



Product Name TOYOPEARL® SP-650
(Strong cation exchange chromatography resin)

Part Numbers	0019822	TOYOPEARL SP-650S, 25 mL
	0008437	TOYOPEARL SP-650S, 250 mL
	0014698	TOYOPEARL SP-650S, 1 L
	0008438	TOYOPEARL SP-650S, 5 L
	0021477	TOYOPEARL SP-650S, 50 L
	0043202	TOYOPEARL SP-650M, 100 mL
	0007997	TOYOPEARL SP-650M, 250 mL
	0014699	TOYOPEARL SP-650M, 1 L
	0007998	TOYOPEARL SP-650M, 5 L
	0018369	TOYOPEARL SP-650M, 50 L
	0007994	TOYOPEARL SP-650C, 250 mL
	0014700	TOYOPEARL SP-650C, 1 L
	0007995	TOYOPEARL SP-650C, 5 L

Product Description TOYOPEARL chromatographic resins are based on a rigid methacrylic polymer, resulting in high mechanical and chemical stability. Resins are available as non-functionalized “HW” series resins for size exclusion separations, and derivatized with surface chemistries for alternative modes of chromatography such as ion exchange, hydrophobic interaction or affinity separations.

TOYOPEARL SP-650 chromatographic resin is designed for cation exchange chromatography. 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.

Operating Conditions	Packing pressure	Typically 0.3 MPa
	Shipping solvent	20 % (v/v) ethanol
	Shipping formulation	72 % (v/v) slurry in shipping solvent (*)
	Pressure limiting factor	Depend on column hardware (typically 0.7 MPa)
	Operating linear flowrate	Typically 10 - 600 cm/hour
	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

Specifications	Particle size distribution (Min. 80 % within range)	20 - 50 µm for S-grade 40 - 90 µm for M-grade 50 - 150 µm for C-grade
	Ion exchange capacity	0.13 - 0.17 eq/L for S-, M-grade 0.12 - 0.18 eq/L for C-grade
	Protein adsorption capacity (of lysozyme)	40 - 60 g/L for S-, M-grade 35 - 55 g/L for C-grade
	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)	Unobserved

Additional Information	Appearance	White resin slurry which settles upon standing
	Mean pore diameter (base resin)	100 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.