

Water Treatment Series



Polymeric Aluminum Ferric Sulfate (PAFS)

Product Features

1. Large molecular weight, fast sedimentation rate. It is a new type of composite inorganic polymer coagulant with the characteristics of fast settling speed of iron salt, low treatment cost and excellent water purification effect of aluminum salt;
2. Hydrolysis generates a large number of polymeric cations, which can significantly reduce the charge of turbid colloid in water, and has a large molecular weight and bridging structure, so it has strong adsorption capacity;
3. The aluminum residue is small, which reduces the toxicity of aluminum salt to the greatest extent; The color of effluent is better than that of polymeric ferric sulfate;
4. Low dosage. Easy operation, small dosage and low cost

Product Parameters

Executive standards Q/CL 008-2017

Project	Index
Appearance	Reddish brown viscous liquid
All iron, % $\geq$	7.0
Al ₂ O ₃ , % $\geq$	3.0
Al ₂ O ₃ +All iron, % $\geq$	10.0
Density, g/cm ³ (20°C) $\geq$	1.38
Reducing substance (以 Fe ²⁺ 计), % $\leq$	0.15
Basicity, % $\geq$	6
pH (1% aqueous solution)	2.5~3.5
Insoluble matter, % $\leq$	0.1

Product Application

1. It is applicable to the purification treatment of printing and dyeing wastewater, papermaking wastewater, tanning wastewater, electroplating wastewater, printed circuit board wastewater, heavy metal wastewater, fluoride wastewater, oily wastewater and other wastewater;
2. It is suitable for phosphorus removal or sludge hydrophobicity improvement in domestic sewage treatment plants;
3. It is suitable for purification treatment of rivers, lakes, ponds, groundwater and other water sources;
4. Suitable for sludge dewatering.

Usage Method

1. The beaker test shall be conducted before use to obtain the optimal concentration and dosage;
2. When using this product, add an appropriate amount of water to dilute the liquid product for 3-5 times before adding it. The diluent shall not be stored for more than 24 hours. The solid products shall be added after being diluted 5~10 times with appropriate amount of water, and the mixing shall be continuously started to avoid the precipitation of effective ingredients.

Packaging, storage and transportation

The solid is 25kg woven bag. The liquid shall be transported in 40kg drums or tankers. Store in a dry, cool and ventilated place. The storage stability period of this product is 6 months.

Polymeric Ferric Sulfate (PFS)

Product Features

Polyferric sulfate is composed of a variety of inorganic and organic polymer flocculants through polymerization and blending (copolymerization). It is a composite (copolymerization) ferric salt polymer flocculant produced by "one-step" high-tech technology, with larger particle size, molecular weight and higher charge density. Therefore, it can form more stable hydrolytic products mainly in flocculation form during hydrolysis, with stronger adsorption, sweeping, bridging and electric neutralization capabilities. In the process of coagulation and purification of water, it can quickly neutralize the negative charge on the surface of colloidal particles, destabilize them, bridge or adsorb between particles, and produce rapid coagulation and flocculation. The resulting flocs (alum) are thick, dense. The sedimentation rate is fast, showing excellent coagulation effect. Compared with other inorganic polymer flocculants (polyaluminum, etc.), it has higher purification capacity. And there is no "yellowing" phenomenon; There is no secondary pollution to the water body, non-toxic, harmless, safe and reliable.

Project	Index			
	I 类		II类	
	liquid	solid	liquid	solid
Density, g/cm ³ (20°C) ≥	1.45		1.45	
Full paste (* effective dose), % ≥	11.0	19.0	11.0	19.0
Content of reducing substances (as Fe ²⁺), % ≤	0.10	0.15	0.10	0.15
Basicity, %	8.0-16.0	8.0-16.0	8.0-16.0	8.0-16.0
Insoluble content, % ≤	0.3	0.5	0.3	0.5
Cadmium (Cd) content, % ≤	0.0001	0.0002		
(Hg) content, % ≤	0.00001	0.00001		
(Cr) content, % ≤	0.0005	0.0005		
(As) content, % ≤	0.0001	0.0002		
(Pb) content, % ≤	0.0005	0.001		
Note: Class I drinking water; Class II industrial water, waste water and sewage				

Product Application

Compared with other inorganic flocculants (including inorganic polymer and composite inorganic polymer), it has the following characteristics:

1. The new, high-quality and efficient composite polymer ferric salt flocculant does not contain toxic substances such as aluminum and heavy metal ions, nor the aqueous phase transfer of iron ions. It does not cause secondary pollution to the water body, and is non-toxic, harmless, safe and reliable.
2. The flocculation performance is excellent, and the flocs (alum flowers) formed are coarse and dense, and the settling speed is fast; The sludge has good dewatering and compressibility, reducing the cost of sludge treatment.
3. It can remove turbidity, bacteria, odor, algae, color, oil, water, heavy metal ions, radioactive substances and carcinogens; The removal rate of COD, BOD and chroma can reach more than 90%.
4. The width of the applicable water body PH value range is 4-11, and the optimal PH value range is 6-9; After purification, the PH value and total alkalinity of the water body change slightly, which is less corrosive to the water treatment equipment. The treated water has no "yellowing" phenomenon, and the water quality is excellent.
5. The purification effect of micro polluted, algae containing, low temperature and low turbidity raw water is remarkable, especially for high turbidity raw water.
6. It has a good effect on the treatment of wastewater from paper mill, electroplating wastewater from circuit board factory and paint factory.
7. Compared with other inorganic flocculants, the dosage is less, the use is convenient, the cost per ton of water is low, and the treatment cost can generally save more than 20% compared with other inorganic flocculants.
8. The product has stable performance, long storage life (up to more than two years).

Polyacrylamide PAM

Anionic Polyacrylamide (Nonionic polyacrylamide)

Product Parameters

Product name	Electric density	Molecular weight
5500	Extreme-low	Middle-low
5801	Very low	Middle-low
7102	Low	Middle
7103	Low	Middle
7136	Middle	High
7186	Middle	High
L169	High	Middle-high

Product Application

Anionic polyacrylamide and Nonionic polyacrylamide widely used in oil, metallurgy, electricity chemical, Coal, paper, printing, leather, pharmaceutical food, building materials and so on for flocculating and solid-liquid separation process, meanwhile widely used in industrial wastewater treatment.

Polyacrylamide PAM

Cationic Polyacrylamide

Product Parameters

Product name	Electric density	Molecular weight
9101	Low	Low
9102	Low	Low
9103	Low	Low
9104	Middle-low	Middle-low
9106	Middle	Middle
9108	Middle-high	Middle-high
9110	High	High
9112	High	High

Product Application

Cationic Polyacrylamide widely used in industrial wastewater ,sludge dewatering for municipal and flocculating setting. Cationic polyacrylamide with different ionic degree can be selected according to different sludge and sewage properties.

Polyaluminum chloride (PAC) for drinking water treatment

Product Features

Polyaluminum chloride for drinking water treatment is a new type of highly efficiency inorganic polymer flocculant, made of aluminum hydroxide produced in our own enterprise and synthetic hydrochloric acid, etc. Employing advanced technology. It has good flocculation effect and competitive price. Its water purification effect is better than that of conventional inorganic salt coagulants. The solid product is spray dried with the appearance of light yellow or yellow. Also the liquid product is available.

Flocculation characteristics and properties

- (1) Low dosage, fast flocculation and rapid precipitation; low aluminum residual and excellent water quality can be achieved after the purification treatment;
- (2) Low alkalinity consumption in the water and small decline of PH value of the effluent;
- (3) Extremely soluble, low corrosion and low insoluble substance in aqueous solution;
- (4) Widely applicable PH range (5-9)
- (5) Strong adaptability to turbidity, alkalinity and temperature;
- (6) All the indicators, especially the heavy metal content, meet the requirements of National Standards (GB15892-2009)