

Gel Mixed Base Anion Exchange Resin

Purolite A870 is a gel-type anion exchange resin with an acrylic matrix. The acrylic matrix ensures excellent removal of organic matter from a water supply and its reversible elution from the resin upon regeneration. The resin combines the advantages of extremely high operating capacity with the ability to remove both strong and weak acids from solution, including carbon dioxide and silica. In addition the change in volume from the regenerated to the exhausted forms is negligible. Hence any compaction which might occur is reduced. It follows that both the mechanical stress and maximum pressure loss values which occur during an ion exchange resin cycle are reduced. In addition the reduced compaction can produce a more homogeneous bed with reduced channeling. This is particularly useful for counter-current operation where high quality treated water is required. The Purolite A870 is regenerated very efficiently with lower levels of sodium hydroxide than those required for a polystyrene based resin. Its use in combination with the latter, (for instance in a mixed bed positioned after the anion unit) can often result in the removal of a wider spectrum of organic compounds than either type of anion resin alone.

Basic Features:

Application	Demineralization - Good Resistance to Fouling - High Capacity
Polymer Structure	Gel Polyacrylic crosslinked with divinylbenzene
Appearance	Spherical beads
Functional Group	Quaternary and Tertiary Ammonium
Ionic form as shipped	FB / Cl ⁻

Typical Physical and Chemical Characteristics:

Total Capacity (min.)	Cl ⁻	1.25 eq/l
Total Capacity (min.)	Cl ⁻	27.29 kGr/ft ³
Moisture Retention	Cl ⁻	56-62 %
Mean Size Typical		0.60-0.85 mm
Uniformity Coefficient (max.)		1.70
Irreversible Swelling (max.)		10 %
Reversible Swelling (max.)	Cl ⁻ → OH ⁻	-10 %
Specific Gravity		1.08 g/ml
Shipping Weight (approx.)		680-730 g/l
Shipping Weight (approx.)		42.5-45.6 lbs/ft ³
Temp Limit	OH ⁻	40 °C
Temp Limit	OH ⁻	104 °F

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Temp Limit	Cl ⁻	80 °C
Temp Limit	Cl ⁻	175 °F
pH Limits		0-14 (Stability)
pH Limits	OH ⁻	1-10 (Operating)

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