GENERAL TECHNOLOGIES, SPC
- High-Quality Services & Products

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A304UP - OH

POROUS GEL TYPE I STRONG BASE ANION EXCHANGE RESIN

(Designed for use in high purity water applications)

Product Description

A304UP 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, A304UP permits much better kinetics performance than the standard Type I gel anion resin A307UP. A304UP also has better organic fouling resistance and more efficiency regeneration as compared to A307UP. Because it is slightly lighter than A307UP, it separates from cation resin such as C110 during regeneration in mixed-bed polishing equipment.

A304UP resin can also be used in metal recovery, heavy metal removal in wastewater and groundwater treatment, chemical, food, sugar processing.

The resin is used in GT's mixed bed exchange resins with cation exchange resin to deliver effluent quality of >18 meg Ohms and <10 ppb TOC after initial rinse of 50 BV's (with >16 MΩ·cm DI water as feed water).

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	$R\text{-}N^{+}(CH_3)_3$
Ionic Form (as shipped)	OH^-
Shipping Weight, approx.	660 g/l (41 lb./ft.3)
Mesh Size (U.S. Std.)	20-40
Moisture retention, OH form	< 60%
Swelling, Cl^- to OH^-, %	<30%
Total Capacity in OH form	>0.9 meq/ml
pH Range, Stability	0–14

CHEMICAL AND THERMAL STABILITY

A304UP 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 it s 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.