



Column Care and Usage

Catalog Number: 800, 801, 804, 853
Column Type: BP-100 Ca⁺⁺, Calcium Form for Carbohydrate Analysis

The following information will help you achieve optimal column performance.

► Eluent

Using an isocratic system, the mobile phase would be de-ionized water. When the sample contains metal ions, a solution of 50mg/L Ca₂EDTA may also be used. Column performance and life is greatly affected by the composition of the mobile phase. As a result, only the highest grade, pre-filtered, degassed mobile phases should be used for HPLC applications. All mobile phases should be filtered (0.45 µm or smaller) and degassed prior to use.

► Selectivity

Selectivity is normally controlled by changing column type as opposed to changing eluent. Retention times increase in the following sequence: Pb⁺⁺ > Ca⁺⁺ > Ag⁺ > Na⁺ > H⁺. Retention times of polar samples may be increased and non-polar interactions reduced with the addition of organic solvents. However, due to low cross-linking of the resin, Benson Polymeric does not recommend the use of organic solvents. If your application calls for the addition of organic solvents, please contact the company for assistance.

► Temperature

For best overall separation of carbohydrates, 85°C is the recommended operating temperature. **ALWAYS, pre-heat the column and stabilize the temperature prior to pumping mobile phase.**

► Sample Preparation

Samples may contain precipitates or other contaminants such as metal compounds which bind with the resin. These contaminants change the column chemistry, resulting in a decrease in the effective surface area of the column and decreasing sample retention. To provide maximum protection for the analytical column, use a guard column and pre-filter all samples through a 0.45 µm or smaller filter membrane prior to injection. Compounds which may bind irreversibly with the resins should be removed using solid phase extraction (SPE) procedures.

► General Operating Conditions

Max. Pressure (psi): 1500
Max. Temperature (°C): 90
Max. Flow Rate (mL/min): 1.2 at 90oC

► Column Storage

Columns may be stored in the recommended eluent for several days. Long term storage should be in de-ionized water. Storage in other mobile phases may support bacterial growth leading to reduced capacity and/or high back pressure. Do not let the columns dry out. Replace and tighten end plugs when storing. Columns may be refrigerated but do not freeze.

► Cleaning and Regeneration

Metal contamination is indicated by shortened retention times and/or skewed peaks. Carbohydrate columns in the calcium form should be pumped in reverse flow mode at 0.1mL/min., with 0.1M Ca(NO₃)₂ at a pH of 6.3 and a temperature of 85°C for 4-16 hours.

To remove organic contamination, pump the columns in reverse flow at 0.1mL/min. with 5/95 acetonitrile/water at 25°C for 4 hours.

No regeneration procedure is available if the column has bacterial growth.

► Thank You

Thank you for purchasing a Benson Polymeric column. With over 40 years of experience in resin manufacturing, column packing and applications development, we are highly qualified to assist you in achieving optimum chromatographic results. As a customer you deserve the highest quality products and service available in the industry

► Other Related Products

<u>Part Number</u>	<u>Description</u>	<u>Dimensions</u>
800G	BP-100 Ca ⁺⁺ Guard	50 x 4.6 mm
800	BP-100 Ca ⁺⁺	300 x 7.8 mm
801	BP-100 Ca ⁺⁺	100 x 7.8 mm
804	BP-100 Ca ⁺⁺	250 x 4.0 mm
853	BP-100 Ca ⁺⁺	250 x 4.6 mm
050	\$50 Guard Column Re-packing Discount	
100	\$100 Analytical Column Re-packing Discount	

Other column formats available upon request.

Don't forget to visit us at our website at:
You can also contact us at:

www.bensonpolymeric.com
sales@bensonpolymeric.com