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## OPERATING CONDITIONS and SPECIFICATIONS

### TSKgel® OD-2PW Products

<b>Part Numbers:</b>	0018754	2.0 mm ID x 15.0 cm L	5 µm
	0017500	4.6 mm ID x 15.0 cm L	5 µm
	0017501	6.0 mm ID x 15.0 cm L	5 µm
	0017502	4.6 mm ID x 1.0 cm L	5 µm
	0017503	6.0 mm ID x 1.0 cm L	5 µm
		Guard Column for P/N 17500	5 µm
		Guard Column for P/N 17501	5 µm

This sheet contains the recommended operating conditions and the specifications for **TSKgel** OD-2PW columns and guard columns. Installation instructions and column care information are described in a separate Instruction Manual.

#### A. OPERATING CONDITIONS

1. Shipping Solvent: 55% Acetonitrile - 45% Water
2. Max.Flow Rate:
 

0.14 mL/min	2.0 mm ID x 15.0 cm L
1.20 mL/min	4.6 mm ID x 15.0 cm L
1.50 mL/min	6.0 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 50% of the maximum flow rate (20% for prep columns).
3. Standard Flow Rate:
 

0.07 - 0.11 mL/min	2.0 mm ID x 15.0 cm L
0.40 - 0.60 mL/min	4.6 mm ID x 15.0 cm L
0.50 - 1.00 mL/min	6.0 mm ID x 15.0 cm L
4. Max. Pressure:
 

7 MPa	2.0 mm ID x 15.0 cm L
10 MPa	4.6 mm ID x 15.0 cm L and 6.0 mm ID x 15.0 cm L
5. pH Range: 2 - 12 pH above 12 can only be used for a short time for cleaning
6. Organic Conc.: 0 - 100%
7. Temperature:
 

4 - 50 °C	during normal operation
15 - 30 °C	recommended for storage
8. Cleaning Solvents:
  - (1) Acetonitrile or Methanol, or
  - (2) 0.1 - 0.2 M NaOH,
  - (3) 0.1 - 0.2 N NaOH with added organic modifier
  - (4) 20 - 40% acetic acid aq.

**NOTE:** Clean the column regularly with any of the above solvents. Solvents should be injected into the column in 250 µL increments for a total of 0.2 - 1.0 mL of cleaning solvent (2) and (3). Long term exposure in (2) or (3) is not recommended. Use proportionally larger volumes for (semi-) prep col.

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. Use an in-line filter (0.2 - 0.5 µm) between the pump and injector.

#### B. SPECIFICATIONS

The performance of **TSKgel** OD-2PW 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):	≥	5,000	2.0 mm ID
	≥	6,000	4.6 mm ID and 6.0 mm ID
Asymmetry Factor (AF):		0.70 - 1.60	

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