

Macroporous Type I Strong Base Anion Exchange Resin

Purolite A-500P is a macroporous poly(vinylbenzyl-trimethylammonium) exchanger which has been designed for use as an organic scavenger, e.g. for the removal of tannins, fulvic and humic acids, from industrial and domestic water supplies. It will either replace, or be used as an adjunct to, the traditional carbon adsorbents in special applications. In these, use of this resin is indicated when the requirements are for good thermal stability, together with excellent resistance to osmotic shock, and high reversible sorptive capacity for water-soluble complex organic materials of medium to high molecular weight, whether ionised or un-ionised. The resin is normally worked in the chloride salt form, ahead of conventional deionizing systems, thus protecting the following anion unit or mixed bed from organic fouling and consequent reduction in operating efficiency. Regeneration is effected using 10% NaCl. The incorporation of 1-2% NaOH in the brine promotes the removal of the more strongly-held colour bodies. For applications in sugar decolorization, the specially graded Purolite A-500PS is recommended. In cases where operation is at temperatures of less than 60°C (140°F), Purolite A-860 can also be evaluated. The comparative performance of these two resins depends upon the particular properties of the organic matter being removed. Performance trials over at least 5 cycles are necessary to evaluate the relative merits of the two resins.

**Basic Features:**

Application	Removal of Organic Matter from Industrial & Domestic Water Supplies
Polymer Structure	Macroporous polystyrene crosslinked with divinylbenzene
Appearance	Spherical beads
Functional Group	Type 1 Quaternary Ammonium
Ionic form as shipped	Cl <sup>-</sup>

**Typical Physical and Chemical Characteristics:**

Total Capacity (min.)	Cl <sup>-</sup>	0.80 eq/l
Total Capacity (min.)	Cl <sup>-</sup>	17.47 kGr/ft <sup>3</sup>
Moisture Retention	Cl <sup>-</sup>	63-70 %
Mean Size Typical		0.60-0.85 mm
Uniformity Coefficient (max.)		1.70
Reversible Swelling (max.)	Cl <sup>-</sup> → OH <sup>-</sup>	20 %
Specific Gravity		1.04 g/ml
Shipping Weight (approx.)		655-685 g/l
Temp Limit	OH <sup>-</sup>	65 °C
Temp Limit	OH <sup>-</sup>	150 °F
Temp Limit	Cl <sup>-</sup>	100 °C
Temp Limit	Cl <sup>-</sup>	212 °F

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pH Limits		0-14 (Stability)
pH Limits	Cl <sup>-</sup>	5-10 (Operating)

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