Technical Data Sheet (TDS)

1. Product Overview

- Product Name: Poly Aluminum Ferric Chloride (PAFC)
- English Name: Poly Aluminum Ferric Chloride
- CAS Number: N/A (Inorganic polymer mixture)
- Formula: $[Al_2(OH)_n Cl_{6-n}]_m \cdot [Fe_2(OH)_p Cl_{6-p}]_k$ (n=1-5; p=1-3; m,k=f(n,p))
- Molecular Weight: Variable (200-350 g/mol)
- Product Characteristics: High-performance composite inorganic polymer flocculant, combining advantages of poly aluminum chloride and ferric chloride. Strong adsorption, bridging, and flocculation capabilities form large, dense, fast-settling flocs. Efficiently removes suspended solids, colloids, heavy metals, and organic pollutants. Stable over wide pH (4.0-9.0) and temperature (0-60℃) ranges.

2. Technical Specifications (Industrial Standard)

Item	Specification
Appearance	Dark brown to reddish brown transparent liquid
Aluminum Oxide (Al_2O_3) Content	≥ 8.0%
Iron Oxide (Fe_2O_3) Content	≥ 3.0%
Basicity	50.0-80.0%
pH Value (1% Aqueous Solution, 25℃)	3.5-5.0
Insoluble Matter in Water	≤ 0.5%
Heavy Metals (Pb)	≤ 0.0005%
Arsenic (As)	≤ 0.0001%
Chromium (Cr^{6+})	≤ 0.0002%
Mercury (Hg)	≤ 0.000005%
Cadmium (Cd)	≤ 0.00005%
Viscosity (25℃)	15-35 mPa·s
Density (25℃)	1.20-1.35 g/cm³
Temperature Stability	Stable at ≤60℃ (flocculation efficiency ≥90%)

3. Product Advantages

1. Synergistic Flocculation: Combines Al^{3+} and Fe^{3+} advantages, forming denser flocs with faster sedimentation than single-component flocculants.
2. Wide Adaptability: Effective in high-turbidity, low-temperature, and complex wastewater; pH range 4.0-9.0.
3. Strong Purification: Removes SS, COD, BOD, heavy metals, and colorants; purification rate 90-95%.
4. Low Residue: Minimal residual aluminum/iron in treated water, meeting drinking water standards.

5. Cost-Effective: Low dosage (10-40 mg/L); reduces sludge production by 25-35% vs. traditional flocculants.

4. Application Fields

- Municipal Water Treatment: Drinking water purification, municipal sewage treatment, sludge dewatering.
- Industrial Wastewater Treatment: Printing, dyeing, papermaking, electroplating, chemical, food processing, coal washing wastewater.
- Other Applications: Industrial circulating water purification; reverse osmosis (RO) pretreatment; mining wastewater treatment.

5. Usage Methods

- Dosage:
  - Municipal Sewage: 10-25 mg/L
  - Industrial Wastewater: 15-40 mg/L
  - Drinking Water: 5-15 mg/L
- Dilution: Dilute with water at 1:5-1:10 (product: water) before use; stir evenly.
- Addition Method: Add diluted solution under continuous stirring (100-200 rpm for 1-2 min, then 30-50 rpm for 5-8 min).
- Compatibility: Compound with anionic PAM (0.1-0.3 mg/L) for enhanced effect.

6. Packaging & Storage

- Packaging Specifications: 25 kg HDPE drums, 1000 kg IBC totes (custom packaging available).
- Storage Conditions: Cool, dry, well-ventilated warehouse (≤30℃); keep tightly closed; avoid 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.

7. Safety & Protection

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

8. Quality Assurance

- Manufactured in accordance with ISO 9001 quality management system.
- Each batch is tested with a COA to meet industrial standards.
- Provide technical support: dosage adjustment, process optimization, and application problem-solving.