

# TSK-GEL® SuperMultiporePW Products

<b>Part Numbers:</b>	22789, TSKgel SuperMultiporePW-N, 6.0mm ID x 15cm, 4µm	22793, TSKgel SuperMP(PW)-N Guard, 4.6mm ID x 3.5cm, 5µm
	22790, TSKgel SuperMultiporePW-M, 6.0mm ID x 15cm, 5µm	22794, TSKgel SuperMP(PW)-M Guard, 4.6mm ID x 3.5cm, 8µm
	22791, TSKgel SuperMultiporePW-H, 6.0mm ID x 15cm, 8µm	22795, Kgel SuperMP(PW)-H Guard, 4.6mm ID x 3.5cm, 12µm

This sheet contains the recommended operating conditions and the specifications for TSK-GEL SuperMultiporePW columns and guard columns. TSK-GEL SuperMultiporePW columns have different pores sizes within the same bead. TSK-GEL SuperMultiporePW columns are used exclusively for Gel Filtration Chromatography. Installation instructions and column care information are described in a separate Instruction Manual.

<b>A. OPERATING CONDITIONS</b>	
1. Shipping Solvent:	Water
2. Standard Flow Rate:	0.3 – 0.6mL/min
3. Max Flow Rate:	0.6mL/min. Before using the column, the solvent should be replaced with an appropriate mobile phase for analysis at a flow rate of 0.2 mL/min or less.
<b>NOTE:</b>	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.
4. Max. Pressure:	4.5MPa (TSKgel SuperMultiporePW-N) 2.7MPa (TSKgel SuperMultiporePW-M) 0.9MPa (TSKgel SuperMultiporePW-H)
5. Temperature:	10 - 80°C. Reduce flow rate when operating below 10°C.
6. pH Range:	2.0 – 12.0
7. Salt Conc.:	<0.5 Molar
8. Organic Conc.:	< 20% methanol, ethanol, acetonitrile, formic acid, dimethylsulfoxide, etc. It is possible to use up to 50% organic when the solvent change is made very gradually using a shallow gradient at low flow rate.
9. Mobile Phase:	Although some non-ionic compounds can be measured with distilled water, it is generally recommended to carry out the measurement with aqueous salt solutions or buffered solutions, while considering the presence of ionic impurities which interact with the support. Representative mobile phases are shown below. <u>Salts in aqueous solutions:</u> Sodium sulfate, sodium acetate, sodium dihydrogen phosphate, ammonium acetate, ammonium formate. <u>Buffers:</u> Phosphate, tris hydrochloric acid, tris acetate, citrate, acetate.
10. Cleaning Solvents:	Adsorbed materials may be removed from the column by injections of solvent with different properties from the operating mobile phase. (1) To remove ionic species, use high salt concentration buffer (less than 0.5M) (2) To remove adsorbed basic compounds, use pH 2 - 3 acetic acid buffer (3) To remove hydrophobic adsorption, use a buffer in acetonitrile or methanol
11. Storage:	For overnight storage flush mobile phase through the column at low flow rate. For longer term storage, purge the system with distilled water. Remove the column from the system and keep the ends of the column tightly capped with the end plugs supplied with the column. Under all circumstances, prevent air from entering the column!
12. Column Protection:	The use of the corresponding TSKgel SuperMP(PW) guard column is recommended to prolong the life of the TSK-GEL SuperMultiporePW columns. Guard column life depends greatly on sample cleanliness. As a general rule, guard columns should be replaced when the peaks become excessively wide, or when the peaks show splitting.
<b>B. SPECIFICATIONS</b>	
The performance of TSK-GEL SuperMultiporePW columns is tested under the conditions described in the data sheet. All columns have passed the following quality control specifications:	
1. Number of Theoretical Plates (N):	> 16,000 (TSKgel SuperMultiporePW-N) > 12,000 (TSKgel SuperMultiporePW-M) > 7,000 (TSKgel SuperMultiporePW-H)
2. Asymmetry Factor (AF):	0.7 – 1.6

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