

Product Data Sheet

SEPABEADS™ SP700

SEPABEADS™ SP700 is highly porous styrenic adsorbents. It has highest surface area in SEPABEADS™ series and a narrower pore size distribution than DIAION™ HP20. It can be used for various application.

Product

Grade Name	DIAION™ SP700
Bead form	Synthetic Adsorbent
Matrix	Ethylvinylbenzene-DVB, Porous

Specification

Whole Bead Count	-	95 min.
Water content	%	60 - 70
Particle Size Distribution thr. 250 µm	%	5 max.
Effective size	mm	0.25 min.
Uniformity Coefficient	-	1.6 max.
Specific Surface Area	m ² /g	1100 min.

Properties

Shipping Density	g/L	690
Particle Density	g/mL	1.02
Pore Volume	mL/g	2.2
Pore Radius	Å	90

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	Rinse 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

1 BV(Bed Volume)=1 m³/m³-resin

Pore size distribution

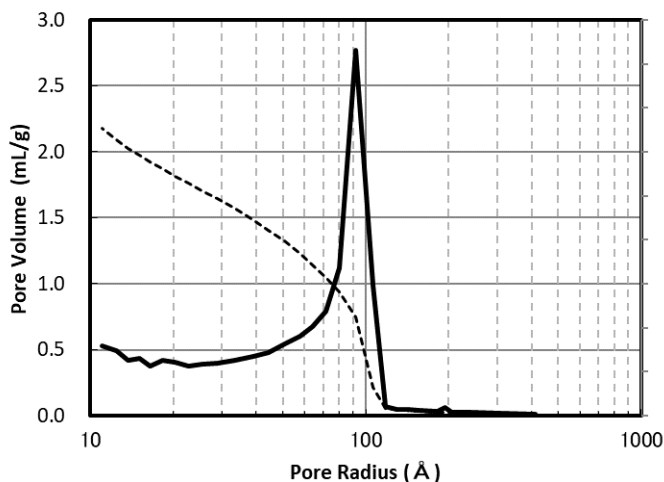


Fig. 1 Pore size distribution of SP700

Swelling Ratio In Various Solvents

Methanol	1.04
Ethanol	1.05
2-Propanol	1.07
Acetone	1.07
Toluene	1.05
Acetonitrile	1.05
Water	1.00

Hydraulic Characteristics

The approximate pressure drop at various temperatures and flow rates for each meter of bed depth of SEPABEADS™ SP700 resin in normal down flow operation is shown in the graphs below.

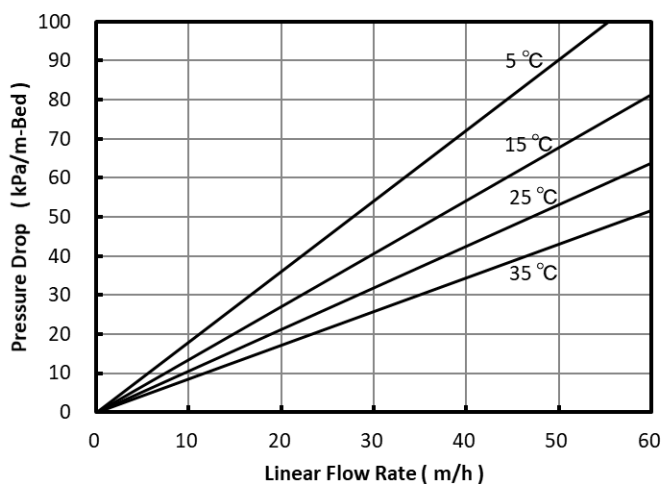


Fig. 2 Pressure Drop of SP700

Indicative Applications

- Purification of juices
- Removal of naringin and other bittering agents
- Purification of small peptides, oligonucleotides and proteins
- Adsorption of vitamins, antibiotics, enzymes, steroids and other substance from fermentation solutions
- Decolorization and purification of various chemicals

FDA status

SEPABEADS™ SP700 may be used to process food and beverage products and isolate specialized food additives as intended. Such use may be said to fully comply with the Federal Food, Drug, and Cosmetic Act, and applicable food additive regulations, including 21 CFR 173.65 (Divinylbenzene copolymer).

Storage condition

Synthetic adsorbents are at high risk of mold growth. Accordingly, synthetic adsorbents should be stored properly. Properly stored synthetic adsorbent resins may be stored for up to one year after production before the onset of any mold growth is detected. Optimal storage is with a 20% alcohol solution 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 storage. In case salt cannot be used, a 0.01 to 0.02 N NaOH solution may be acceptable as mold cannot withstand survival at pH higher than 12. Storage at freezing temperatures should be avoided as it may cause breakage or crush certain resin particles.

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