

PRODUCT DATA SHEET

**AMBERLITE™ FPA40 Cl**  
Food Grade Strong Base Anion Exchanger

**For decolorization of sucrose syrups and Biopharmaceutical Applications**

**FOOD PROCESSING**

AMBERLITE FPA40 Cl can be used as an alternative to AMBERLITE FPA98 Cl or AMBERLITE FPA90 Cl 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 Cl ideally suited to the reversible uptake of organic color bodies commonly found in sucrose syrups.

**BIOPHARMACEUTICAL PROCESSING**

AMBERLITE FPA40 Cl 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 AMBERLITE FPA40 Cl, higher level of purity of aminoglycoside antibiotics can be achieved in a decolorization step either pre- or post- purification.

**PROPERTIES AND SUGGESTED OPERATING CONDITIONS**

AMBERLITE FPA40 Cl is a type 1 strong base anion exchange resin supplied in the Chloride form. Due to the relatively high moisture content, AMBERLITE FPA40 Cl

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.

**PROPERTIES**

Matrix _____	Crosslinked polystyrene
Functional groups _____	Quaternary ammonium
Physical form _____	Clear yellow beads
Ionic form as shipped _____	Chloride
Total exchange capacity <sup>(1)</sup> _____	≥ 1.0 eq/L (Cl <sup>-</sup> form)
Moisture holding capacity <sup>(1)</sup> _____	57 to 68 % (Cl <sup>-</sup> form)
Shipping weight _____	700 g/L
Harmonic mean size _____	0.50 to 0.75 mm
Fines content <sup>(1)</sup> _____	< 0.425 mm : 2.0 % max

<sup>(1)</sup> Contractual value  
Test methods available upon request

**SUGGESTED OPERATING CONDITIONS**

Operating temperature limit _____	60°C (OH <sup>-</sup> form) / 90°C (Cl <sup>-</sup> form)
Minimum bed depth _____	700 mm
Service flow rate _____	2 to 8 BV*/h
Regenerants _____	NaCl** (4-10 %)
Regenerant level _____	50 to 150 g/L <sub>R</sub>
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

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

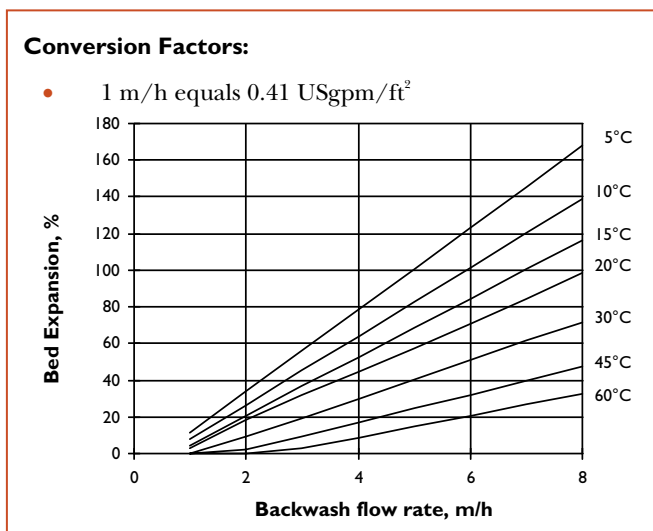
\*\* For color removal applications, alkaline brine (10 % NaCl + 0.2 % NaOH) can also be used

## FOOD PROCESSING

As governmental regulations vary from country to country, it is recommended that potential users contact their Rohm and Haas representative in order to determine the best resin choice, optimum operating and regeneration conditions.

## HYDRAULIC CHARACTERISTICS

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



**All our products are produced in ISO 9001 certified manufacturing facilities.**

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Ion exchange resins and polymeric adsorbents, as produced, contain by-products resulting from the manufacturing process. The user must determine the extent to which organic by-products must be removed for any particular use and establish techniques to assure that the appropriate level of purity is achieved for that use. The user must ensure compliance with all prudent safety standards and regulatory requirements governing the application. Except where specifically otherwise stated, Rohm and Haas Company does not recommend its ion exchange resins or polymeric adsorbents, as supplied, as being suitable or appropriately pure for any particular use. Consult your Rohm and Haas technical representative for further information. Acidic and basic regenerant solutions are corrosive and should be handled in a manner that will prevent eye and skin contact. Nitric acid and other strong oxidising agents can cause explosive type reactions when mixed with Ion Exchange resins. Proper design of process equipment to prevent rapid buildup of pressure is necessary if use of an oxidising agent such as nitric acid is contemplated. Before using strong oxidising agents in contact with Ion Exchange Resins, consult sources knowledgeable in the handling of these materials.

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