



## 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 <sup>+</sup>
Total Exchange Capacity	≥ 1.90 eq/L
Water Retention Capacity	41 – 49%
Particle Size <sup>§</sup>	
Particle Diameter	600 – 800 μm
< 300 μm	≤ 2.0%
Density	
Shipping Weight	808 g/L

<sup>§</sup> 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	
Concentration	10%
Level, 100% basis	60 – 250 kg/m <sup>3</sup> (3.8 – 15.6 lb/ft <sup>3</sup> )

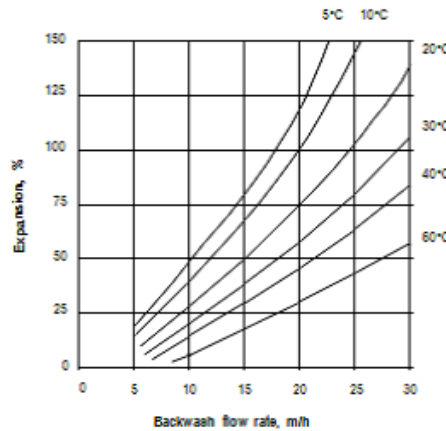
\* 1 BV (Bed Volume) = 1 m<sup>3</sup> solution per m<sup>3</sup> resin or 7.5 gal solution per ft<sup>3</sup> resin

## Hydraulic Characteristics

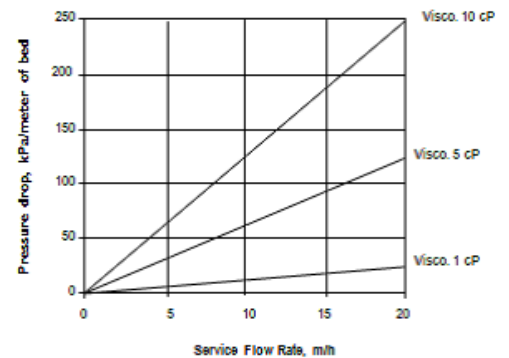
Bed expansion of AmberLite™ FPC14 Na Ion Exchange Resin as a function of backwash flowrate and temperature is shown in Figure 1.

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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