

TSKgel[®] DEAE-NPR Products

Column:	13075, 4.6mm ID X 3.5cm, 2.5 μ m	Counter Ion: SO ₄ ⁻²
Guardcolumn:	17088, 4.6mm ID X 0.5cm, 5 μ m	Counter Ion: SO ₄ ⁻²
	Small Ion Capacity: > 0.15 meq/ml	
Accessories:	14594, Pre-Injector Membrane Filter Holder, SS 03409, 13mm Nylon Membrane Filer, 0.45 m, for 14594, pk 100	

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

A. OPERATING CONDITIONS

- Shipping Solvent: Water
- Max. Flow Rate: 1.6 mL/min. When a buffer with high viscosity is used, the maximum flow rate may have to be reduced so as not to exceed the recommended pressure drop.
- Standard Flow Rate: 1.0 - 1.5 mL/min
- Max. Pressure: 200 kg/cm² = 3000 psi.
- pH Range: 2 - 12 (pH above 12 can only be used for a short time)
- Salt Conc.: \leq 1 Molar
- Organic Conc.: \leq 20%
- Temperature: 0 - 60°C
- Cleaning Solvents:
 - 0.1 - 0.2M NaOH, or
 - 20 - 40% acetic acid aq., or
 - 30% acetonitrile or methanol in water or buffer, or
 - Urea or nonionic surfactant in buffer.

NOTE: Clean the column regularly by injecting up to one column volume 0.1 - 0.2M NaOH in 100 - 250 l increments.

- Storage: Store the column in 20% acetonitrile in water when it will not be used the next day. Avoid letting air enter the column!

- Column Protection: The use of guard columns is recommended to prolong the life of the analytical column. Guard column life depends greatly on the sample cleanliness. As a general rule, guard columns should be replaced when the peaks become excessively wide, or when the peaks show splitting. We also recommend a pre-injector membrane filter to prevent particles from pump seal wear to reach the column.

NOTE: Use high quality reagents, water and solvents for preparing buffers. Fouling of the resin, leading to a loss in retention and/or efficiency, occurs faster due to the small surface area of non-porous resin particles.

B. SPECIFICATIONS

The performance of TSKgel DEAE-NPR columns and guard columns is tested under the conditions described in the Data Sheet. During the final QC test before shipping, analytical columns must pass the following resolution specification.

- Resolution (Rs):

$$\geq 6.0 \quad R_s = 2(V_2 - V_1)/1.7(W_2 + W_1) \text{ in which,}$$

$$V_1 = \text{elution volume ovalbumin}$$

$$V_2 = \text{elution volume trypsin inhibitor}$$

$$W_1, W_2 = \text{widths of peaks 1 and 2 at half-height}$$