

# TSK-GEL<sup>®</sup> STAT Series Cation Exchange Products

<b>Part Numbers:</b>	21963, TSKgel SP-STAT, 3mm ID X 3.5cm, 10 $\mu$ m
	21964, TSKgel SP-STAT, 4.6mmID x 10cm, 7 $\mu$ m
	21965, TSKgel CM-STAT, 3mm ID X 3.5cm, 10 $\mu$ m
	21966, TSKgel CM-STAT, 4.6mm ID X 10cm, 7 $\mu$ m

This sheet contains the recommended operating conditions and the specifications for TSK-GEL STAT Series Cation Exchange columns. Installation instructions and column care information are described in a separate Instruction Manual.

## A. OPERATING CONDITIONS

- Shipping Solvent: Ion-Exchanged Water
- Standard Flow Rate:
  - 1.0 – 2.0mL/min (P/N 21963)
  - 0.5 – 1.4mL/min (P/N 21964)
  - 1.0 – 2.0mL/min (P/N 21965)
  - 0.5 – 1.4mL/min (P/N 21966)

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.
- Max. Pressure:
  - 10Mpa (P/N 21963)
  - 10Mpa (P/N 21964)
  - 10Mpa (P/N 21965)
  - 10Mpa (P/N 21966)
- pH Range: 3.0 - 10.0 (pH above 10 can only be used for a short time)
- Salt Conc.: No Limitation
- Organic Conc.: <50%. When solvent in column is replaced by distilled or ion-exchanged water, feed the solvent slowly, at flow rates <0.5mL/min (SP-STAT and CM-STAT).
- Temperature: 10 - 60°C.
- Cleaning Solvents: Adsorbed materials can be stripped from the column by repeated injection with one of the following cleaning solutions:
  - (1) 0.1mol/L NaOH, or
  - (2) 20 ~ 40% Acetic acid, or
  - (3) Solution containing aqueous organic solvent such as methanol or acetonitrile, or
  - (4) Solution containing a solubilizer such as urea and non-ionic surfactants
- Storage: Short term storage: keep the column filled with low ionic strength eluent.  
For long term storage, replace the solvent in the column with distilled or ion-exchanged water, at flow rates <0.5mL/min (SP-STAT and CM-STAT).

## B. SPECIFICATIONS

The performance of TSK-GEL SP-STAT and TSK-GEL CM-STAT columns are tested under the conditions described in the Data Sheet. All columns have passed the following quality control specifications:

- Number of Theoretical Plates (N):
  - $\geq 200$  (P/N 21963)
  - $\geq 200$  (PN 21964)
  - $\geq 200$  (PN 21965)
  - $\geq 2,000$  (PN 21966)
- Asymmetry Factor (AF):
  - 0.8 – 1.8 (P/N 21963)
  - 0.8 – 1.8 (PN 21964)
  - 0.8 - 1.8 (PN 21965)
  - 1.0 - 2.0 (PN 21966)