

# TSK-GEL® Octadecyl-4PW Products

<b>Part Numbers:</b>	18755, 2.0mm ID x 15cm, 7 $\mu$ m 13351, 4.6mm ID x 15cm, 7 $\mu$ m 16257, 21.5mm ID x 15cm, 13 $\mu$ m	42160, Guard Cartridge for 2mm ID column, 2mm ID x 1cm 19308, Guard Cartridge holder for 2mm ID cartridges 19008, Guard Cartridge for 4.6mm ID column, 3.2mm ID x 1.5cm 19018, Guard Cartridge holder for 3.2mm ID cartridges
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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.

<b>A. OPERATING CONDITIONS</b>	
1. Shipping Solvent:	60% Methanol - 40% Water
2. Max. Flow Rate:	0.22mL/min (2.0mm ID x 15cm) 1.2mL/min (4.6mm ID x 15cm) 8mL/min (21.5mm ID x 15cm)  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).
3. Standard Flow Rate:	0.08-0.17mL/min (2.0mm ID x 15cm) 0.5 - 1.0mL/min (4.6mm ID x 15cm) 3 - 6mL/min (21.5mm ID x 15cm)
4. Max. Pressure:	10MPa (2.0mm ID x 15cm) 12MPa (4.6mm ID x 15cm) 3MPa (21.5mm ID x 15cm)
5. pH Range:	2 - 12 (pH above 12 can only be used for a short time)
6. Organic Conc.:	0 - 100%
7. Temperature:	5 - 50°C
8. Cleaning Solvents:	(1) Acetonitrile or Methanol, or (2) Aqueous buffer in organic solvent, or (3) 0.1 - 0.2M NaOH, or (4) 20 - 40% acetic acid aqueous
<b>NOTE:</b>	Clean the column regularly with any of the above solvents. Solvents (3) and (4) can be injected into the column in 250 $\mu$ l increments for a total of one column volume. Use proportionally larger volumes for semi-prep column.
9. 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!
10. 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. Since no guard column is available to protect the 21.5mm ID column, use an in-line filter instead.
<b>B. SPECIFICATIONS</b>	
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:	
1. Number of Theoretical Plates (N):	$\geq 2,000$
2. Asymmetry Factor (AF):	0.80 - 1.60

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**Tosoh Bioscience LLC**  
156 Keystone Drive  
Montgomeryville, PA 18936  
Phone: (215) 283-5000  
Orders & Technical Service: (800) 366-4875  
FAX: (215) 283-5035



MD Scientific is authorized distributor  
in Denmark for Tosoh Bioscience  
www.md-scientific.dk  
info@md-scientific.dk  
Tel. 7027 8565