



Zettachring 6, 70567 Stuttgart, Germany  
 Tel: +49-711-13257-0 Fax: +49-711-13257-89  
 E-Mail: info.sep.eu@tosoh.com  
 Web: www.tosohbioscience.com

3604 Horizon Drive, Suite 100, King of Prussia, PA 19406, USA  
 Tel: +1 800-366-4875 Fax: +1 610-272-3028  
 E-Mail: info.sep.am@tosoh.com  
 Web: www.tosohbioscience.com

## OPERATING CONDITIONS and SPECIFICATIONS

### TSK-GEL® Phenyl-5PW RP Products

<b>Part Numbers:</b>	18756	2.0 mm ID x 7.5 cm L		<b>10 µm</b>
	08043	4.6 mm ID x 7.5 cm L		<b>10 µm</b>
	14126	3.2 mm ID x 1.5 cm L	Guard Cartridge for PN 08043	
	14006	5.0 mm ID x 5.0 cm L	Glass	<b>10 µm</b>
	14007	8.0 mm ID x 7.5 cm L	Glass	<b>10 µm</b>
	14022	Guardgel Kit Glass, for PN 14005 and 14007		<b>20 µm</b>
	16260	21.5 mm ID x 15.0 cm L		<b>13 µm</b>
	02428	Prep Guardgel Kit for P/N 16260		<b>20 µm</b>

This sheet contains the recommended operating conditions and the specifications for TSK-GEL Phenyl-5PW RP Products columns. Installation instructions and column care information are described in a separate Instruction Manual.

#### A. OPERATING CONDITIONS

1. Shipping Solvent: 30% Methanol - 70% Water
2. Max. Flow Rate:
 

0.12 ml/min	2.0 mm ID x 7.5 cm L
1.20 ml/min	4.6 mm ID x 7.5 cm L and 5.0 mm ID x 5.0 cm L
2.50 ml/min	8.0 mm ID x 7.5 cm L
8.00 ml/min	21.5 mm ID x 15.0 cm L

**NOTE:** 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 a flow rate equal to 25% of the maximum flow rate.

3. Standard Flow Rate:
 

0.05 - 0.10 ml/min	2.0 mm ID x 7.5 cm L
0.50 - 1.00 ml/min	4.6 mm ID x 7.5 cm L and 5.0 mm ID x 5.0 cm L
1.00 - 2.00 ml/min	8.0 mm ID x 7.5 cm L
6.00 - 8.00 ml/min	21.5 mm ID x 15.0 cm L
4. Max. Pressure:
 

10 kg/cm <sup>2</sup> = 150 psi	2.0 mm ID x 7.5 cm L
30 kg/cm <sup>2</sup> = 450 psi	4.6 mm ID x 7.5 cm L and 5.0 mm ID x 5.0 cm L
20 kg/cm <sup>2</sup> = 300 psi	8.0 mm ID x 7.5 cm L
30 kg/cm <sup>2</sup> = 450 psi	21.5 mm ID x 15.0 cm L
5. pH Range: 2.0 - 12.0
6. Organic Conc.: 0 - 100%
7. Temperature: 4 - 60°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 aq.

**NOTE:** Clean the column regularly by injecting up to one column volume of 0.1 - 0.2M NaOH in 250 µl increments.

9. Storage: Store the column in shipping solvent when it will not be used the next day. For overnight storage flush the column with the mobile phase at 0.2 ml/min. 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 after every 30 - 40 sample injections, when the peaks become excessively wide, or when the peaks show splitting.

## B. SPECIFICATIONS

The performance of TSK-GEL Phenyl-5PW RP 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):	≥ 700	8.0 mm ID x 7.5 cm L Glass
	≥ 500	4.6 mm ID x 7.5 cm L
	≥ 400	2.0 mm ID and 5.0 mm ID Glass
	≥ 1000	21.5 mm ID x 15.0 cm L
Asymmetry Factor (AF):	0.8 - 1.6	2.0 mm ID and 4.6 mm ID
	1.0 - 2.0	glass columns
	0.8 - 1.8	21.5 mm ID x 15.0 cm L