

PRODUCT DATA SHEET

AMBERLITE™ FPA91 Cl
Food Grade Strong Base Anion Exchanger

For Polishing of Starch based Sweeteners and Biopharmaceutical Applications

FOOD PROCESSING

AMBERLITE FPA91 Cl has been specially designed for use in mixed beds for the final polishing of fructose syrups. When used in the hydroxyl (OH) form with either AMBERLITE FPC22 H or AMBERLITE FPC23 H, AMBERLITE FPA91 Cl removes trace contaminants that can cause odors, off-flavors and color stability problems with stored syrups. These include weak organic acids and nitrogen containing compounds.

BIOPHARMACEUTICAL PROCESSING

AMBERLITE FPA91 Cl is a strong base type 2 anionic resin of choice for many decolorization processes of high molecular weight organic color bodies found in natural products extraction as well as in some antibiotics fermentation broth.

PROPERTIES AND SUGGESTED OPERATING CONDITIONS

AMBERLITE FPA91 Cl is a macroreticular anionic exchange resin containing a type 2 quaternary amine function on a crosslinked polystyrene matrix. The macroreticular structure has very large fixed pores.

This feature combined with the strongly basic ion exchange sites and aromatic polymer backbone permits the removal of large soluble organic molecules typically found in processed liquid sugar solutions. In addition, the macroreticular structure imparts superior resistance to mechanical and osmotic shock.

PROPERTIES

Matrix _____	Crosslinked polystyrene
Functional groups _____	-N ⁺ (CH ₃) ₂ C ₂ H ₄ OH
Physical form _____	Pale yellow, opaque beads
Ionic form as shipped _____	Chloride
Total exchange capacity ^[1] _____	≥ 1.0 (Cl ⁻ form)
Moisture holding capacity ^[1] _____	54 - 61 % (Cl ⁻ form)
Shipping weight _____	700 g/L
Harmonic mean size _____	0.530 - 0.800 mm
Fine contents ^[1] _____	< 0.300 mm : 2.5 % max
Maximum reversible swelling _____	Cl ⁻ → OH : 15 %

^[1] Contractual value
 Test methods available upon request

SUGGESTED OPERATING CONDITIONS

Maximum operating temperature _____	35°C
Minimum bed depth _____	700 mm
Service flow rate _____	5 to 20 BV*/h
Regenerant _____	NaOH
Regenerant flow rate _____	2 to 8 BV/h
Regenerant concentration _____	2 to 4 %
Regenerant level _____	40 to 100 g/L _R
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 m³ solution per m³ resin

FOOD PROCESSING

As governmental regulations vary from country to country, it is recommended that potential users seek advice from 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 FPA91 Cl as a function of backwash flow rate and water temperature.

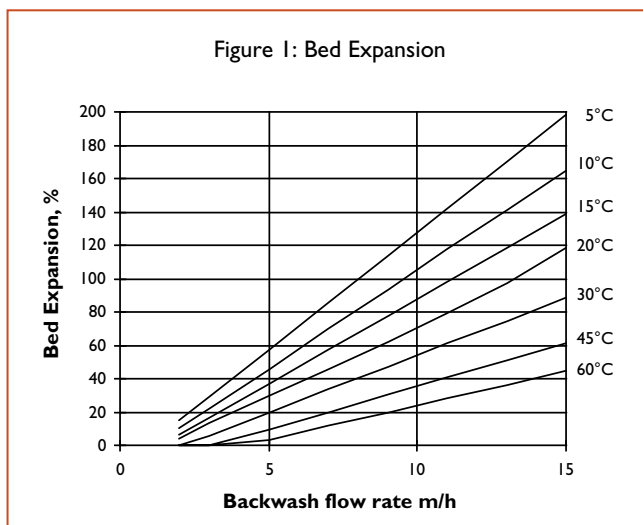
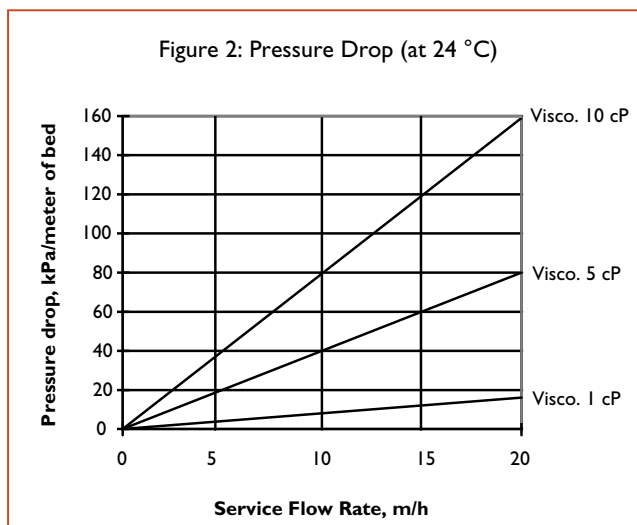


Figure 2 shows the pressure drop data for AMBERLITE FPA91 Cl as a function of service flow rate and viscosity of the solution to be treated.

Conversion Factors:

- 1 kPa/m equals 0.0442 psi/ft
- 1 m/h equals 0.41 USgpm/ft²



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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