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## OPERATING CONDITIONS and SPECIFICATIONS

### TSK-GEL® Tresyl-5PW Products

<b>Part Numbers:</b>	14455	6.0 mm ID x 4.0 cm L		<b>10 µm</b>
	14456	7.5 mm ID x 7.5 cm L		<b>10 µm</b>
	14457	5.0 mm ID x 5.0 cm L	Glass	<b>10 µm</b>
	14458	8.0 mm ID x 7.5 cm L	Glass	<b>10 µm</b>
	16208		Tresyl-5PW 2 g dry gel	
	08809	8.0 mm ID x 1.0 cm L	Glass Guard Gel Holder	
	16106	10.0 mm ID x 2.0 cm L	SS Guard Gel Holder	

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

#### A. OPERATING CONDITIONS

1. Shipping Solvent: Acetone  
**NOTE:** Wash the column with DI water before equilibrating with the coupling buffer.
2. Max.Flow Rate:
 

1.0 ml/min	6.0 mm ID x 4.0 cm L and 5.0 mm ID x 5.0 cm L Glass
1.2 ml/min	7.5 mm ID x 7.5 cm L and 8.0 mm ID x 7.5 cm L Glass

**NOTE:**
  - a) Normal flow rates are 50 - 75% of the max. recommended flow rates.
  - b) When using a viscous buffer, reduce the flow rate so as not to exceed the maximum allowable pressure drop over the column.
3. Coupling Flow Rate:
 

0.2 - 0.5 ml/min	6.0 mm ID x 4.0 cm L and 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. Max. Pressure: 10 kg/cm<sup>2</sup> = 150 psi All columns
5. pH Range: 2 - 12 pH above 12 can only be used for a short time
6. Salt Conc.: ≤ 3 M
7. Organic Conc.: ≤ 20%
8. Temperature: ≥ 0°C
9. Coupling Buffer: 0.5 - 1.0 M K-phosphate (pH 8.0) or other non-amine containing buffers.
10. Blocking Buffer: 0.1 M Tris-HCl (pH 8.0) or other amine containing buffers.
11. Cleaning Solvents: The stability of the ligand determines the type and strength of the cleaning solvent. The 5PW matrix can be cleaned by 5 - 10 injections of up to 1/5th of the column volume with 0.1 - 0.2M NaOH, 20 - 40% acetic acid, aq. buffer in 20% organic, or urea or nonionic surfactant in buffer.
12. Storage: Store the column in a neutral pH buffer containing 0.02% NaN<sub>3</sub> 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!

## B. SPECIFICATIONS

Unlike other TSK-GEL columns, the chromatographic performance of Tresyl-5PW columns is not tested. Following their manufacturing it is ensured, however, that the pressure drop over the column at the maximum recommended flow rate (see above) is less than the maximum allowable pressure.

Batch Test	Each lot of Tresyl-5PW packing has passed the specification that 1 gram of dry gel binds at least 60 mg soybean trypsin inhibitor (STI) under the following conditions.
Immobilization	Suspend 0.5 gram of freeze-dried Tresyl-5PW in 4 ml of a solution containing 0.1 M NaHCO <sub>3</sub> , 0.5 M NaCl and 40 mg soybean trypsin inhibitor (Sigma, Type 1-S). Incubate the suspension for 1 day at 25° C while shaking.
Analysis	Determine the peak height of an injection of the STI supernatant by size exclusion chromatography. Column: TSKgel 3000SW <sub>XL</sub> 7.8 mm ID x 30.0 cm L, Mobile Phase: 0.1 M phosphate + 0.2 M NaCl (pH 6.8), Flow Rate: 0.8 ml/min, Sample: 5µl supernatant, Detection: UV @ 220nm.