



AmberLite™ FPA40 CI

Food Grade Strong Base Anion Exchanger

Introduction

AmberLite™ FPA40 CI can be used as an alternative to AmberLite™ FPA98 CI or AmberLite™ FPA90 CI to decolorize sugar solutions < 200 ICUMSA.

Whilst a gellular resin, the high moisture content exhibits some of the characteristics of a macro-reticular resin which make AmberLite™ FPA40 CI ideally suited to the reversible uptake of organic color bodies commonly found in sucrose syrups.

AmberLite™ FPA40 CI is a very unique product in that it is a gellular resin (high capacity) with macroreticular characteristics (physical stability). It is an excellent resin of choice for Decolorization of organic color bodies in many bioprocessing applications, including natural product extraction and recovery / decolorization of antibiotics from fermentation broth.

It is extensively used in aminoglycoside purification processes in combination with AmberLite™ FPC3500, and/or AmberLite™ CG50 type 1.

Thanks to AMBERITE FPA40 CI, higher level of purity of aminoglycoside antibiotics can be achieved in a deco-lorization step either pre- or post- purification.

Properties

AmberLite™ FPA40 CI is a type 1 strong base anion exchange resin supplied in the Chloride form. Due to the relatively high moisture content, AmberLite™ FPA40 CI exhibits some of the characteristics of macroreticular resin with good resistance to fouling and osmotic stress. The structure is particularly well suited to reversibly removing relatively large organic molecules from a variety of process streams.

Matrix	Crosslinked polystyrene
Functional groups	Quaternary ammonium
Physical form	Clear yellow beads
Ionic form as shipped	Chloride
Total exchange capacity	≥ 1.0 eq/L (Cl ⁻ form)
Moisture holding capacity	57 to 68 % (Cl ⁻ form)
Shipping weight	700 g/L
Harmonic mean size	0.50 to 0.75 mm
Fines content	< 0.425 mm : 2.0 % max

Suggested Operating Conditions

Operating temperature limit	60°C (OH ⁻ form) / 90°C (Cl ⁻ form)
Minimum bed depth	700 mm
Service flow rate	2 to 8 BV*/h
Regenerants	NaCl (4-10 %)
Regenerant level	50 to 150 g/LR
Regenerant flow rate	2 to 8 BV/h
Minimum contact time	30 minutes
Slow rinse	2 BV at regeneration flow rate
Fast rinse	4 to 8 BV at service flow rate

Hydraulic Characteristics

Figure 1 shows the bed expansion of AmberLite™ FPA40 Cl, as a function of backwash flow rate and water temperature.

Conversion Factors:

- 1 m/h equals 0.41 USgpm/ft²

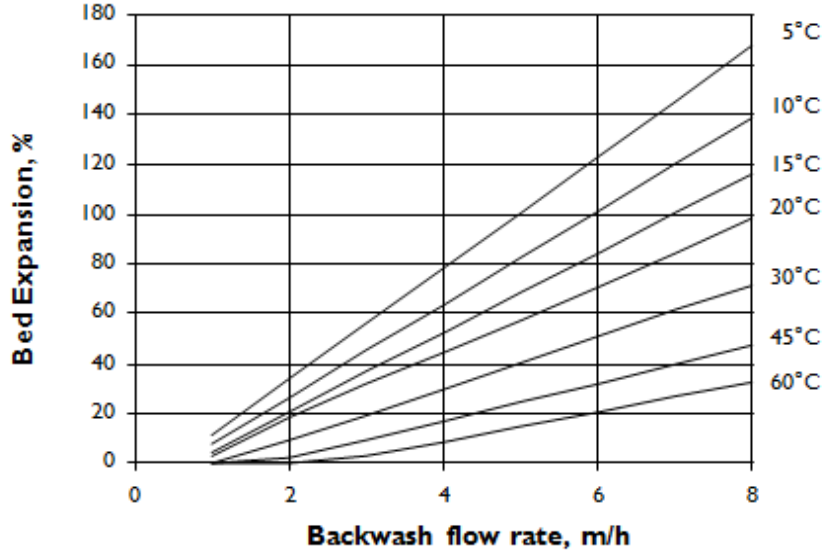


Figure 1:

Product Stewardship

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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.

LENNTECH

WATER TREATMENT SOLUTIONS

info@lennotech.com Tel. +31-152-610-900

www.lennotech.com Fax. +31-152-616-289

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