

TSK-GEL® Octadecyl-4PW Products

Analytical/Semi-Prep:	18755, 2.0mm ID x 15cm, 5µm	42160, Guard Cartridge, 2mm ID x 1cm, use with PN 19308, 5µm
	13351, 4.6mm ID x 15cm, 7µm	19308, Guard Cartridge holder for 2mm ID cartridges
	16257, 21.5mm ID x 15cm, 13µm	
Preparative Columns:	16258, 55mm ID x 20cm, 20µm	16749, Prep Guardgel Kit for P/N 16257, 20µm
		16259, Guard column, 45mm ID x 5cm, for PN 16258, 20µm
		14594, Pre-injector membrane filter holder, SS
		03409, 13mm ID Nylon Membrane filter, 0.45µm, for PN 14594

This sheet contains the recommended operating conditions and the specifications for TSK-GEL Octadecyl-4PW columns and guard columns. Installation instructions and column care information are described in a separate Instruction Manual.

A. OPERATING CONDITIONS

- Shipping Solvent: 60% Methanol - 40% Water
- Max. Flow Rate: 0.20 mL/min (2.0mm ID x 15cm)
1.2 mL/min (4.6mm ID x 15cm)
8 mL/min (21.5mm ID x 15cm)
- Standard Flow Rate: 0.08-0.17 mL/min (2.0mm ID x 15cm)
0.5 - 1.0 mL/min (4.6mm ID x 15cm)
4 - 6 mL/min (21.5mm ID x 15cm)
- Max. Pressure: 10.0 MPa (2.0mm ID x 15cm)
12.0 MPa (4.6mm ID x 15cm)
2.5 MPa (21.5mm ID x 15cm)
- pH Range: 2 - 12 (pH above 12 can only be used for a short time)
- Organic Conc.: 0 - 100%
- Temperature: 5 - 50°C
- Cleaning Solvents: (1) Acetonitrile or Methanol, or
(2) Aqueous buffer in organic solvent, or
(3) 0.1 - 0.2mol/L NaOH, or
(4) 20 - 40% acetic acid aq.

When a buffer with high viscosity is used, the maximum flow rate may have to be reduced so as not to exceed the maximum pressure drop. When changing solvents, use 50% of the maximum flow rate (20% for prep columns).

NOTE: Clean the column regularly with any of the above solvents. Solvents (3) and (4) can be injected into the column in 250 µl increments for a total of one column volume. Use proportionally larger volumes for (semi-) prep columns.

- Storage: Store the column in the shipping solvent when it will not be used the next day. For overnight storage flush the column with the mobile phase at 10 - 20% of the maximum flow rate. Prevent air from entering the column!
- Column Protection: The use of guard columns is recommended to prolong the life of the analytical column. Guard column life depends greatly on sample cleanliness. As a general rule, guard columns should be replaced when the peaks become excessively wide or when the peaks show splitting. No guard column is available to protect the 21.5mm ID column. Use an in-line filter instead.

B. SPECIFICATIONS

The performance of TSK-GEL Octadecyl-4PW columns is tested under the conditions described in the Data Sheet. All columns have passed the following quality control specifications:

- Number of Theoretical Plates (N): $\geq 2,000$ (2.0, 4.6 and 21.5mm ID)
- Asymmetry Factor (AF): 0.80 - 1.60