Product Data Sheet

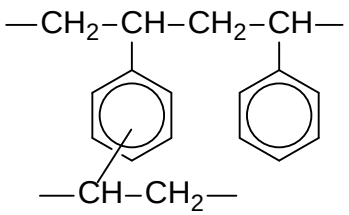
DIAION™ HP20

DIAION™ HP20 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™ HP20 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™ HP20
Bead Form		Spherical, porous
Matrix		Polystyrene/divinylbenzene
Chemical Structure		
Shipping Density*	g/L	690
Water Content	%	55 - 65
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	590
Pore Volume*	mL/g	1.3
Pore Radius*	Å	290

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

Swelling ratio in various solvents

Methanol	1.13
Ethanol	1.24
2-Propanol	1.17
Acetone	1.24
Toluene	1.25
Acetonitrile	1.17
Water	1.00

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Pore size distribution

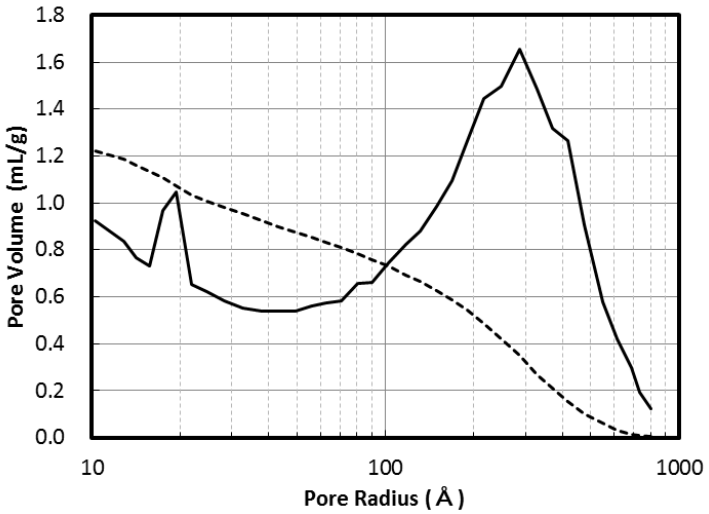

Fig. 1 Pore size distribution of HP20

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™ HP20 resin in normal down flow operation is shown in the graphs below.

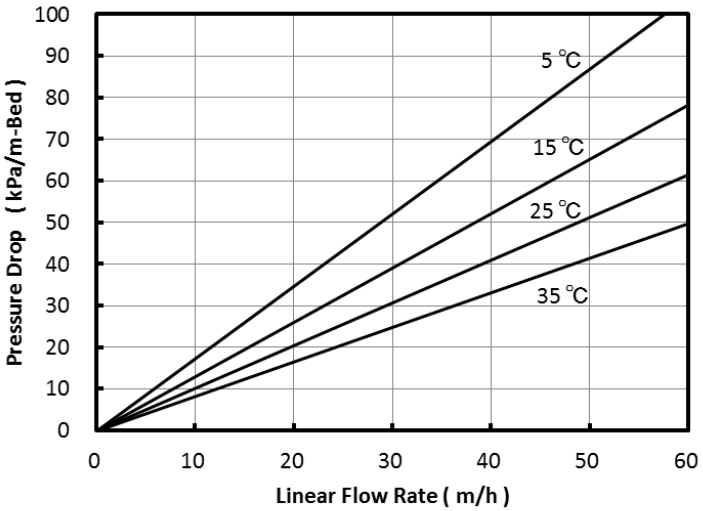

Fig. 2 Pressure Drop of HP20

FDA status

DIAION™ HP20 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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Storage condition

Synthetic adsorbents are recommended to store properly in order to avoid a high risk for mold growth. The proper storage typically allows any synthetic adsorbent resin to last for a year after production before onset of any such growth.
The best storage condition is with 20% of alcohol such as ethanol or isopropanol. A 10% or higher concentration of salt solution, such as NaCl, is also recommended to preserve new or used resin for long storage.
In case salt cannot be used, a 0.01 to 0.02 N of NaOH solution could be accepted as mold cannot withstand survival at pH higher than 12.
Storage at freezing temperature should be avoided at all cost as it may cause breakage or crush of resin particles.

Notice

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