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OPERATING CONDITIONS and SPECIFICATIONS

TSK-GEL® SW_{XL} Guardcolumn Products

Part Numbers:	08543	6.0 mm ID x 4.0 cm L	Guardcolumn SW _{XL}	7 µm
	18008	6.0 mm ID x 4.0 cm L	Guardcolumn SW _{XL} PEEK	7 µm

This sheet contains the recommended operating conditions and the specifications for TSK-GEL SW_{XL} guardcolumns. 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: 70 kg/cm² = 1000 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
- 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, or, if nothing else is successful,
 - (3) buffered solution of SDS, 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% NaN₃ 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.
- Top-Off: Occasionally, due to accident, sample, mobile phase or operational variables, a depression can develop at the guard column inlet. Use TSKgel Top-Off SW_{XL} (P/N 08544) for filling in such voids.