

**RESIN INFORMATION SHEET**

Product Name TSKgel® SP-3PW (30)
(Strong cation exchange chromatography resin)

Part Numbers

| | |
|-------|----------------------------|
| 21976 | TSKgel SP-3PW (30), 25 mL |
| 21977 | TSKgel SP-3PW (30), 250 mL |
| 21978 | TSKgel SP-3PW (30), 1 L |
| 21979 | TSKgel SP-3PW (30), 5 L |

Product Description TSKgel is a methacrylic polymer with very high mechanical and chemical stability.
TSKgel SP-3PW chromatographic resin is designed for ion exchange chromatography, especially for insulin purification. This chromatographic mode separates molecules on the basis of ionic interactions between the sample and the resin. The separation is usually accomplished in buffered aqueous solution with a gradient of increasing ionic strength. Alternatively, pH adjustment may be used for control of elution.

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| Operating Conditions | Packing pressure | Typically 1 MPa |
| | Shipping solvent | 20 % (v/v) ethanol |
| | Shipping formulation | 72 % (v/v) slurry in shipping solvent (*) |
| | Pressure limiting factor | Depend on column hardware (typically 2 MPa) |
| | Operating linear flowrate | Typically 60 - 1200 cm/hour (depend on particle size) |
| | Long term storage conditions | 20 % (v/v) ethanol |
| | Cleaning in place / sanitization | 0.1 - 0.5 mol/L NaOH or 0.1 mol/L HCl |

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|-----------------------|--|---------------------------|
| Specifications | Particle size distribution (Min. 90 % within range) | 20 - 40 µm for (30)-grade |
| | Ion exchange capacity | 0.07 - 0.22 eq/L |
| | Insulin adsorption capacity | Min. 65 g/L |
| | Bacterial count | Max. 100 CFU/mL |
| | Endotoxin concentration | Max. 10.0 EU/mL |
| | Eluable matter | Max. 0.2 % (for dry gel) |
| | Foreign substance (colored particle) | Max. 6 |

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| Additional Information | Appearance | White resin slurry which settles upon standing |
| | Mean pore diameter (base resin) | 25 nm (*) |

(*) The value is for reference only, not guaranteed.

Lot-specific data are included in the Certificate of Analysis (COA) shipped with the product.
For detailed test procedures please refer to the appropriate Regulatory Support File.