

Macroporous Type I Strong Base Anion Exchange Resin

Purolite A500PS is a macroporous poly(vinylbenzyl-trimethylammonium) exchanger which has been designed for use in the decolorization of sugar syrups. This type of anion-exchange resin has good thermal stability in most salt forms together with excellent resistance to osmotic shock, and high sorptive capacity for the complex colouring materials, both ionised and un-ionised, which occur in sugar syrups. It is used in conventional column equipment, and may either replace or be used as an adjunct to the traditional carbon adsorbents. The resin is used in the chloride salt form, and can remove 85-90% of the colour from concentrated syrups at the elevated temperatures at which these are normally handled. Regeneration, using 10% NaCl, is efficient; the incorporation of about 1% NaOH in the brine is recommended to promote the removal of the more strongly-held colour bodies and prevent the development of any acidity in the treated syrup.

Basic Features:

Application	Decolorization of Sugar Solutions
Polymer Structure	Macroporous polystyrene crosslinked with divinylbenzene
Appearance	Spherical beads
Functional Group	Type 1 Quaternary Ammonium
Ionic form as shipped	Cl ⁻

Typical Physical and Chemical Characteristics:

Total Capacity (min.)	Cl ⁻	0.80 eq/l
Total Capacity (min.)	Cl ⁻	17.50 kGr/ft ³
Moisture Retention	Cl ⁻	63 - 70 %
Mean Size Typical		0.65 - 0.82 mm
Uniformity Coefficient (max.)		1.30
Reversible Swelling (max.)	Cl ⁻ → OH ⁻	20 %
Specific Gravity		1.04 g/ml
Shipping Weight (approx.)		655 - 685 g/l
Temp Limit	OH ⁻	65 °C
Temp Limit	OH ⁻	150 °F
Temp Limit	Cl ⁻	100 °C
Temp Limit	Cl ⁻	212 °F
pH Limits		0 - 14 (Stability)
pH Limits	Cl ⁻	5 - 10 (Operating)

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