PO Box 607
Clinton, WI 53525
Phone: (888) 565-1102
Fax: (888) 462-1101

A-S1 OH

STRONG BASE EXCHANGE RESIN FOR MIXED-BED POLISHING

(Designed for use in high purity water applications)

Product Description

US Resin's A-S1 (OH) resin is a high-capacity Type I strong base anion exchange resin specially designed for use in commercial or industrial demineralized water equipment. The resin removes all anion ions such as sulfate, chloride, bicarbonate, and silica, by replacing them with hydroxide ions. When the resin bed is exhausted the weakest anions (such as silica) begin to pass through the bed. Functionality is returned by regeneration with diluted sodium hydroxide solution.

Typical Physical, Chemical & Operating Characteristics

Polymer Structure	Polystyrene cross-linked with divinylbenzene
Physical Form and Appearance	Tough spherical beads
Whole Bead Count	90% Minimum
Functional Groups	$-N^{+}(CH_3)_3OH^{-}$ (OH form)
Ionic Form (as shipped)	OH^{-}
Swelling, CL^{-}—>OH^{-}	20% max.
Shipping Weight, approx.	657 g/l (41 lb./ft.^{3})
Mesh Size (U.S Std.)	120-45
Moisture retention,	Maximum 53-60%
Total Exchange Capacity	1.1 meq/mL
pH Range	0–14
Minimum in service Bed Depth	24"
Typical Backwash Velocity	1.5—2.5 gpm/ft^2
Bed Expansion during Backwash	50—75%
Specific Service Flow	1.5 gpm/ft^2
Regenerant	NaOH or NaCL
Regeneration Flow Rate	0.2—0.5 gpm/ft^2
Regenerant Contact Time	30—60 minutes
Slow Rinse Rate	0.2—0.5 gpm/ft^2
Fast Rinse Rate	2 gpm/ft^2
Maximum Influent Free Chlorine	1 ppm
Maximum Iron and Heavy metals	1 ppm

CHEMICAL AND THERMAL STABILITY

US Resin's A-S1 (OH) 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 crosslinking. 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 type polystyrene Type I strong base anion resins, it is thermally stable to 60 °C (140 °F). The hydroxide form tends to degrade in water temperatures appreciably higher than 52 °C (125 °F), thereby losing capacity, as the functional groups are gradually replaced by hydroxyl groups.