



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® G4000SW_{XL} Products

Part Numbers: 08542 7.8 mm ID x 30.0 cm L 8 µm

This sheet contains the recommended operating conditions and the specifications for TSK-GEL G4000SW_{XL} columns. Installation instructions and column care information are described in a separate Instruction Manual.

A. OPERATING CONDITIONS

- Shipping Solvent: 0.05% NaN₃ and 0.1 M Na₂SO₄ in 0.1 M phosphate buffer, pH 6.7
- Max.Flow Rate: 1.2 ml/min
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.
- Standard Flow Rate: 0.5 - 1.0 ml/min
- Max. Pressure: 35 kg/cm² = 500 psi
- pH Range: 2.5 - 7.5
- Salt Conc.: ≤ 0.5 Molar
- 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. 0.5 M Na₂SO₄, pH 2.7
(2) methanol or acetonitrile in low conc. aqueous buffer
(3) buffered solution of SDS, urea or guanidine (only if (1) and (2) failed before)
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% NaN₃ 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 a guard column (TSKgel SW_{XL} Guardcolumn P/N 08543) 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.
- Top-Off: Occasionally, due to accident, sample, mobile phase or operational variables, a depression can develop at the column or guard column inlet. Use SW_{XL} Top-Off (P/N 08544) for filling in such voids.

B. SPECIFICATIONS

The performance of TSK-GEL G4000 SW_{XL} 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): ≥ 16,000

Asymmetry Factor (AF): 0.7 - 1.6