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OPERATING CONDITIONS and SPECIFICATIONS

TSKgel ® SW GUARDCOLUMN PRODUCTS

Part Numbers:	0005371	7.5 mm ID x 7.5 cm L	Guardcolumn SW	**10 µm**
	0005758	21.5 mm ID x 7.5 cm L	Guardcolumn SW	**13 µm**
	0008805	8.0 mm ID x 4.0 cm L	Guardcolumn SW Glass	**10 µm**

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

A. OPERATING CONDITIONS

1.	Shipping Solvent:	0.05% NaN_3 and 0.1 M Na_2SO_4 in 0.1 M phosphate buffer, pH 6.7		
2.	Max.Flow Rate:	0.8	mL/min	8.0 mm ID Glass
		1.2	mL/min	7.5 mm ID
		8.0	mL/min	21.5 mm ID
	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.		
3.	Standard Flow Rate:	0.4 - 0.8	mL/min	8.0 mm ID Glass
		0.5 - 1.0	mL/min	7.5 mm ID
		3.0 - 6.0	mL/min	21.5 mm ID
4.	Max. Pressure:	2.0	MPa	8.0 mm ID Glass
		3.0	MPa	21.5 mm ID
		5.0	MPa	7.5mm ID
5.	pH Range:	2.5 - 7.5		
6.	Salt Conc.:	< 0.5 Molar		
7.	Organic Conc.:	0 - 100%	for aqueous soluble organic solvents. Make gradual solvent changes using a shallow gradient at low flow rate.	
8.	Temperature:	10 - 30°C	Reduce flow rate when operating below 10°C.	
9.	Cleaning Solvents:	(1) conc. salt solution at low pH, e.g. 0.5 M Na_2SO_4, pH 2.7 (2) methanol or acetonitrile in low conc. aqueous buffer, or, if nothing else is successful, (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. Chaotrophic agents can solvate strongly adsorbed proteins, e.g. via hydrogen bonding.		
10.	Storage:	Store the column in mobile phase containing 0.05% NaN_3 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!		
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.		
12.	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 (7.5 mm and 8.0 mm ID P/N 06819) for filling in such voids.		

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