



## AMBERLITE™ FPA98 CI Resin

### Food and BioPharmaceutical Grade Strong Base Anion Exchange Resin

For the Decolorization of Sucrose Solutions and Biopharmaceutical Applications

#### Description

AMBERLITE™ FPA98 CI Resin has been specially designed for the decolorization of highly colored (greater than 500 ICUMSA) liquid sugar syrups.

AMBERLITE FPA98 CI Resin can be used alone as a gross decolorization resin for highly colored sugar solutions or in combination with AMBERLITE FPA90 CI Resin where the latter is used as a polisher for very low color final products. This use of ion exchange based decolorization technology has proven more effective and economical than carbon or bore char based technologies for sugar solutions.

#### Biopharmaceutical Processing

AMBERLITE FPA98 CI Resin is an excellent resin of choice for decolorization of high molecular weight organic color bodies in many bioprocessing applications such as natural product extraction and, recovery of antibiotics from fermentation broth.

In addition it exhibits all the advantages of an acrylic based matrix. This product provides the pore structure so that high molecular weight organics are easily adsorbed (decolorization) while exhibiting the low organic fouling properties of an acrylic matrix.

#### Typical Physical and Chemical Properties

AMBERLITE FPA98 CI Resin is an acrylic, macroreticular anionic exchange resin containing a quaternary amine function. The high porosity of its macroreticular structure allows excellent removal of large organic molecules from liquid sugars and other food streams.

The acrylic composition of the matrix provides excellent desorption of the organic color bodies during regeneration eliminating the fouling associated with other types of resin such as those based on crosslinked polystyrene. AMBERLITE FPA98 CI Resin also exhibits excellent resistance to physical breakdown by attrition and osmotic shock.

Physical form	White opaque beads
Matrix	Crosslinked acrylic macroreticular structure
Functional groups	Quaternary ammonium
Ionic form as shipped	Chloride
Total exchange capacity	≥ 0.8 eq/L (Cl <sup>-</sup> form)
Moisture holding capacity	66–72% (Cl <sup>-</sup> form)
Shipping weight	700 g/L
Harmonic mean size	0.630–0.850 mm
Fine contents	1.0% MAX <0.300 mm

## Suggested Operating Conditions

Maximum operating temperature	80°C (Cl form)
Minimum bed depth	1000 mm
Service flow rate	2-4 BV*/h
Regenerant	NaCl (10%) + NaOH (0.2-0.5%)
Regenerant flow rate	2-4 BV/h
Regenerant level	160-240 g/L
Minimum contact time	60 minutes
Regenerant temperature	50-70°C
Slow rinse	2 BV at 2-4 BV/h
Fast rinse	4-8 BV at up to 12 BV/h

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

## Hydraulic Characteristics

Figure 1 shows the bed expansion of AMBERLITE™ FPA98 Cl Resin as a function of backwash flow rate and water temperature.

Figure 2 shows the pressure drop data for AMBERLITE FPA98 Cl Resin 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/ft<sup>2</sup>

Figure 1. Bed Expansion

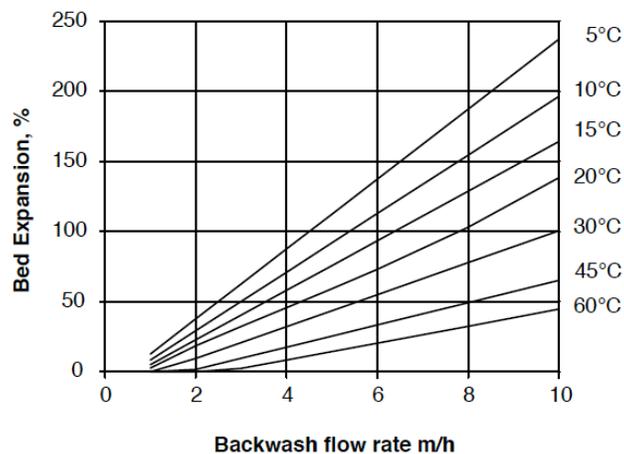
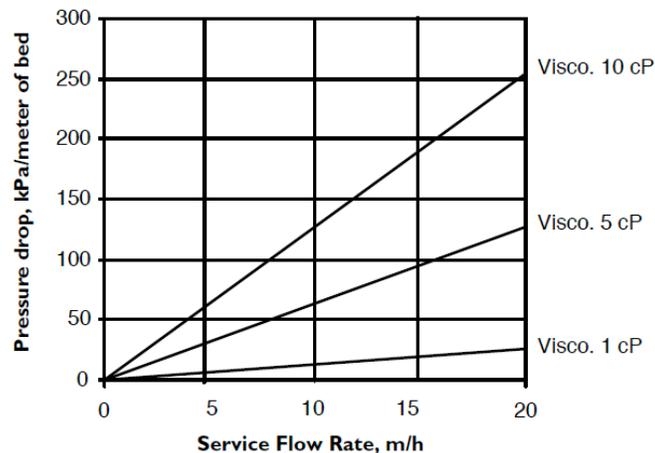


Figure 2. Pressure Drop (at 24°C)



Limits of Use	For specific pharmaceutical and food processing applications, it is recommended that all potential users seek advice from Dow in order to determine the proper resin selection and usage.
Product Stewardship	Dow has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our product stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take appropriate steps to protect employee and public health and our environment. The success of our product stewardship program rests with each and every individual involved with Dow products - from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.
Customer Notice	Dow strongly encourages its customers to review both their manufacturing processes and their applications of Dow products from the standpoint of human health and environmental quality to ensure that Dow products are not used in ways for which they are not intended or tested. Dow personnel are available to answer your questions and to provide reasonable technical support. Dow product literature, including safety data sheets, should be consulted prior to use of Dow products. Current safety data sheets are available from Dow.

**DOW™ Ion Exchange Resins**  
For more information about DOW™ resins, call the Dow Water & Process Solutions business:

North America: 1-800-447-4369  
Latin America: (+55) 11-5188-9222  
Europe: +800-3-694-6367  
Italy: +800-783-825  
South Africa: +0800 99 5078  
Pacific: +800 7776 7776  
China: +400 889-0789  
<http://www.dowwaterandprocess.com>

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.

NOTICE: No freedom from infringement of any patent owned by Dow or others is to be inferred. Because use conditions and applicable laws may differ from one location to another and may change with time, Customer is responsible for determining whether products and the information in this document are appropriate for Customer's use and for ensuring that Customer's workplace and disposal practices are in compliance with applicable laws and other government enactments. The product shown in this literature may not be available for sale and/or available in all geographies where Dow is represented. The claims made may not have been approved for use in all countries. Dow assumes no obligation or liability for the information in this document. References to "Dow" or the "Company" mean the Dow legal entity selling the products to Customer unless otherwise expressly noted. NO WARRANTIES ARE GIVEN; ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY EXCLUDED.

