

Technical Data Sheet (TDS)

1. Product Overview

- Product Name: Poly Aluminum Chloride (PAC)
- English Name: Poly Aluminum Chloride
- CAS Number: 1327-41-9
- Formula: $[Al_2(OH)_n Cl_{6-n}]_m$ (n=1-5; m≤10)
- Molecular Weight: Variable (174-311 g/mol)
- Product Characteristics: High-performance inorganic polymer flocculant with strong adsorption, bridging, and flocculation capabilities. Forms large, dense, fast-settling flocs to efficiently remove suspended solids, colloids, and organic pollutants. Acidic in nature, stable under standard storage conditions, and compatible with most water treatment chemicals.

2. Technical Specifications (Complies with GB/T 15892-2020)

Item	Specification
Appearance	Yellowish-brown to reddish-brown transparent liquid
Aluminum Oxide (Al ₂ O ₃) Content	≥ 10.0%
Basicity	40.0-90.0%
pH Value (1% Aqueous Solution, 25°C)	3.5-5.0
Insoluble Matter in Water	≤ 0.5%
Lead (Pb)	≤ 0.0005%
Arsenic (As)	≤ 0.0001%
Chromium (Cr ⁶⁺)	≤ 0.0002%
Mercury (Hg)	≤ 0.000005%
Cadmium (Cd)	≤ 0.00005%
Viscosity (25°C)	10-30 mPa·s
Density (25°C)	1.15-1.35 g/cm ³

3. Product Advantages

1. Superior Flocculation: Forms larger/denser flocs than traditional flocculants, reducing sedimentation time by 30-50%.
2. Wide Adaptability: Effective over pH 4.0-9.0 and temperature 0-60°C, suitable for high-turbidity, low-temperature wastewater.
3. Strong Purification: Efficiently removes SS, COD, BOD, and colorants; purification rate 85-95%.
4. Low Residue: Minimal residual aluminum in treated water, meeting drinking water standards.
5. Cost-Effective: Low dosage (10-50 mg/L); reduces sludge production by 20-30% compared to conventional flocculants.

4. Application Fields

- Municipal Water Treatment: Drinking water purification, municipal sewage treatment, sludge dewatering in wastewater treatment plants.

- Industrial Wastewater Treatment: Printing and dyeing, papermaking, electroplating, chemical, food processing, coal washing, and textile industry wastewater.
- Other Applications: Industrial circulating water purification; reverse osmosis (RO) system pretreatment; mining wastewater treatment.

5. Usage Methods

- Dosage:
 - Municipal Sewage: 10-30 mg/L
 - Industrial Wastewater: 20-50 mg/L
 - Drinking Water: 5-15 mg/L
- Dilution: Dilute with water at a ratio of 1:5-1:10 (product: water) before use; stir evenly.
- Addition Method: Add diluted solution under continuous stirring (100-200 rpm for 1-2 minutes, then slow stirring at 30-50 rpm for 5-8 minutes).
- Compatibility: Can be compounded with anionic polyacrylamide (PAM) to enhance effect (PAM dosage: 0.1-0.3 mg/L).

6. Packaging & Storage

- Packaging Specifications: 25 kg HDPE plastic drums, 1000 kg IBC totes (custom packaging available).
- Storage Conditions: Store in cool, dry, well-ventilated warehouse ($\leq 30^{\circ}\text{C}$); keep tightly closed; avoid direct sunlight and high temperature; store separately from strong bases/oxidizing agents.
- Shelf Life: 12 months (unopened, specified conditions).
- Transportation: UN 3260 (Class 8 Corrosive Substance); transport in acid-resistant vehicles; avoid collision, leakage, and exposure to sunlight/rain.

7. Safety & Protection

- Corrosive; avoid direct contact with skin, eyes, and clothing.
- Operators must wear chemical safety goggles, nitrile rubber gloves, and acid-resistant protective clothing.
- In case of contact, rinse immediately with plenty of running water for ≥ 15 minutes; seek medical attention if necessary.
- Do not ingest; if swallowed, rinse mouth with water and consult a doctor immediately.

8. Quality Assurance

- Manufactured in accordance with ISO 9001 quality management system standards.
- Each batch is tested with a Certificate of Analysis (COA) to meet GB/T 15892-2020.
- Provide technical support: dosage adjustment, process optimization, and application problem-solving.