PUROLITE

C-160H

Macroporous Strong Acid Cation-Exchange Resin

(FOR THE TREATMENT OF ORGANIC-CONTAINING SOLUTIONS AND FOR SELECTIVE REMOVAL OF HEAVY METALS)

Technical Data

PRODUCT DESCRIPTION

Purolite C-160H is a macroporous poly(styrene sulphonate) cation-exchanger designed to withstand conditions of considerable thermal, osmotic and mechanical stress such as those found in ion-exchange 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° Brix are used, at high temperatures (60-70°C), 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 C-160H** can also be converted to 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 dosely-graded version, **Purolite C-160S** 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. Further details are given in the technical data sheet for **Purolite NRW-160.**

Typical Chemical and Physical Characteristics

Polymer Structure	**Macroporous polystyrene crosslinked with divinylbenzene**
Appearance	**Spherical beads**
Functional Group	**Sulphonic acid**
Ionic Form - as shipped	**Hydrogen - H^+**
Total Capacity (Na^+ Form) min	**2.4 eq/l**
Moisture Retention (H^+ Form)	**43-48%**
Bead Size Range (microns)	**+1200 <2%, -300 <1%**
(U.S. Standard Screen)	**16-50 mesh**
Reversible Swelling (Na^+ ® H^+)	**4% max**
Specific Gravity (H^+ Form)	**1.21**
Shipping Weight	**760-800 kg/m^3 (47.5-50 lb/ft^3)**
Temperature Limit (Na^+ Form)	**140°C (285°F)**
(H^+ Form)	**120°C (250°F)**
pH Limits	**None**