Product Specification Sheet

Product: **Zetadex-50 Superfine Gel Filtration Matrix**

Hydrated in Phosphate Buffered Saline, pH 7.4, Autoclaved
(PBS: 137 mM NaCl, 2.7 mM KCl, 10 mM Na_2HPO_4, 1.8 mM KH_2PO_4)

Product Code: TM-0121

CAS Number: 9048-71-9

Quality Parameter	Specification
Dry Bead Size, 20 - 50 µm:	> 80% m
Water Regain:	4.80 - 5.20 mL/g
Swelling:	9 - 11 mL/g
Appearance:	White translucent gel suspension

Application Note
Zetadex-50 Superfine is a size-exclusion matrix. Molecules purified with Zetadex-50 Superfine are separated according to size. Smaller molecules pass significantly slower through the column than larger molecules. Buffer and pH effects on resolution are minimal. The size exclusion cut-off for Zetadex-50 Superfine is set at for 25 kD proteins and 20 bp for nucleic acids. Purified biomolecules are not significantly diluted when processed using Zetadex-50 Superfine.

Hydration, Filling and Packing Columns
Zetadex-50 Superfine can be hydrated in aqueous media of choice containing no more than 20% alcohol. Time of hydration should be a minimum of 3 hours at room temperature or 1 hour at 90°C. Hydrated Zetadex-50 Superfine is provided in a settled gel volume to buffer volume ratio of 1:1, degassed and ready to use. Filling a column requires that the slurry be not too thick as to retain air bubbles. A settled gel volume to buffer volume ratio of 3:1 is optimal for this purpose. The remaining buffer may be used later for column packing.

To fill, pour the Z-50 slurry into a tilted column. Alternatively, a funnel may be used, with the tip of the funnel touching the inside wall of the column to prevent splashing of the slurry. A gel reservoir or column extension is desirable for filling the whole column in a single operation. To finish packing the gel bed, a peristaltic pump may be employed. Use as high a flow rate as possible without deforming the beads. Zetadex-50 Superfine can be pressurized up to 3 bar.

Precautions for Safe Handling
As part of good industrial and personal hygiene and safety procedure, avoid all unnecessary exposure to the chemical substance and ensure prompt removal from skin, eyes and clothing. Keep container tightly closed. Suitable for any general chemical storage area. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

Bead structure:	Cross-linked spherical dextran composite
Bead size (Dry):	20-50 µm
Bead size (Wet):	40-100 µm
Fractionation Range:	1500–30000 (globular proteins), 500–10000 (dextrans)
Maximum operating pressure:	Generally obeys Darcy's Law: $U = K_o \frac{\Delta P}{L}$ where U = linear flow rate, cm/hour ΔP = pressure drop over gel bed, cm H_2O L = bed ht, in cm K_o = 13.5 for Z-50 superfine
Chemical stability:	All commonly used buffers, including: 0.2M NaOH; 0.2M HCl; 1M acetic acid; 8M urea; 6M guanidine HCl; 1% SDS.
pH stability:	2.0 to 10.0
Autoclavable:	121°C, pH 7 for 30 minutes
Storage & Shipping	4 to 25°C
Preservative	None (autoclaved)

The use of this product is strictly limited to trained personnel for professional manufacturing, laboratory, or research purposes. Final Fitness-For-Use must be determined by and is the sole responsibility of the end-user.

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