

# OPERATING CONDITIONS and SPECIFICATIONS

## TSK-GEL® SuperAW3000

**Part Numbers:** 19316 SuperAW3000 6mm ID x 15cm, 4µm  
19321, SuperAW-L Guard column 4.6mm ID x 3.5cm, 7µm

This sheet contains the recommended operating conditions and the specifications for TSK-GEL Super AW3000 column. Installation instructions and column care information are described in a separate Instruction Manual.

### A. OPERATING CONDITIONS

01. Shipping Solvent: Water
02. Max. Flow Rate: 0.6 mL/min
- 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 up to 0.3 mL/min under the condition that pressure drop doesn't exceed max. pressure drop.
03. Standard Flow Rate: 0.3 - 0.6 mL/min
04. Max. Pressure: 6.0 MPa = 60 kg/m<sup>2</sup> = 900 psi
05. pH Range: 2.0 - 12.0
06. Salt Conc.: ≤ 0.5 Molar
07. Organic Conc.: up to 100%. When changing solvents, use a flow rate up to 0.3 mL/min under the condition that pressure drop doesn't exceed max. pressure drop. Avoid solvent change between immiscible solvents. In this case change to the solvent which is miscible to both initial and target solvent at the beginning. Take care of salting out when changing solvent from buffer or salt solution to organic solvent.
08. Temperature: 10 - 80°C. Reduce flow rate when operating below 10°C.
09. Cleaning Solvents: Clean the column in reverse at half the standard flow rate (monitor pressure) with 3 to 5 columns volumes(CV) of:  
(1) High neutral salt concentration buffer (≤ 0.5 Molar)  
(2) pH 2 - 3 or pH 9 - 12 buffer  
(3) up to 100% organic
- NOTE:** Rinse with 3 to 5 CV of DI water between the cleaning solutions. Choose a cleaning solvent based on sample properties, e.g. use (1) to remove basic polymers, (3) to remove hydrophobic proteins etc.
10. Storage: Store the column in a 0.05% NaN<sub>3</sub> solution or 20% ethanol in DI water when it will not be used the next day. For overnight storage flush the column at low flow rate with the mobile phase. Prevent air from entering the column!
11. 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 Super AW3000 columns are tested under the conditions described in the Injection Data Sheet. All columns have passed the following quality control specifications:

01. Number of Theoretical Plates (N): ≥ 16,000
02. Asymmetry Factor (AF): 0.7 - 1.4