

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 | SEPABEADS™ 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 m ³ /m ³ -resin | | |

Pore size distribution

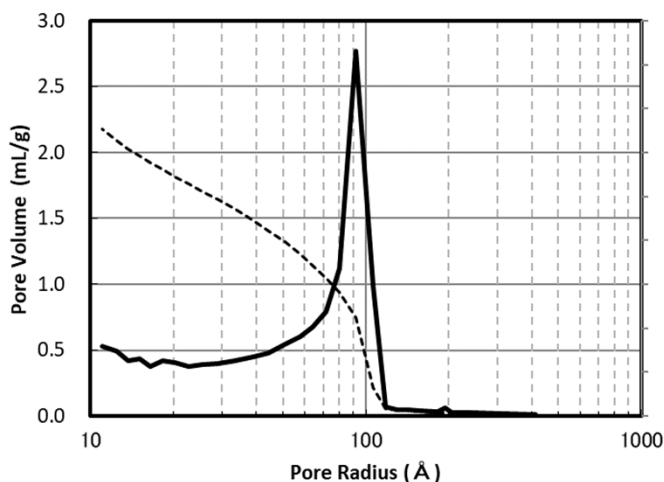


Fig. 1 Pore size distribution of SP700

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.

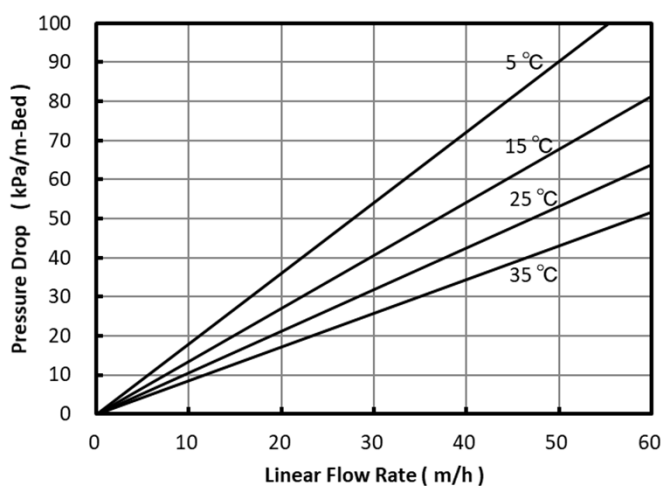


Fig. 2 Pressure Drop of SP700

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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