTION

General Precautions Eye and skin protection should be used.

Carcinogenic Toxicity No evidence

Mutagenic Toxicity: No evidence

Throatogenic Toxicity: TDLoapprox 13 g/kg

Respiratory Protection: Not normally required





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Protective Clothing: Protective overall, rubber gloves, hard hat, acid resistant boots.

Eye protection: Goggles full face mask

## Section 10-HANDLING AND STORAGE

### Handling:

Avoid contact with skin, eyes, and clothing. Avoid breathing dust or mist. Keep away from metals, organic materials, nitrates, chlorates and carbides. It is compatible with lead, rubber, glass, fiber, glass, HDPE, PVC & FRP.

### Storage:

Bulk quantities should be stored in ebonite coated, steel, rubber lined mild steel, FRP or plastic tanks. For small packages, polyethylene or double skinned polyethylene containers are acceptable. Store indoors away from direct heat or sunlight.

Avoid extreme temperatures. PAC may become unstable when stored for long time at temperatures higher than 40°C. PAC tends to hydrolyse to a white turbid solution and loses effectiveness when it is kept long as a diluted solution of less than approximately 3% (as  $Al_2O_3$ ). The storage area should have anon-combustible and corrosion resistant floor

## Section 11-SPILLAGE/ACCIDENTAL RELEASE

### Spillage:

For very small leaks wash away with large quantities of water.

For other leaks collect liquid either by pumping into an emergency tank or by absorption in dry sand.

### Personal Precautions:

Wear full protective clothing.

Environmental Precautions Where a spillage or contaminated washing causes contamination of water courses, drains or vegetation, inform relevant authorities.

## Section 12-WASTE DISPOSAL

### Waste Disposal:

Neutralize with lime and landfill in accordance with Local Regulations.



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## Section 13-ENVIRONMENTAL INFORMATION

### Environmental Fate and Distribution:

High tonnage material produced in wholly contained systems.

### Persistence and Degradation:

The substance is soluble in water. Unlikely to cause harmful affects, remains as chloride indefinitely.

### Toxicity and effect on effluent system:

Large discharges may contribute to the acidification of effluent treatment system and will injure organisms. The product is a primary coagulant and may cause solid settlement in treatment systems.

### Ecological Information:

The product tested in various concentrations is found to be entirely harmless to aquatic life up to concentration of 200 mg/litre expressed as  $Al_2O_3$  (corresponding to 1.4 g/l of PAC 10%)

## Section 14-REGULATORY INFORMATION

Danger Symbol: Xi

### Risk Phrases:

**R36:** Irritant for eyes.

**R38:** Irritant for skin

### Safety Phrases:

**S2:** Keep locked up and out of the reach of children.

**S7/8/9:** Keep container tightly closed, dry and in a well-ventilated area.

**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.

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

## Section 15-TRANSPORT INFORMATION

UN No. & Symbols: 1760 Class 8

Packing Group: I



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Hazard Class: 8

ADR/RID Class: Low Hazard

ADR/RID Item: Class 8

## Section 16-OTHER INFORMATION

### Disclaimer:

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication.

The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process unless specified in the text. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release, and neither it is to be considered a warranty or quality specification, nor as a binding statement on contractually agreed product qualities.

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