# TOSOH BIOSCIENCE

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## OPERATING CONDITIONS and SPECIFICATIONS

## TSKgel® DNA-NPR™ Products

| | | | | |
|---|---|---|---|---|
| **Part Numbers:** | 0018249 | 4.6 mm ID x 7.5 cm L | **Counter Ion:** $ClO_4^-$ | **2.5 µm** |
| **Guardcolumn:** | 0018253 | 4.6 mm ID x 0.5 cm L | **Small Ion Capacity:** 0.15 meq/mL | **2.5 µm** |
| | | | **Counter Ion:** $Cl^-$ | |

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

### A. OPERATING CONDITIONS

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|---|---|---|---|
| 1. | Shipping Solvent: | | The columns are shipped in 20 mM Tris-$HClO_4$ with 38 mM $NaClO_4$ (pH 9). Upon receiving, flush the column and guard column with 30% acetonitrile/70% water for 15 minutes at 1 ml/min. This is followed by equilibrating the columns with the starting buffer, and running a blank gradient. |
| 2. | Max.Flow Rate: | 1.5 | mL/min |
| | **NOTE:** | | 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. |
| 3. | Standard Flow Rate: | 0.5 - 1.0 | mL/min |
| 4. | Max. Pressure: | 30 | MPa |
| 5. | pH Range: | 2 - 12 | |
| 6. | Salt Conc.: | ≤ 1 Molar | |
| 7. | Organic Conc.: | ≤ 20% | |
| 8. | Temperature: | 0 - 60°C | |
| 9. | Cleaning Solvents: | | (1) 0.1 - 0.2 M NaOH, or<br>(2) 20 - 40% acetic acid aq., or<br>(3) 30% acetonitrile or methanol in water or buffer, or, if nothing else is successful,<br>(4) 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 - 250µl increments. |
| 10. | Storage: | | Store the column in water when it will not be used within the next three days. Prevent air from entering the column! |
| 11. | 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, but the column should be replaced at least every 200 injections or when the peaks become excessively wide or 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** DNA-NPR 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): | ≥ | 6,000 |
| Asymmetry Factor (AF): | | 1.40 – 3.80 |

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