

**RESIN INFORMATION SHEET**

Product Name	Ca⁺⁺Pure-HA[®] (hydroxyapatite chromatography resin)	
Part Numbers	45045	Ca ⁺⁺ Pure-HA, 50 g
	45039	Ca ⁺⁺ Pure-HA, 100 g
	45040	Ca ⁺⁺ Pure-HA, 250 g
	45041	Ca ⁺⁺ Pure-HA, 500 g
	45042	Ca ⁺⁺ Pure-HA, 1 kg
	45043	Ca ⁺⁺ Pure-HA, 5 kg
Product Description	Ca⁺⁺Pure-HA hydroxyapatite resin is a multipurpose chromatography media used for the separation of biological molecules including monoclonal and polyclonal antibodies, antibody fragments, DNA and RNA. Ca⁺⁺Pure-HA is a macroporous, spherical form of the hexagonal, crystalline structure of Ca ₁₀ (PO ₄) ₆ OH ₂ . Sintered at high temperatures for increased stability, Ca ⁺⁺ Pure-HA is robust enough to withstand the rigors of use in commercial scale manufacturing operations. Chromatographic separations performed using Ca ⁺⁺ Pure-HA involve nonspecific interactions between molecules through weak anion exchange or calcium metal affinity, cation exchange with phosphate sites and hydrogen bonding with hydroxyl groups.	
Operating Conditions	Packing pressure	Typically 10.0 MPa
	Shipping solvent	Shipped as powder
	Shipping formulation	Calcium hydroxyapatite powder
	Operating linear flowrate	Typically 10 - 1000 cm/hour
	Long-term storage conditions	Unused/ new: store in original container at ambient temperature Used/ wetted: 0.1 mol/L NaOH at ambient temperature
	Cleaning-in-place/Sanitization	0.5 mol/L NaOH
Specifications	Particle size distribution (min. 80 % within range)	25 - 53 µm
	Protein adsorption capacity	≥ 13.0 g/L lysozyme (DBC) @ 300 cm/hr in 5 mmol/L sodium phosphate, pH 6.8 ≥ 20.0 g/L human IgG (DBC) @ 300 cm/hr in 5 mmol/L sodium phosphate, pH 6.8
	Foreign substance (colored particle)	Unobserved
Additional Information	Appearance	White, free flowing powder

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.