United States Resin Company

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A-S1AC

STRONG BASE ACRYLIC ANION ION EXCHANGE RESIN

(Designed for use in high purity water treatment applications)

Product Description

US Resin A-S1AC (Cl or OH form) resin is a high capacity, organic-fouling resistant porous gel Type I strong base acrylic anion exchange resin. It is supplied in both chloride and hydroxide forms. Its intended applications include all types of demineralization and chemical processing.

US Resin A-S1AC is strongly recommended for multiple or mixed bed demineralizers where complete demineralization and organic fouling resistance are required. Its higher porosity and acrylic structure provide increased resistance to organic fouling compared with styrene-based Type I strong base anion resins, such as US Resin A-S1.

US Resin A-S1AC (Cl) can also be used with sodium cycle strong acid softening resins such as US Resin C-8 Na, to remove color-causing organics such as tannins. This is important in some softening applications.

Typical Physical, Chemical & Operating Characteristics

Polymer Structure	Cross-linked polyacrylic acid
Physical Form and Appearance	Semi-transparent spherical beads
Whole Bead Count	93% Minimum
Functional Group	$-N^{+}(R_3)$
Ionic Form (as shipped)	Cl^- or OH^-
Shipping Weight, approx.	Cl^- form: 721 g/l (45 lb./ft.^{3}) OH^- form: 675 g/l (42 lb./ft.^{3})
Mesh Size (US Std.)	16-50
Moisture retention,	54 - 64%
Total Exchange Capacity	Cl^- form: 1.20 meq/mL OH^- form: 1.05 meq/mL
pH Range	0–14

CHEMICAL AND THERMAL STABILITY

US Resin's A-S1AC 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. It is thermally stable to 65 °C (150 °F). The OH^- form resin is recommended for application temperature lower than 35°C (95 °F).