Product Data Sheet

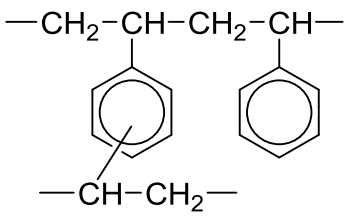
DIAION™ HP21

DIAION™ HP21 is based on a unique rigid polystyrene/divinylbenzene matrix. A controlled pore size distribution and large surface area offer excellent resolution and the capacity for a wide range of molecules, from small peptides and oligonucleotides up to large proteins. DIAION™ HP21 has relatively smaller pore radius and larger specific surface area than DIAION™ HP20.

DIAION™ HP21 is characterized by:

>> Unique pore size distribution
>> Excellent batch-to-batch reproducibly
>> Wide application
>> High chemical and physical stability
>> Excellent pressure/flow characteristics

Physical and chemical properties

Grade Name		DIAION™ HP21
Bead form		Spherical, porous
Matrix		Polystyrene/divinylbenzene
Chemical Structure		
Shipping Density*	g/L	680
Water content	%	50 - 60
Particle Size Distribution thr. 250 µm	%	10 max.
Effective size	mm	0.25 min.
Uniformity Coefficient	-	1.6 max.
Particle Density*	g/mL	1.01
Specific Surface Area*	m^2/g	640
Pore Volume*	mL/g	1.3
Pore Radius*	Å	110

Note : properties with a mark "*" are referential data.

Swelling ratio in various solvents

Methanol	1.22
Ethanol	1.35
2-Propanol	1.32
Acetone	1.32
Toluene	1.40
Acetonitrile	1.32
Water	1.00

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Pore size distribution

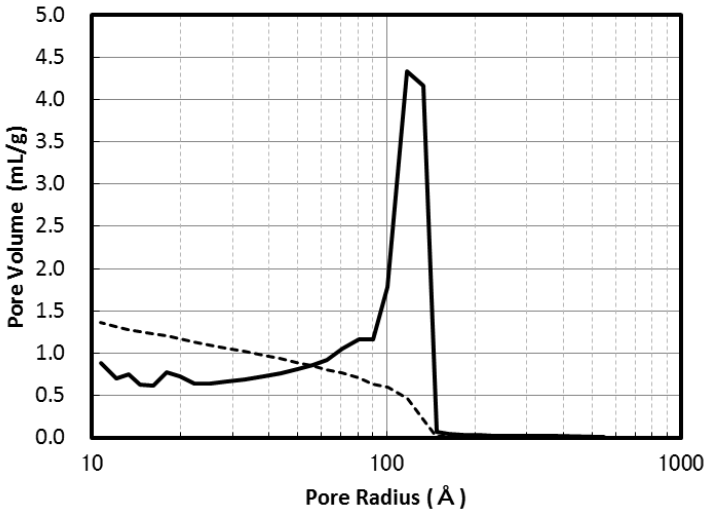

Fig. 1 Pore size distribution of HP21

Recommended Operating Conditions

Maximum Operating Temperature	°C	130
Operating pH Range		0 - 14
Minimum Bed Depth	mm	800
Flow rate	BV/h	Loading 0.5 - 5
	BV/h	Displacement 0.5 - 2
	BV/h	Regeneration 0.5 - 2
	BV/h	Rince 1 - 5
Regenerant		
		Organic solvents for hydrophobic compounds
		Bases for acidic compounds
		Acids for basic compounds
		Buffer solution for pH sensitive compounds
		Water for an ionic solution
		Hot steam for volatile compounds

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Hydraulic Characteristics

The approximate pressure drop at various temperatures and flow rates for each meter of bed depth of DIAION™ HP21 resin in normal down flow operation is shown in the graph below.

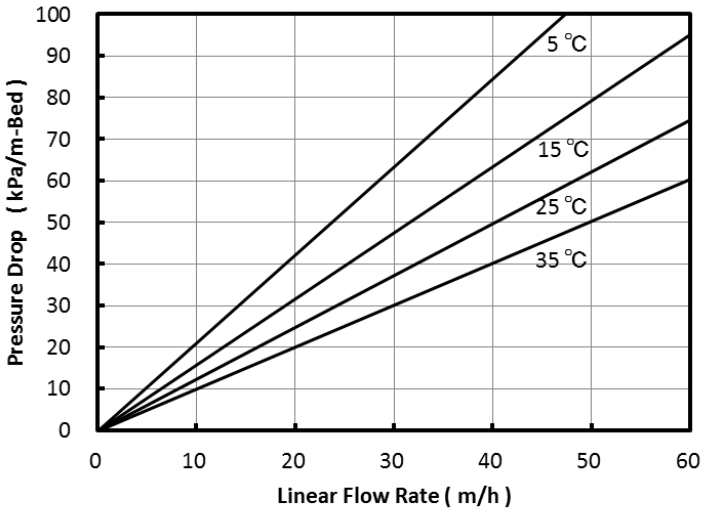

Fig. 2 Pressure Drop of HP21

FDA status

DIAION™ HP21 may be used to process food and beverage products and isolate specialized food additives as intended and such used may be said to fully comply with the Federal Food, Drug, and Cosmetic Act.

Applications

- Purification of small peptides, oligonucleotides and proteins
- Adsorption of vitamins, antibiotics, enzymes, steroids and other substance from fermentation solutions
- Decolorization of various sugar solutions
- Adsorption of fatty acids
- Removal of phenol
- Adsorption of various perfume
- Decolorization and purification of various chamicals

Notice

This information are given in good faith but without warranty, and this also applies where proprietary rights of third parties are involved. The application, use and processing of our products are beyond our control and therefore your own responsibility.

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