

# TSKgel® Super-Phenyl Products

<b>Part Numbers:</b>	18277, 4.6 mm ID X 5 cm, 2.3 µm	18207, Guard filter (3/pk)
	18278, 4.6 mm ID X 10 cm, 2.3 µm	18206, Guard holder
	20017, 2.0 mm ID X 5 cm, 2.3 µm	19308, TSKgel Guard Cartridge Holder for 2 mm ID columns
	20018, 2.0 mm ID X 10 cm, 2.3 µm	42177, Guard Cartridge for 2 mm ID columns

This sheet contains the recommended operating conditions and the specifications for TSKgel Super-Phenyl columns and guard filters. Installation instructions and column care information are described in a separate Instruction Manual.

## A. OPERATING CONDITIONS

1. Shipping Solvent: 50% Acetonitrile - 50% Water
2. Max. Flow Rate: 4.0 mL/min (4.6 mm ID)  
0.25 mL/min (2.0 mm ID)  
When a buffer with high viscosity is used, the maximum flow rate may have to be reduced so it doesn't exceed the maximum pressure drop. When changing solvents, use a flow rate equal to 25% of the maximum flow.
3. Standard Flow Rate: 1.0 - 2.5 mL/min (4.6 mm ID)  
0.15 - 0.20 mL/min (2.0 mm ID)
4. Max. Pressure: 300 kg/cm<sup>2</sup> = 4500 psi (4.6 mm ID)  
80 kg/cm<sup>2</sup> = 1200 psi (2.0 mm ID x 5 cm)  
150 kg/cm<sup>2</sup> = 2250 psi (2.0 mm ID x 10 cm)
5. pH Range: 2.0 - 7.5
6. Salt Conc. Range: No limitation
7. Organic Conc. Range: No limitation
8. Temperature: 10 - 50 °C. Reduce flow rate when operating below 10 °C.
9. Cleaning Solvents: (1) High conc. solvent containing organic modifiers\*  
(2) Mixture of organic acids and high conc. organic modifiers\*  
  
\*Acetonitrile and methanol are recommended as a modifier.
10. Storage: Store the column in the shipping solvent if it will not be used within three days. Prevent air from entering the column. For overnight storage flush the column with mobile phase at 0.2 mL/min.
11. Column Protection: An on-line filter (0.2-0.5 µm) between pump and injection valve is recommended. Guard filters prevent the column from a contamination of strongly adsorbed solutes. As a general rule, guard filters should be replaced after 30-40 sample injections or when peaks become excessively wide.

## B. SPECIFICATIONS

The performance of TSKgel Super-Phenyl column 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): ≥ 8,000 (4.6 mm ID x 5 cm)  
≥ 16,000 (4.6 mm ID x 10 cm)  
≥ 3,000 (2.0 mm ID x 5 cm)  
≥ 6,000 (2.0 mm ID x 10 cm)
2. Asymmetry Factor (AF): 0.8 - 1.6 (4.6 mm ID)  
0.8 - 1.8 (2.0 mm ID x 5 cm)  
0.7 - 1.6 (2.0 mm ID x 10 cm)