

## HPLC Column Care & Storage

An HPLC column has a finite lifetime. It is recommended that you routinely monitor a column's retention characteristic and performance using standards. If you plan to store the column for a prolonged period of time, use a mobile phase that inhibits microbial growth (a mobile phase containing sodium azide or high concentrations of methanol, acetonitrile, etc.). For optimum performance and column life, follow these recommendations.

1. Routinely monitor the column's performance.
2. Switch only between miscible mobile phases.
3. Avoid precipitating salts in the column.
4. Use filtered and degassed mobile phases.
5. Do not allow the column to dry out. Keep it tightly capped when not in use.
6. For prolonged storage, use a mobile phase that inhibits bacterial and mold growth.
7. Use the column in the direction indicated on the label. An unusually high operating pressure may indicate a plugged inlet frit and may be cleared by reversing flow through the column for 10-20 mL.
8. Use Hamilton guard columns to remove particulate matter or impurities that may permanently bind to the analytical column.

### Restoring Column Performance

The procedures listed below may restore the performance of a column that has become fouled, but the procedures will not improve the performance of a column that is damaged or beyond its useful life. Nor can all stationary phases be restored. The unique supports in PRP-X500 and PRP-X600 columns make it impossible to restore performance with a washing procedure. For technical assistance regarding these columns, please Contact HPLC Support. NOTE: Before performing a restoration procedure, always make sure that the mobile phases are miscible and that precipitation will not occur. If necessary, wash the column with a suitable intermediate solvent before changing over to the new mobile phase. A minimum of five column volumes of intermediate solvent should be used.

### Column Restoration Procedures

Follow the appropriate restoration procedure listed below using a flow rate of 1.0 or 2.0 mL/min. unless otherwise specified. Evaluate column performance using the test mix and conditions listed on the Performance Test Report shipped with each column.

## Column Restoration Procedures

Packing Name		Restoration Method
PRP-C18 PRP-1 PRP-3 PRP-h5 HxSil C8 HxSil C18		Run a gradient of 100% water to 100% acetonitrile. Repeat three times.
PRP-X100		Pump approximately 50 mL of methanol with 1% 6 N nitric acid.
PRP-X200 PRP-X300		Inject several times with 100 $\mu$ L of 1 N nitric acid.
PRP-X400		Inject several times with 100 $\mu$ L of 0.1 M potassium EDTA.
RCX-10		Flush with 50 mL 0.1 N sodium hydroxide.
RCX-30		Flush with 150 mL 0.1 N sodium hydroxide.
HC-40	Ca <sup>2+</sup>	Flush with 1% calcium chloride at 0.1 mL/min overnight.
HC-75	Ca <sup>2+</sup>	Flush with 1% calcium chloride at 0.1 mL/min overnight.
	H <sup>+</sup>	Flush with 0.1 N sulfuric acid at 0.1 mL/min overnight.
	Pb <sup>2+</sup>	Flush with 1% lead nitrate at 0.1 mL/min overnight.