Polyethylenimine

Polyethylenimine is a water-soluble polymer. Hygroscopic, soluble in water and ethanol, insoluble in benzene. Its aqueous solution is positive and will gel in the presence of acid. Polyethylenimine has high reaction activity, can react with hydroxyl groups in cellulose and crosslink and polymerize, so as to produce wet strength of paper and have dry strengthening effect. The presence of any acid, alkali and aluminum sulfate will affect its wet strength and retention. It is mainly used as wet strength agent for non sized absorbent paper (such as filter paper, ink absorbing paper, toilet paper, etc.), but its paper damage is difficult to deal with. In addition, it can speed up the water filtration of the pulp and make the fine fibers in the white water easy to flocculate. It has strong binding power to acid dyes and can be used as a color fixative when dyeing paper with acid dyes. It can also be used to treat cellophane to reduce the wetting deformation of the paper. Polyethylenimine can also be used in fiber modification, printing and dyeing auxiliaries, ion exchange resins, coagulation and sedimentation (metal capture, wastewater treatment), etc.

● Physical Property

Molecular weight	About 800
Assay (wt%)	99%
Specific gravity (25 ℃)	1.06
Appearance	Colorless or yellowish viscous liquid
PH(5% aq)	10-12
Freezing point (℃)	＜-15
Decomposition temperature (℃)	300
Solubility	Soluble in water and alcohol

● Function

1. High adhesion and adsorption

Amino groups can react with hydroxyl groups to form hydrogen bonds, amino groups can react with carboxyl groups to form ionic bonds, and amino groups can also react with carbonyl groups to form covalent bonds. At the same time, it can combine with different substances due to its polar group (amino group) and hydrophobic group (vinyl group) structure. Using these comprehensive bonding forces, it can be widely used in the fields of bonding, ink, coating, binder and so on.

2. High cation

It exists in the form of polycation in water and can neutralize and adsorb all anionic substances. It can also chelate heavy metal ions. With its high cationic property, it can be used in papermaking, water treatment, electroplating solution, dispersant and other fields.

3. High reactivity

Due to its highly reactive primary and secondary amines, it can easily react with epoxides, aldehydes, isocyanates and acid gases. It can be used as epoxy resin modifier, aldehyde adsorbent and dye fixative

Application

Field	Application	Features
Papermaking and paper processing	Papermaking AIDS Neutral sizing agent	Neutralize anionic charged substances to improve the fixation effect and retention rate, give play to the effect of resin control and white water purification, and promote the dispersion and fixation of ketene dimers
Adhesive field	Adhesive	Added to the adhesive to enhance its setting force (adhesive strength)
	Water soluble adhesive	The adhesion can be enhanced by adding EVA, vinyl acetate, PVA, acrylic and other adhesives
	Primer for extruded laminates	Increase the adhesion of paper, OPP, PET film /pe laminate
	Coating for gas shielding	Enhance the adhesion of PVA, evoh/ olefin films
Fiber field	Fixing agent	Enhance washing fastness and dyeing fastness
	Functional fiber	Endow the fiber with the function of removing cigarette odor
	Tire cord fabric	Enhance the adhesion of various cords and rubbers
	Glass fiber sizing agent	Give glass fiber lubricity
	Flame retardant	Fixed phosphorus flame retardant to enhance its flame retardant function
Water purification field	Liquid purifier	Harmless treatment of aldehyde resin water and removal of bleached chlorine
	Flocculant	Neutralize the surface charge, make the particles easy to gather and layer, enhance the sludge dewatering rate and destroy the lotion
	Bacterial coagulant and separator	Neutralize the surface charge of bacteria, make bacteria gather and layer
	Chelating agent	Remove heavy metal ions
Gas purification field	Air purifier	Adsorb CO2, NOx, Sox, Cl2 and aldehyde in the air through filter paper
Cosmetics and toiletries	Shampoo, conditioner, conditioner, hair dye, hair conditioner	Make use of its adsorption and soaking properties on skin, hair and other proteins to play the role of moisturizer, give a moisturizing feeling, and stabilize the attachment effect of the effective ingredients
Metal industry	Corrosion inhibitor for pickling Disposable antirust agent	Adsorb on metal to inhibit acid corrosion to substrate
Biological and pharmaceutical fields	Immobilized enzyme Microbial fixed support	Used in biological process, enzyme is fixed on inactive substrate, used in water purification, and bacteria is fixed on inactive substrate
Petroleum	Petroleum lotion breaker Fluid loss agent	Neutralize the surface charge to condense and layer the particles Filtrate reducer for pit and well
Antibacterial and anticorrosive fields	Antibacterial and bactericidal polymer	Exert the antibacterial effect of Ag and Cu chelated malocclusion
Other	Foam extinguishing agent	Make foam more durable and effective for oil fires
	Microencapsulation agent	Using its high reactivity to form micro toner capsule

Storage - dry storage at normal temperature!

Note:

The information provided here is based on our best experience, but the environment and conditions of the goods in actual use are beyond the control of the seller. Please test before use before production.