

Technical Data Sheet (TDS)

1. Product Overview

- Product Name: Polyferric Chloride Sulfate (PFCS)
- English Name: Polyferric Chloride Sulfate
- CAS Number: N/A (Inorganic polymer mixture)
- Formula: $[\text{Fe}_2(\text{OH})_n \text{Cl}_m (\text{SO}_4)_{3-n-m/2}]_k$ ($n=0.3-1.5$; $m=0.2-0.8$; $k=f(n,m)$)
- Molecular Weight: Variable (350-420 g/mol)
- Product Characteristics: High-performance composite inorganic polymer flocculant, combining the advantages of polyferric chloride and polyferric sulfate. Strong adsorption, bridging, and flocculation capabilities form large, dense, fast-settling flocs. Efficiently removes suspended solids, colloids, heavy metals, and organic pollutants. Acidic in nature, stable under standard storage conditions, and compatible with most water treatment chemicals.

2. Technical Specifications (Industrial Standard)

Item	Specification
Appearance	Dark brown to reddish brown transparent liquid
Total Iron (as Fe)	≥ 12.0%
Reducible Substances (as Fe^{2+})	≤ 0.15%
Basicity	8.0-16.0%
pH Value (1% Aqueous Solution, 25°C)	1.5-3.0
Insoluble Matter in Water	≤ 0.5%
Chloride Content (as Cl^-)	2.0-5.0%
Sulfate Content (as SO_4^{2-})	4.0-8.0%
Lead (Pb)	≤ 0.0008%
Arsenic (As)	≤ 0.00015%
Chromium (Cr^{6+})	≤ 0.0004%
Mercury (Hg)	≤ 0.000008%
Cadmium (Cd)	≤ 0.00008%
Viscosity (25°C)	20-40 mPa·s
Density (25°C)	1.50-1.60 g/cm ³

3. Product Advantages

1. Enhanced Flocculation: Forms larger/denser flocs than single-component flocculants, reducing sedimentation time by 50-70%.
2. Wide Adaptability: Effective over pH 3.0-12.0 and temperature 0-60°C, suitable for high-turbidity, low-temperature, and complex industrial wastewater.
3. Strong Purification: Efficiently removes SS, COD, BOD, heavy metals (Pb, As, Cr^{6+}), and colorants; purification rate 90-98%.
4. Low Residue: Minimal residual iron and chloride in treated water, no secondary pollution.
5. Cost-Effective: Low dosage (5-30 mg/L); reduces sludge production by 30-40% compared to traditional flocculants.

4. Application Fields



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- 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: 5-15 mg/L
 - Industrial Wastewater: 10-30 mg/L
 - Drinking Water: 3-8 mg/L
- Dilution: Dilute with water at a ratio of 1:8-1:12 (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: 6 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 industrial standards.
- Provide technical support: dosage adjustment, process optimization, and application problem-solving.