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A-S1P Cl

TYPE I STRONG BASE POROUS GEL ANION EXCHANGE RESIN

(Designed for use in high purity water applications)

Product Description

US Resin's A-S1P Cl resin is a high-capacity, highly porous gel polystyrene Type I strong base anion exchange resin designed for use in commercial or industrial demineralizer water equipment. The resin is typically converted to the hydroxide form (OH^-) prior to use. The resin removes all anion ions such as sulfate, chloride, bicarbonate, and silica by replacing them with hydroxide ions. Because of its highly porous matrix, A-S1P permits much better kinetics performance than the standard Type I gel anion resin A-S1. A-S1P also has better organic fouling resistance and more efficiency regeneration as compared to A-S1. Since it is slightly lighter than A-S1, it separates from cation resin, such as C10, during regeneration in mixed-bed polishing equipment.

A-S1P Cl resin can also be used in metal recovery, heavy metal removal in wastewater and groundwater treatment, chemical, food, and sugar processing.

Typical Physical, Chemical & Operating Characteristics

Polymer Structure	Polystyrene cross-linked with Divinylbenzene
Physical Form and Appearance	Tough amber spherical beads
Whole Bead Count	90% Min.
Functional Groups	$-N+(CH_3)_3$
Ionic Form (as shipped)	Cl^-
Shipping Weight, approx.	695 g/l (43 lb./ft.^{3})
Mesh Size (US Std.)	16-50
Moisture retention, Cl^- form	50–60%
Swelling, Cl^-—>OH^-	30% max.
Total Exchange Capacity when regenerated in chloride form	1.15 meq/mL
pH Range, Stability	0-14

CHEMICAL AND THERMAL STABILITY

US Resin's A-S1P Cl resin is insoluble in dilute or moderately concentrated acids, alkalies, and in all common solvents. However, exposure to significant amounts of free chlorine, "hypochlorite" ions, or other strong oxidizing agents over long periods of time will eventually break down the cross-linking. This will tend to increase the moisture retention of the resin, decreasing its mechanical strength, as well as generating small amounts of extractable breakdown products. Like all conventional Polystyrene Type I anion resins, it is thermally stable to 77 °C (170 °F) in the salt form. The hydroxide form tends to degrade in water temperatures appreciably higher than 60 °C (140 °F), thereby losing capacity as the functional groups are gradually replaced by hydroxyl groups.