



RESIN INFORMATION SHEET

Product Name	TOYOPEARL® CM-650 (Weak cation exchange chromatography resin)	
Part Numbers	19803	TOYOPEARL CM-650S, 25 mL
	07474	TOYOPEARL CM-650S, 250 mL
	14695	TOYOPEARL CM-650S, 1 L
	07971	TOYOPEARL CM-650S, 5 L
	43203	TOYOPEARL CM-650M, 100 mL
	07475	TOYOPEARL CM-650M, 250 mL
	14696	TOYOPEARL CM-650M, 1 L
	07972	TOYOPEARL CM-650M, 5 L
	19839	TOYOPEARL CM-650M, 50 L
	07991	TOYOPEARL CM-650C, 250 mL
	14697	TOYOPEARL CM-650C, 1 L
	07992	TOYOPEARL CM-650C, 5 L
	19329	TOYOPEARL CM-650C, 50 L
Product Description	<p>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.</p> <p>TOYOPEARL CM-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.</p>	
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	0.08 - 0.12 eq/L for S-, M-grade 0.05 - 0.11 eq/L for C-grade
	Protein adsorption capacity (of lysozyme)	30 - 50 g/L for S-, M-grade 25 - 45 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.