



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® Chelate-5PW Products

Part Numbers:	08645	7.5 mm ID x 7.5 cm L		10 µm
	08646	21.5 mm ID x 15.0 cm L		10 µm
	02426		Prep Guardgel Kit for P/N 08646	
	14440	5.0 mm ID x 5.0 cm L	Glass	10 µm
	14441	8.0 mm ID x 7.5 cm L	Glass	10 µm
	08647		Guardgel Kit	
	14442		Guardgel Kit Glass	

This sheet contains the recommended operating conditions and the specifications for TSK-GEL Chelate-5PW columns. Installation instructions and column care information are described in a separate Instruction Manual.

A. OPERATING CONDITIONS

1. Shipping Solvent: 10 mM Sodium Acetate (pH 4.5) buffer

NOTE: Wash the column with water before loading the column with metal ion.

2. Max.Flow Rate: 1.0 ml/min 5.0 mm ID x 5.0 cm L Glass
 1.2 ml/min 8.0 mm ID x 7.5 cm L Glass
 8.0 ml/min 21.5 mm ID x 15.0 cm L

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: 0.5 - 0.8 ml/min 5.0 mm ID x 5.0 cm L Glass
 0.5 - 1.0 ml/min 7.5 mm ID x 7.5 cm L and 8.0 mm ID x 7.5 cm L Glass
 4.0 - 6.0 ml/min 21.5 mm ID x 15.0 cm L

4. Max. Pressure: 10 kg/cm² = 150 psi
 15 kg/cm² = 215 psi
 20 kg/cm² = 300 psi

5. pH Range: 2 - 12 pH above 12 can only be used for a short time

6. Salt Conc.: ≤ 3 Molar

7. Organic Conc.: ≤ 20%.

8. Temperature: ≤ 45°C

9. Cleaning Solvents: (1) 0.1-0.2 M NaOH, or
 (2) 20-40% acetic acid aq.
 (3) Aqueous buffer in organic solvent, or, if nothing else was successful,
 (4) Urea or non-ionic surfactant in buffer

NOTE: Clean the column regularly by injecting up to one column volume 0.1 M NaOH in 250 - 500µl increments.

10. Storage: Store the column in a neutral pH buffer containing 0.02% NaN₃ at a temperature between 4° C and 10°C when it will not be used the next day. For overnight storage flush the column with the mobile phase at 0.2 ml/min. Prevent air from entering the column!

11. Regeneration: Remove the metal ion using an aqueous solution of 50 mM EDTA in 0.5 M NaCl before reloading the column with metal ion.

12. Column Protection: Guard columns prolong the life of the analytical column. Guard column life depends greatly on sample cleanliness. As a general rule, guard columns are replaced after 30-40 sample injections, when the peaks become excessively wide, or when the peaks show splitting.

B. SPECIFICATIONS

The performance of TSK-GEL Chelate-5PW 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):	≥ 2,500	21.5 mm ID x 15.0 cm L
	≥ 1,300	7.5 mm ID x 7.5 cm L and 8.0 mm ID x 7.5 cm L Glass
	≥ 500	5.0 mm ID x 5.0 cm L Glass
Asymmetry Factor (AF):	0.7 - 1.6	5.0 mm ID x 5.0 cm L Glass
	0.8 - 1.6	other columns