

## TSK-GEL® G3000SW Products

<b>Part Numbers:</b>	05789, 7.5mm ID x 30cm, 10µm 05103, 7.5mm ID x 60cm, 10µm 06728, 21.5mm ID x 30cm, 13µm 05147, 21.5mm ID x 60cm, 13µm 07481, 55mm ID X 30cm, 20 µm 07482, 55mm ID X 60cm, 20 µm 08800, 8.0mm ID Glass x 30cm, 10µm 14464, 20.0mm ID Glass x 30cm, 13µm	05371, Guard Column for P/Ns 05789 & 05103, 7.5mm ID X 7.5cm 05758, Guard Column for P/Ns 06728 & 05147, 21.5mm ID X 7.5cm 07427, Guard Column for P/Ns 07481 & 07482, 45mm ID X 5cm 08805, Guard Column for P/N 08800, 8mm ID X 4cm 14465, Guard Column for P/N 14464, 20mm ID X 4cm 06819, TSKtop-off gel SW, 1g wet gel
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This sheet contains the recommended operating conditions and the specifications for TSK-GEL G3000SW columns. Installation instructions and column care information are described in a separate Instruction Manual.

### A. OPERATING CONDITIONS

- Shipping Solvent: 0.05% NaN<sub>3</sub> and 0.1mol/L Na<sub>2</sub>SO<sub>4</sub> in 0.1mol/L phosphate buffer, pH 6.7
- Max. Flow Rate: 0.8 mL/min (8.0mm ID Glass)  
1.2 mL/min (7.5mm ID)  
8.0 mL/min (21.5mm ID and 20mm ID Glass)  
  
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.
- Standard Flow Rate: 0.4 - 0.8 mL/min (8.0mm ID Glass)  
0.5 - 1.0 mL/min (7.5mm ID)  
3.0 - 6.0 mL/min (21.5mm ID and 20mm ID Glass)
- Max. Pressure: 0.8MPa (20.0mm ID Glass x 30cm)  
1.5MPa (21.5mm ID x 30cm)  
2.0MPa (8.0mm ID Glass x 30cm)  
2.5MPa (7.5mm ID x 30cm)  
3.0MPa (21.5mm ID x 60cm)  
5.0MPa (7.5mm ID x 60cm)
- pH Range: 2.5 - 7.5
- Salt Conc.: < 0.5 mol/L
- Organic Conc.: 0 - 100% for aqueous soluble organic solvents. Make gradual solvent changes using a shallow gradient at low flow rate.
- Temperature: 10 - 30°C, Reduce flow rate when operating below 10°C.
- Cleaning Solvents: (1) conc. salt solution at low pH, e.g. 0.5mol/L Na<sub>2</sub>SO<sub>4</sub>, pH 2.7  
(2) methanol or acetonitrile in low conc. aqueous buffer  
(3) buffered solution of urea or guanidine  
  
**NOTE:** Choose a cleaning solvent based on sample properties, e.g. use (1) to remove basic proteins, and (2) to remove hydrophobic proteins. Chaotropic agents can solvate strongly adsorbed proteins, e.g. via hydrogen bonding.
- Storage: Store the column in mobile phase containing 0.05% NaN<sub>3</sub> or 20% ethanol when it will not be used the next day. For overnight storage flush the column with mobile phase at low 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 after every 30-40 sample injections, when the peaks become excessively wide, or when the peaks show splitting.
- TSKtop-off gel: Occasionally, due to accident, sample, mobile phase or operational variables, a depression can develop at the column or guard column inlet. Use TSKtop-off gel SW or G3SW for filling in such voids.

### B. SPECIFICATIONS

The performance of TSK-GEL G3000SW 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): ≥ 6,000 (20mm ID Glass x 30cm)  
≥10,000 (other 30cm columns)  
≥ 20,000 (60cm columns)
- Asymmetry Factor (AF): 0.7 - 1.6