Product Data Sheet

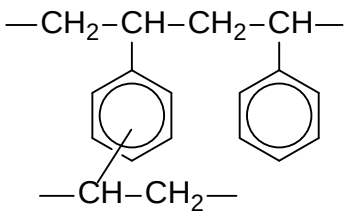
SEPABEADS™ SP850

SEPABEADS™ SP850 is highly porous styrenic adsorbents. It has much larger surface area and a narrower pore size distribution than DIAION™ HP20. It has also smaller pore radius than SEPABEADS™ SP825L. It offers higher capacity for small molecules. This grade is recommended for adsorption, desalting and decolorization.

SEPABEADS™ SP850 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		SEPABEADS™ SP850
Bead form		Spherical, porous
Matrix		Polystyrene/divinylbenzene
Chemical Structure		
Whole beads count	-	95 min.
Shipping Density*	g/L	690
Water content	%	46 - 52
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	930
Pore Volume*	mL/g	1.1
Pore Radius*	Å	45

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

Swelling ratio in various solvents

Methanol	1.15
Ethanol	1.17
2-Propanol	1.19
Acetone	1.17
Toluene	1.15
Acetonitrile	1.15
Water	1.00

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Pore size distribution

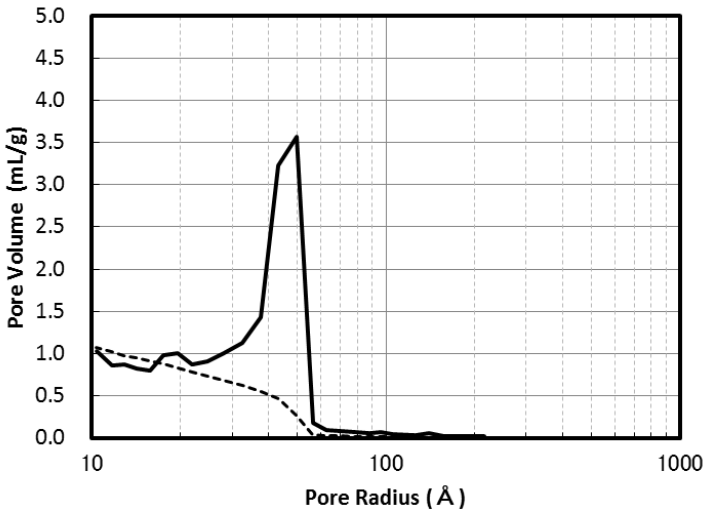

Fig. 1 Pore size distribution of SP850

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 SEPABEADS™ SP850 resin in normal down flow operation is shown in the graph below.

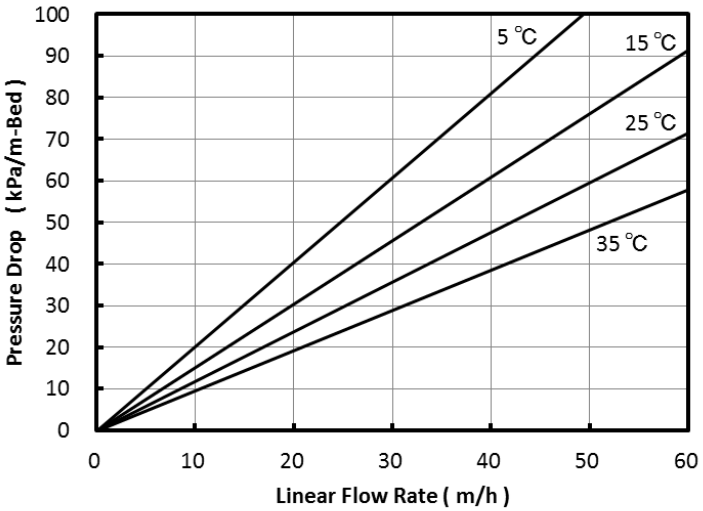

Fig. 2 Pressure Drop of SP850

Applications

- Purification of Cephalosporin C
- 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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