Product Data Sheet

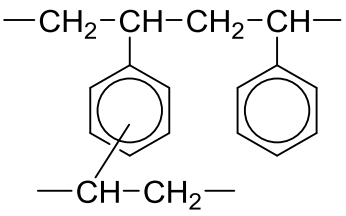
DIAION™ HP20SS

DIAION™ HP20SS is small particle grade based on DIAION™ HP20. 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. It offers nice balance of pressure flow characteristics and true chromatographic fractionation and has also been successfully applied in simulated moving bed applications for a variety of small bio molecules.

DIAION™ HP20SS 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™ HP20SS
Bead form		Spherical, porous
Matrix		Polystyrene/divinylbenzene
Chemical Structure		
Shipping Density*	g/L	670
Water content	%	55 - 67
Particle Size Distribution on 150 µm	%	15 max.
Particle Size Distribution 63 - 150 µm	%	70 min.
Particle Size Distribution thr. 63 µm	%	20 max.
Particle Density*	g/mL	1.01
Specific Surface Area*	m^2/g	560
Pore Volume*	mL/g	1.2
Pore Radius*	Å	290

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

Swelling ratio in various solvents

Methanol	1.21
Ethanol	1.21
2-Propanol	1.29
Acetone	1.30
Toluene	1.26
Acetonitrile	1.24
Water	1.00

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Pore size distribution

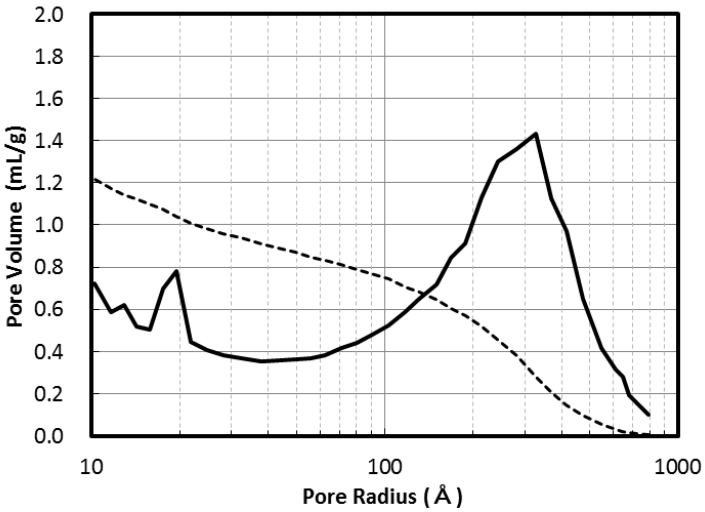

Fig. 1 Pore size distribution of HP20SS

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

Hydraulic Characteristics

The approximate pressure drop at various temperatures and flow rates for each meter of bed depth of DIAION™ HP20SS resin in normal down flow operation is shown in the graph below.

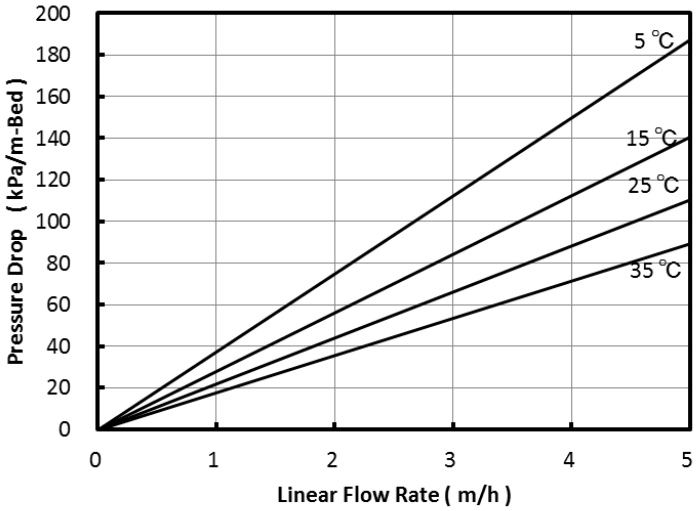

Fig. 2 Pressure Drop of HP20SS

FDA status

DIAION™ HP20SS 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

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