



RESIN INFORMATION SHEET

Numbers 0043153 TOYOPEARL Butyl-6505, 10 ml. 0014701 TOYOPEARL Butyl-6505, 10 ml. 0014701 TOYOPEARL Butyl-6505, 5 l. 0018826 TOYOPEARL Butyl-6505, 5 l. 0018826 TOYOPEARL Butyl-6506, 7 ml. 0014702 TOYOPEARL Butyl-6500, 10 ml. 0007477 TOYOPEARL Butyl-6500, 10 ml. 0007477 TOYOPEARL Butyl-6500, 10 ml. 0007477 TOYOPEARL Butyl-6500, 10 ml. 0007470 TOYOPEARL Butyl-6500, 5 l. 0008325 TOYOPEARL Butyl-6500, 5 l. 0008325 TOYOPEARL Butyl-6500, 5 l. 0008325 TOYOPEARL Butyl-6500, 5 l. 00084327 TOYOPEARL Butyl-6500, 5 l. 0009478 TOYOPEARL Butyl-6500, 5 l. 0000377 TOYOPEARL Butyl-6500, 5 l. 00032826 TOYOPEARL Butyl-6500, 5 l.	Product Name	TOYOPEARL® Butyl-650 (Hydrophobic interaction chromatography resin)		
0014701 TOYOPEARL Butyl-650S, 1 L 0007975 TOYOPEARL Butyl-650S, 5 L 0018826 TOYOPEARL Butyl-650S, 5 L 0019802 TOYOPEARL Butyl-650M, 25 mL 0007477 TOYOPEARL Butyl-650M, 10 om L 0007477 TOYOPEARL Butyl-650M, 10 om L 0007976 TOYOPEARL Butyl-650M, 5 L 0018355 TOYOPEARL Butyl-650M, 5 L 0018355 TOYOPEARL Butyl-650M, 5 L 0018357 TOYOPEARL Butyl-650C, 25 mL 0007478 TOYOPEARL Butyl-650C, 25 mL 0007478 TOYOPEARL Butyl-650C, 10 om L 0014703 TOYOPEARL Butyl-650C, 10 om L 0007977 TOYOPEARL Butyl-650C, 5 L 0007977 TOYOPEARL Butyl-650C, 10 om L 0007977 000796ARL Butyl-650C, 10 om L 0007977 0007977 000796ARL Butyl-650C, 10 om L 0007977 0007977 000796ARL Butyl-650C, 10 om L 0007977 0007977 0007977 0007977 000796ARL Butyl-650C, 10 om L 0007977 00	Part Numbers	0043153	TOYOPEARL Butyl-650S, 25 r	nL
0007975 TOYOPEARL Butyl-6505, 5 L 0018826 TOYOPEARL Butyl-6505, 5 D L 0019802 TOYOPEARL Butyl-6506, 25 mL 0007477 TOYOPEARL Butyl-6506, 10 mL 0007477 TOYOPEARL Butyl-6506, 10 mL 0007976 TOYOPEARL Butyl-6506, 1 L 0007976 TOYOPEARL Butyl-6506, 5 L 0018355 TOYOPEARL Butyl-6506, 5 L 0018355 TOYOPEARL Butyl-6506, 5 D L 00043127 TOYOPEARL Butyl-6506, 25 mL 0007478 TOYOPEARL Butyl-6506, 25 mL 0007478 TOYOPEARL Butyl-6506, 5 D L 00074703 TOYOPEARL Butyl-6506, 5 L 0002828.6		0007476	TOYOPEARL Butyl-650S, 100	mL
O18826 TOYOPEARL Butyl-650K, 25 mL		0014701	TOYOPEARL Butyl-650S, 1 L	
0019802 TOYOPEARL Butyl-650M, 25 mL		0007975	TOYOPEARL Butyl-650S, 5 L	
0007477 TOYOPEARL Butyl-650M, 10 mL 0004707 TOYOPEARL Butyl-650M, 5 L 0018355 TOYOPEARL Butyl-650M, 5 L 0018355 TOYOPEARL Butyl-650M, 5 L 0043127 TOYOPEARL Butyl-650C, 25 mL 0007478 TOYOPEARL Butyl-650C, 25 mL 0004703 TOYOPEARL Butyl-650C, 10 mL 0014703 TOYOPEARL Butyl-650C, 5 L 002286 TOYOPEARL Butyl-650C, 5 L 002286 TOYOPEARL Butyl-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 derivatzed with surface chemistries for alternative modes of chromatographys such as ion exchange, hydrophobic interaction or affinity separations. TOYOPEARL Butyl-650 for alternative modes of chromatography such as ion exchange, hydrophobic interaction or affinity separations. TOYOPEARL Butyl-650 chromatographic resins are designed for hydrophobic interaction chromatography. This chromatographic resins are designed for hydrophobic interactions between the sample and the ligand. The separation is usually accomplished in buffered aqueous solution with a gradient of decreasing ionic strength. Operating Packing pressure Typically 0.3 MPa Conditions Shipping formulation 72 % (v/v) slurny 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 20 - 50 µm for S-grade (min. 80 % within range) 50 - 150 µm for C-grade Protein adsorption capacity (of lysozyme) 30 - 50 g/L Bacterial count Max. 100 CFU/mL Endotoxin concentration Max. 10.0 EU/mL Elude matter Max. 2.2 % (for dry gel) Foreign substance (colored particle) Unobserved White resin slurny which settles upon standing		0018826	TOYOPEARL Butyl-650S, 50 I	
0014702 TOYOPEARL Butyl-650M, 1 L 0007976 TOYOPEARL Butyl-650M, 5 L 0018355 TOYOPEARL Butyl-650M, 5 L 0043127 TOYOPEARL Butyl-650C, 25 mL 0007478 TOYOPEARL Butyl-650C, 25 mL 0007478 TOYOPEARL Butyl-650C, 100 mL 0014703 TOYOPEARL Butyl-650C, 1 L 0007977 TOYOPEARL Butyl-650C, 5 L 00022826 TOYOPEARL Butyl-650C, 5 L 00022826 TOYOPEARL Butyl-650C, 5 L 00022826 TOYOPEARL Butyl-650C, 5 L TOYOPEARL Butyl-650 chromatographic resins are based on a rigid methacrytic 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 Butyl-650 chromatographic resins are designed for hydrophobic interaction chromatography. This chromatography such as ion exchange, hydrophobic interactions between the sample and the ligand. The separation is usually accomplished in buffered aqueous solution with a gradient of decreasing ionic strength. Operating Packing pressure Typically 0.3 MPa Shipping solvent 20 % (v/v) ethanol Shipping formulation 72 % (v/v) sturry 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 20 % (v/v) ethanol Cleaning-in-place/Sanitization 0.1 - 0.5 mol/L NaOH or 0.1 mol/L HCl Eluable matter Max. 10.0 EU/mL Foreign substance (colored particle) Unobserved White resin slurry which settles upon standing		0019802	TOYOPEARL Butyl-650M, 25	mL
O007976 TOYOPEARL Butyl-650M, 50 L		0007477	TOYOPEARL Butyl-650M, 100) mL
O018355 TOYOPEARL Butyl-650M, 50 L		0014702	TOYOPEARL Butyl-650M, 1 L	
O043127 TOYOPEARL Butyl-650C, 25 mL		0007976	TOYOPEARL Butyl-650M, 5 L	
TOYOPEARL Butyl-650C, 100 mL		0018355	TOYOPEARL Butyl-650M, 50	L
O014703 TOYOPEARL Butyl-650C, 1 L O007977 TOYOPEARL Butyl-650C, 5 L O022826 TOYOPEARL Butyl-650C, 5 L O022826 TOYOPEARL Butyl-650C, 5 L O022826 TOYOPEARL Butyl-650C, 5 D L OVERAL chromotographic 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 Butyl-650 chromatographic resins are designed for hydrophobic interaction chromatography. This chromatographic mode separates molecules on the basis of hydrophobic interaction chromatography. This chromatographic mode separates molecules on the basis of hydrophobic interaction chromatography. This chromatographic mode separates molecules on the basis of hydrophobic interaction chromatography. This chromatographic mode separates molecules on the basis of hydrophobic interaction chromatography. This chromatographic resins are designed for hydrophobic interaction chromatography. This chromatographic mode separates molecules on the basis of hydrophobic interaction chromatography. This chromatographic mode separates molecules on the basis of hydrophobic interaction chromatography. This chromatographic mode separates molecules on the basis of hydrophobic interaction between the ligand. The separation is usually accomplished in buffered aqueous solution with a gradient of decreasing ionic strength. TOYOPEARL Butyl-650 chromatography. This chromat		0043127	TOYOPEARL Butyl-650C, 25	mL
Product Description Product Description TOYOPEARL Butyl-650C, 50 L 0022826 TOYOPEARL Butyl-650C, 50 L TOYOPEARL Chromatographic resins are based on a rigid methacrylic polymer, resulting in high mechanical and chemical stability. Resins are available as non-functionalized "HN" 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 Butyl-650 chromatographic resins are designed for hydrophobic interaction chromatography. This chromatographic mode separates molecules on the basis of hydrophobic interactions between the sample and the ligand. The separation is usually accomplished in buffered aqueous solution with a gradient of decreasing ionic strength. Operating Packing pressure Typically 0.3 MPa Conditions Shipping solvent 20 % (v/v) ethanol Shipping formulation 72 % (v/v) ethanol Depend on column hardware (typically 0.7 MPa) Depend on column hardware (typically 0.7 MPa) Depend on column hardware (typically 0.7 MPa) 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 Protein adsorption capacity (of lysozyme) 30 - 50 g/L Bacterial count Max. 100 CFU/mL Endotoxin concentration Max. 100 CFU/mL Eluable matter Max. 0.2 % (for dry gel) Foreign substance (colored particle) Unobserved		0007478	TOYOPEARL Butyl-650C, 100	mL
Product Description OD 22826 TOYOPEARL Butyl-650C, 50 L 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 Butyl-650 chromatographic resins are designed for hydrophobic interaction chromatography. This chromatographic mode separates molecules on the basis of hydrophobic interactions between the sample and the ligand. The separation is usually accomplished in buffered aqueous solution with a gradient of decreasing ionic strength. Operating Packing pressure Typically 0.3 MPa Conditions Shipping solvent Shipping formulation 72 % (v/v) ethanol Shipping formulation 72 % (v/v) sturry 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) Protein adsorption capacity (of lysozyme) 30 - 50 µm for S-grade 40 - 90 µm for M-grade 50 - 150 µm for C-grade Protein adsorption capacity (of lysozyme) 30 - 50 g/L Bacterial count Endotoxin concentration Max. 100 CFU/mL Endotoxin concentration Eluable matter Max. 0.2 % (for dry gel) Foreign substance (colored particle) Unobserved Additional		0014703	TOYOPEARL Butyl-650C, 1 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 Butyl-650 chromatographic resins are designed for hydrophobic interaction chromatography. This chromatographic mode separates molecules on the basis of hydrophobic interactions between the sample and the ligand. The separation is usually accomplished in buffered aqueous solution with a gradient of decreasing ionic strength. Operating Packing pressure Typically 0.3 MPa Conditions 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 40 - 90 μm for C-grade 40 - 90 μm for M-grade 40			TOYOPEARL Butyl-650C, 5 L	
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 Butyl-650 chromatographic resins are designed for hydrophobic interaction chromatography. This chromatographic mode separates molecules on the basis of hydrophobic interactions between the sample and the ligand. The separation is usually accomplished in buffered aqueous solution with a gradient of decreasing ionic strength. Operating Packing pressure Typically 0.3 MPa Conditions 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 (min. 80 % within range) 50 - 150 µm for C-grade Protein adsorption capacity (of lysozyme) 30 - 50 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) Unobserved Additional Appearance White resin slurry which settles upon standing		•		
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Particle size distribution (min. 80 % within range) Protein adsorption capacity (of lysozyme) Bacterial count Endotoxin concentration Eluable matter Foreign substance (colored particle) Additional Appearance Additional Appearance White resin slurry which settles upon standing		Cleaning-in-place/Sanitization		0.1 - 0.5 mol/L NaOH or 0.1 mol/L HCl
Particle size distribution (min. 80 % within range) Protein adsorption capacity (of lysozyme) Bacterial count Endotoxin concentration Eluable matter Foreign substance (colored particle) Additional Appearance Additional Appearance White resin slurry which settles upon standing				
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Endotoxin concentration Max. 10.0 EU/mL Eluable matter Max. 0.2 % (for dry gel) Foreign substance (colored particle) Unobserved Additional Appearance White resin slurry which settles upon standing		Protein adsorption	capacity (of lysozyme)	30 - 50 g/L
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Additional Appearance White resin slurry which settles upon standing			ation	Max. 100 CFU/mL
Information		Endotoxin concentr	ation	Max. 100 CFU/mL Max. 10.0 EU/mL
Information		Endotoxin concentr		Max. 100 CFU/mL Max. 10.0 EU/mL Max. 0.2 % (for dry gel)
Information		Endotoxin concentr		Max. 100 CFU/mL Max. 10.0 EU/mL Max. 0.2 % (for dry gel)
mean pore diameter (base resin)	Additional	Endotoxin concentr Eluable matter Foreign substance (Max. 100 CFU/mL Max. 10.0 EU/mL Max. 0.2 % (for dry gel) Unobserved

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.

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