

Macroporous Strong Acid Cation Exchange Resin - High Capacity

Purolite C160 is a macroporous poly(styrene sulphonate) cation-exchanger designed to withstand conditions of considerable thermal, osmotic, and mechanical stress such as those found in ionexchange treatment of concentrated aqueous solutions of glycerol, glycols, sugar alcohols, and other polyhydroxy organic compounds. Such treatment includes softening, catalysis, heavy metal removal, and various deionizing procedures. In the Quentin process, for example, in which sugar solutions of around 70^o Brix are used, at high temperatures (60-70^oC), its sponge-like structure permits higher rates of diffusion of the complex nitrogenous materials taken up by the strong-acid resin during demineralization, and facilitates their removal on regeneration. Purolite C160 is also used in the ammonium form for partial demineralization of concentrate syrups, and in the Gryllus process, both of which require a resin of superior resistance to thermal and osmotic shock. However, for use with the high viscosities normally encountered during the processing of sucrose, the more closely-graded version, Purolite C160S is normally recommended. It is well suited to the selective removal of heavy metals where it offers usefully high selectivity combined with fast kinetics. The specially treated Nuclear Grade form is recommended for treatment of radioactive waste.

Basic Features:

Application	Highly Crosslinked - High Capacity - Special Applications
Polymer Structure	Macroporous polystyrene crosslinked with divinylbenzene
Appearance	Spherical beads
Functional Group	Sulphonic acid
Ionic form as shipped	Na ⁺

Typical Physical and Chemical Characteristics:

Total Capacity (min.)	Na ⁺	2.30 eq/l
Total Capacity (min.)	Na ⁺	50.22 kGr/ft ³
Moisture Retention	Na ⁺	35-40 %
Mean Size Typical		0.60-0.85 mm
Uniformity Coefficient (max.)		1.70
Reversible Swelling (max.)	Na ⁺ → H ⁺	4 %
Specific Gravity		1.30 g/ml
Shipping Weight (approx.)		820-860 g/l
Shipping Weight (approx.)		51.3-53.8 lbs/ft ³
Temp Limit	H ⁺	120 °C

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Temp Limit	H ⁺	250 °F
Temp Limit	Na ⁺	140 °C
Temp Limit	Na ⁺	285 °F
pH Limits		0-14

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