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OPERATING CONDITIONS and SPECIFICATIONS

TSK-GEL® STAT Series Cation Exchange Products

| | | | | |
|----------------------|-------|-----------------------|----------------|-------|
| Part Numbers: | 21963 | 3.0 mm ID x 3.5 cm L | TSKgel SP-STAT | 10 µm |
| | 21964 | 4.6 mm ID x 10.0 cm L | TSKgel SP-STAT | 7µm |
| | 21965 | 3.0 mm ID x 3.5 cm L | TSKgel CM-STAT | 10 µm |
| | 21966 | 4.6 mm ID x 10.0 cm L | TSKgel CM-STAT | 7µm |

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

1. Shipping Solvent: Ion-Exchanged Water
2. Standard Flow Rate:

| | | |
|-----------|--------|-----------|
| 1.0 - 2.0 | ml/min | P/N 21963 |
| 0.5 - 1.4 | ml/min | P/N 21964 |
| 1.0 - 2.0 | ml/min | P/N 21965 |
| 0.5 - 1.4 | ml/min | P/N 21966 |

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. Max. Pressure: 100 kg/cm² = 1500 psi
4. pH Range: 3.0 - 10.0 pH above 10 can only be used for a short time
5. Salt Conc.: No Limitation
6. Organic Conc.: <50% When solvent in column is replaced by distilled or ion-exchanged water, feed the solvent slowly, at flow rates < 0.5 ml/min (SP-STAT and CM-STAT).
7. Temperature: 10 - 60°C
8. Cleaning Solvents: Adsorbed materials can be stripped from the column by repeated injection with one of the following cleaning solutions:
 - (1) 0.1 M 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
9. 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 < 0.5 ml/min (SP-STAT and CM-STAT).

B. SPECIFICATIONS

The performance of TSK-GEL SP-STAT and TSK-GEL CM-STAT 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): | ≥ | 200 | P/N 21963 |
| | ≥ | 200 | P/N 21964 |
| | ≥ | 200 | P/N 21965 |
| | ≥ | 2,000 | P/N 21966 |
| Asymmetry Factor (AF): | | 0.8 - 1.8 | P/N 21963 |
| | | 0.8 - 1.8 | P/N 21964 |
| | | 0.8 - 1.8 | P/N 21965 |
| | | 1.0 - 2.0 | P/N 21966 |