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OPERATING CONDITIONS and SPECIFICATIONS

TSK-GEL® Super-ODS Products

Part Numbers:	20015	1.0 mm ID x 5.0 cm L	2 µm
	18154	4.6 mm ID x 5.0 cm L	2 µm
	18197	4.6 mm ID x 10.0 cm L	2 µm
	19541	2.0 mm ID x 5.0 cm L	2 µm
	19542	2.0 mm ID x 10.0 cm L	2 µm
	18207	7.0 mm ID x 4.0 cm L	
	18206		TSK Guard filter for 4.6 mm ID columns
	19672		Cartridge Holder, for the guard filter PN 18207
			Super-ODS Guard column for 2.0 mm ID columns

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

A. OPERATING CONDITIONS

1. Shipping Solvent: 70% Methanol - 30% Water
2. Max.Flow Rate:

4.00 ml/min	4.6 mm ID
0.25 ml/min	2.0 mm ID
0.06 ml/min	1.0 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:

1.00 - 2.50 ml/min	4.6 mm ID
0.15 - 0.20 ml/min	2.0 mm ID
0.03 - 0.05 ml/min	1.0 mm ID
4. Max. Pressure:

300 kg/cm ² = 4400 psi	4.6 mm ID
250 kg/cm ² = 3600 psi	2.0 mm ID
150 kg/cm ² = 2250 psi	1.0 mm ID
5. pH Range: 2.0 - 7.5

6. Salt Conc.: No limitation
7. Organic Conc.: No limitation

8. Temperature: 10 - 50°C. Reduce flow rate when operating below 10°C.

9. Cleaning Solvents:
 - (1) High conc. solvent containing organic modifiers*
 - (2) Mixture of organic acids and high conc. organic modifiers*

NOTE: *Acetonitrile and methanol are recommended as a modifier.

10. Storage: Store the column in the shipping solvent if it will not be used within three days. Prevent air from entering the column. For overnight storage flush the column with mobile phase at 0.2 ml/min (4.6 mm ID column) or 0.05 ml/min (2.0 mm ID column) respectively.

11. Column Protection: An on-line filter (0.2-0.5 µm) equipped between pump and injection valve is recommended. Guard filters prevent the column from a contamination of strongly adsorbed solutes. As a general rule, guard filters should be replaced after 30-40 sample injections or when peaks become excessively wide.

B. SPECIFICATIONS

The performance of TSK-GEL Super-ODS 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):	≥	1,500	1.0 mm ID x 5.0 cm L
	≥	8,000	4.6 mm ID x 5.0 cm L
	≥	16,000	4.6 mm ID x 10.0 cm L
	≥	6,000	2.0 mm ID x 5.0 cm L
	≥	12,000	2.0 mm ID x 10.0 cm L

Asymmetry Factor (AF):	0.8 – 2.0	1.0 mm ID
	0.8 – 1.5	2.0 mm ID
	0.8 – 1.6	4.6 mm ID