

Technical Data Sheet (TDS)

1. Product Overview

- Product Name: Polyferric Sulfate (PFS)
- English Name: Polyferric Sulfate
- CAS Number: 1327-41-9
- Formula: $[\text{Fe}_2(\text{OH})_n (\text{SO}_4)_{3-n/2}]_m$ (n=0.5-2.0; m=f(n))
- Molecular Weight: Variable (330-380 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, heavy metals, and organic pollutants. Acidic, stable under standard storage conditions, and compatible with most water treatment chemicals.

2. Technical Specifications (Complies with GB/T 14591-2016)

Item	Specification
Appearance	Dark red brown transparent liquid
Total Iron (as Fe)	≥ 11.0%
Reducible Substances (as Fe^{2+})	≤ 0.15%
Basicity	10.0-18.0%
pH Value (1% Aqueous Solution, 25°C)	1.8-3.2
Insoluble Matter in Water	≤ 0.5%
Lead (Pb)	≤ 0.0008%
Arsenic (As)	≤ 0.00015%
Chromium (Cr^{6+})	≤ 0.0004%
Mercury (Hg)	≤ 0.000008%
Cadmium (Cd)	≤ 0.00008%
Viscosity (25°C)	15-35 mPa·s
Density (25°C)	1.48-1.58 g/cm ³

3. Product Advantages

1. Superior Flocculation: Forms larger/denser flocs than traditional flocculants, reducing sedimentation time by 40-60%.
2. Wide Adaptability: Effective over pH 4.0-12.0 and temperature 0-65°C, suitable for high-turbidity/low-temperature wastewater.
3. Strong Purification: Removes SS, COD, BOD, heavy metals; purification rate 85-95%.
4. Environmentally Friendly: Low residual iron, no secondary pollution, biodegradable.
5. Cost-Effective: Low dosage (8-40 mg/L); reduces sludge production by 25-35%.

4. Application Fields

- Municipal Water Treatment: Drinking water, tap water, municipal sewage purification; sludge dewatering.



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

5. Usage Methods

- Dosage: Municipal sewage (8-25 mg/L); industrial wastewater (15-40 mg/L); drinking water (5-12 mg/L).
- Dilution: Mix with water at 1:6-1:10 (product: water); 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 ($\leq 30^{\circ}\text{C}$); keep tightly closed; store separately from 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.

7. Safety & Protection

- Corrosive; avoid direct contact with skin, eyes, 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 GB/T 14591-2016.
- Provide technical support: dosage adjustment, process optimization, problem-solving.