Product Data Sheet

AMBERLITE™ FPX66 Polymeric Adsorbent

Food-grade, Macroporous, Adsorbent Resin

Description

AMBERLITE™ FPX66 Polymeric Adsorbent is a macroporous, non-functionalized, adsorbent resin designed for food and biopharmaceutical processing.

In food processing, AMBERLITE™ FPX66 can be used for a wide variety of applications to purify and decolorize food-additive streams and to recover high-value materials.

In biopharmaceutical processing, AMBERLITE™ FPX66 is an excellent choice for separation and purification of small molecular weight compounds such as antibiotics, vitamins, steroids, amino acids, enzymes, and peptides.

AMBERLITE™ FPX66 is resistant to commonly used organic solvents, and it has high mechanical and thermal stability, making it an ideal choice for use in column or batch systems over a large number of process cycles. The resin has high capacity and high selectivity to provide increased product yields.

Applications

- Food processing
  - Decolorization
  - Purification
  - Recovery of high-value materials
- Biopharmaceutical processing
  - Separation of small molecular weight compounds (antibiotics, vitamins, steroids, amino acids, enzymes, peptides, etc.)

Form No. 45-D00767-en, Rev. 1
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Typical Properties

Physical Properties	
Copolymer	Crosslinked aromatic polymer
Matrix	Macroporous
Type	Adsorbent
Functional Group	None
Physical Form	White, opaque, spherical beads
Nitrogen BET	
Surface Area	~700 m^2/g
Total Pore Volume	~1.4 cc/g
Chemical Properties	
Ionic Form as Shipped	Not applicable
Total Exchange Capacity	Not applicable
Water Retention Capacity	60 – 68%
DVB Content	≤ 50 ppb
Particle Size [§]	
Particle Diameter	600 – 750 µm
< 300 µm	≤ 3.0%
> 1180 µm	≤ 5.0%
Density	
Particle Density	1.015 – 1.025 g/mL
Shipping Weight	680 g/L

[§] For additional particle size information, please refer to the Particle Size Distribution Cross Reference Chart (Form No. 177-01775).

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Suggested Operating Conditions

Maximum Operating Temperature	150°C (302°F)
pH Range	0 – 14
Bed Depth, min.	700 mm (2.3 ft)
Flowrates	
Loading	2 – 16 BV*/h (usually)
Washing	1 – 2 BV/h
Backwash	See Figure 1
Regeneration	1 – 2 BV/h
Rinse	2 – 16 BV/h
Regenerants	• Methanol or other water-miscible organic solvents (ethanol, isopropanol, acetone, etc.) • Dilute bases and/or dilute acids • Hot water or steam for volatile materials

* 1 BV (Bed Volume) = 1 m^3 solution per m^3 resin or 7.5 gal per ft^3 resin

Hydraulic Characteristics

Estimated bed expansion of AMBERLITE™ FPX66 Polymeric Adsorbent as a function of backwash flowrate and temperature is shown in Figure 1.

Estimated pressure drop for AMBERLITE™ FPX66 as a function of service flowrate and temperature is shown in Figure 2. These pressure drop expectations are valid at the start of the service run with clean feed and a well-classified bed.

Figure 1: Backwash Expansion

Temperature = 10 – 51.7°C (50 – 125°F)

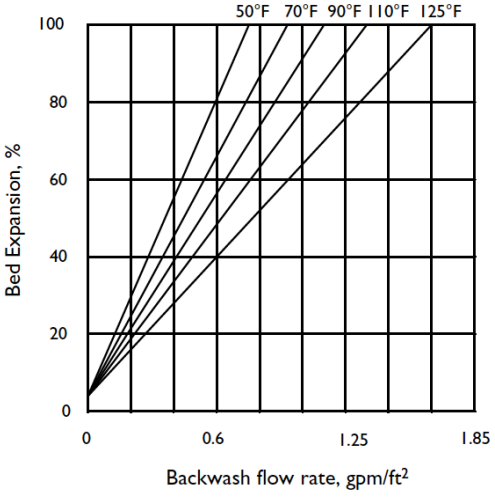
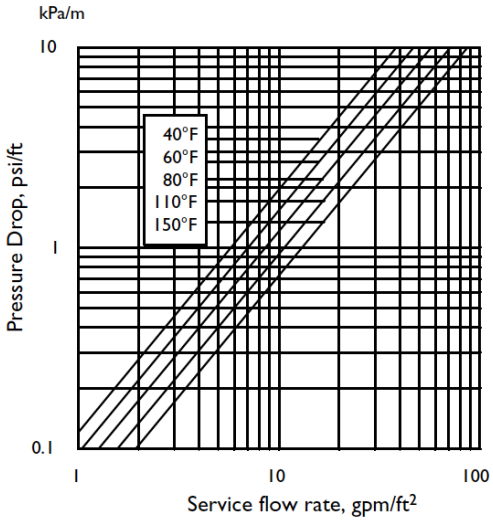


Figure 2: Pressure Drop

Temperature = 4.4 – 65.6°C (40 – 150°F)



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Product Stewardship

DuPont has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our product stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take appropriate steps to protect employee and public health and our environment. The success of our product stewardship program rests with each and every individual involved with DuPont products—from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

Customer Notice

DuPont strongly encourages its customers to review both their manufacturing processes and their applications of DuPont products from the standpoint of human health and environmental quality to ensure that DuPont products are not used in ways for which they are not intended or tested. DuPont personnel are available to answer your questions and to provide reasonable technical support. DuPont product literature, including safety data sheets, should be consulted prior to use of DuPont products. Current safety data sheets are available from DuPont.

Please be aware of the following:

- **WARNING:** Oxidizing agents such as nitric acid attack organic ion exchange resins under certain conditions. This could lead to anything from slight resin degradation to a violent exothermic reaction (explosion). Before using strong oxidizing agents, consult sources knowledgeable in handling such materials.

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