Product Data Sheet

AmberLite™ FPC14 Na Ion Exchange Resin

Food-grade, Gel, Strong Acid Cation Exchange Resin

Description

AmberLite™ FPC14 Na Ion Exchange Resin is a gel, strong acid cation exchanger that has been developed with a special, solvent-free manufacturing process.

With its excellent physical, chemical, and thermal stability, and also good ion exchange kinetics and high exchange capacity, AmberLite™ FPC14 Na is useful for pharmaceutical and food applications such as decalcification of saccharose thin juice or amino acid recovery.

Applications

- Saccharose thin juice decalcification
- Amino acid recovery

Typical Properties

Physical Properties	
Copolymer	Styrene-divinylbenzene
Matrix	Gel
Type	Strong acid cation
Functional Group	Sulfonic acid
Physical Form	Amber, translucent, spherical beads
Chemical Properties	
Ionic Form as Shipped	Na^+
Total Exchange Capacity	≥ 1.90 eq/L
Water Retention Capacity	41 – 49%
Particle Size [§]	
Particle Diameter	600 – 800 µm
< 300 µm	≤ 2.0%
Density	
Shipping Weight	808 g/L

[§] For additional particle size information, please refer to the Particle Size Distribution Cross Reference Chart (Form No. 45-D00954-en).

Suggested Operating Conditions

Maximum Operating Temperature	120°C (248°F)
Flowrates	
Service	5 – 20 BV*/h
Regeneration	1 – 3 BV/h
Backwash	See Figure 1
Slow Rinse	Regeneration flowrate for 2 BV
Fast Rinse (if applicable)	Service flowrate for 2 – 4 BV
Contact Time	
Regeneration	≥ 30 – 45 minutes
Regenerant	NaCl
Concentration	10%
Level, 100% basis	60 – 250 kg/m^3 (3.8 – 15.6 lb/ft^3)

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

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Hydraulic Characteristics

Bed expansion of AmberLite™ FPC14 Na Ion Exchange Resin as a function of backwash flowrate and temperature is shown in Figure 1.

Pressure drop data for AmberLite™ FPC14 Na as a function of service flowrate and viscosity 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 = 5 – 60°C (41 – 140°F)

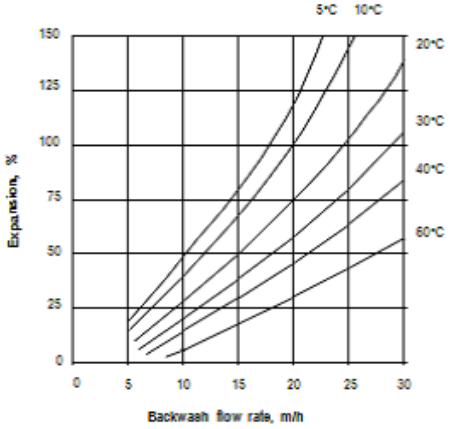
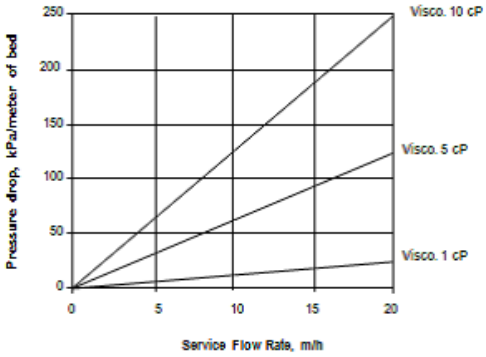


Figure 2: Pressure Drop

Viscosity = 1 – 10 cP



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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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