



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, strongly acidic, cation exchange resin. The resin has excellent physical, chemical, and thermal stability, good ion exchange kinetics and high exchange capacity.

AMBERLITE™ FPC14 Na has been specially developed with a solvent-free manufacturing process for pharmaceutical and food applications (i.e., decalcification of saccharose thin juice).

AMBERLITE™ FPC14 Na can also be used in the recovery of amino acids and is ideal as a general-purpose, gel, strong acid cation where a high capacity is required such as in amino acid recovery.

Applications

- Pharmaceutical and food application requiring a resin manufactured in a solvent-free process
- 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
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§ For additional particle size information, please refer to the [Particle Size Distribution Cross Reference Chart](#) (Form No. 177-01775).

Suggested Operating Conditions

Maximum Operating Temperature	120°C (248°F)
Flowrates	
Service	5 – 20 BV*/h
Backwash	See Figure 1
Regeneration	1 – 3 BV/h
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	60 – 250 kg/m ³ (3.8 – 15.6 lb/ft ³)

* 1 BV (Bed Volume) = 1 m³ solution per m³ resin or 7.5 gal per ft³ resin

Hydraulic Characteristics

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

Estimated pressure drop 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)

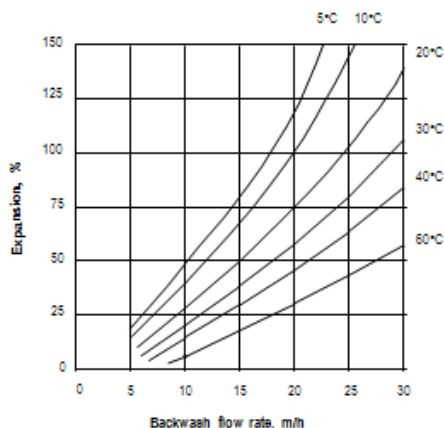
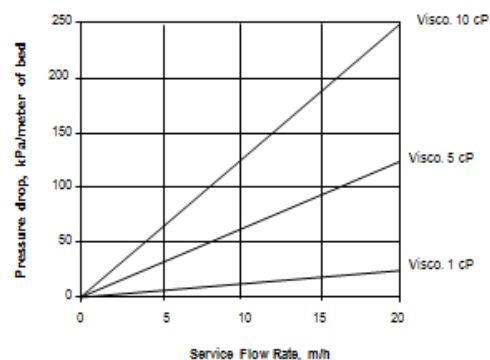


Figure 2: Pressure Drop

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.

Have a question? Contact us at:

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