



**RESIN INFORMATION SHEET**

<b>Product Name</b>	<b>TOYOPEARL® HW-40</b> (Size exclusion chromatography resin)	
<b>Part Numbers</b>	19809	TOYOPEARL HW-40S, 150 mL
	07451	TOYOPEARL HW-40S, 250 mL
	07447	TOYOPEARL HW-40S, 500 mL
	14681	TOYOPEARL HW-40S, 1 L
	07967	TOYOPEARL HW-40S, 5 L
	19808	TOYOPEARL HW-40F, 150 mL
	07448	TOYOPEARL HW-40F, 500 mL
	14682	TOYOPEARL HW-40F, 1 L
	07968	TOYOPEARL HW-40F, 5 L
	19807	TOYOPEARL HW-40C, 150 mL
	07449	TOYOPEARL HW-40C, 500 mL
	14683	TOYOPEARL HW-40C, 1 L
	07969	TOYOPEARL HW-40C, 5 L
	21484	TOYOPEARL HW-40C, 50 L
	07450	TOYOPEARL HW-40EC, 500 mL
	07970	TOYOPEARL HW-40EC, 5 L
<b>Product Description</b>	<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 HW-40 chromatographic resin is designed for aqueous size exclusion chromatography (also known as gel filtration chromatography). This chromatographic mode separates molecules on the basis of molecular hydrodynamic radius. These resins possess controlled pore distribution such that molecules with dynamic radii smaller than the pores diffuse throughout the accessible volume of the bead and are thus separated from larger molecules that are excluded from smaller pores. The separation is normally accomplished in aqueous solution of moderate ionic strength (100 - 300mM) to reduce interaction with residual negative charges on the matrix.</p>	
<b>Operating Conditions</b>	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
<b>Specifications</b>	Particle size distribution (min. 80 % within range)	20 - 40 µm for S-grade 30 - 60 µm for F-grade 50 - 100 µm for C-grade 100 - 300 µm for EC-grade
	Exclusion limit (MW of PEO)	(2.10 - 3.90) × 10 <sup>3</sup> for S-, F-, C-grade (1.35 - 3.90) × 10 <sup>3</sup> for EC-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
<b>Additional Information</b>	Appearance	White resin slurry which settles upon standing
	Mean pore diameter (base resin)	5 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.