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MB-1 H/OH

STRONG ACID/STRONG BASE MIXED CATION/ANION ION EXCHANGE RESINS

Designed for use in ultra-high purity water treatment applications)

Product Description

US Resin's MB-1 (H/OH forms) resin is designed to provide ultra-high purity water. The component resins are specially selected to ensure low conductivity and low effluent TOC values.

The product is a special blend of Type I strong base gel type anion exchange resins (US Resin's MBA-S1, OH) with dark black, 8% cross-linked strong acid porous gel type cation exchange resins (US Resin's MBC-8B,H). The special blending is to ensure excellent hydraulic characteristics and regeneration capabilities for inorganic and organic ions.

Typical Physical, Chemical & Operating Characteristics

Typical Cation/Anion Mix Ratio	2:3 (40% Cation : 60% Anion)
Polymer Structure	Cross-linked Polystyrene
Physical Form and Appearance	Cation: Tough black spherical beads Anion: Tough spherical beads
Whole Bead Count	90% Minimum
Functional Groups	Cation: $-SO_3H^+$ (H form) Anion: $-N^+(CH_3)_3OH^-$ (OH form)
Ionic Form (as shipped)	(Cation/Anion) H^+/OH^-
Shipping Weight, approx.	720 g/l (43 lb./ft.^{3})
Mesh Size (US Std.)	Cation: 16-30 Anion: 20-45
Moisture retention,	Cation: 49-54% Anion: 53-60%
Total Exchange Capacity	Cation: 1.8 meq/mL minimum Anion: 1.1 meq/mL minimum
pH Range	0–14

CHEMICAL AND THERMAL STABILITY

US Resin's MB-1 H/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 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. MB-1's thermal stability is limited by its anion component (MBA-S1, OH), which is thermally stable to 60 °C (140 °F). The hydroxide functional groups of the anion resins tend to degrade in water temperatures appreciably higher, thereby losing capacity as the functional groups are gradually replaced by hydroxyl groups.