AMBERLITE™ IRA96 Resin

Macroporous Weak Base Anion Exchange Resins for Industrial Water treatment

Description

AMBERLITE™ IRA96 Resin is a macroporous weak base anion resin with superior mechanical stability and high porosity to allow efficient adsorption of large organic molecules. The resin is primarily intended for the removal of strong acids from water following a strong acid cation resin and provides excellent protection against organic fouling for the strong base anion exchange resin placed downstream in a deionization plant. AMBERLITE IRA96 Resin is also available in a special SB particle size grade to give optimum performance in stratified bed applications combined with AMBERJET™ 4400 Cl, AMBERLITE IRA458RF Cl or DOWEX™ MARATHON™ A LB strong base anion resins.

Typical Physical and Chemical Properties

Physical form	White to amber opaque spherical beads
Matrix	Styrene divinylbenzene copolymer
Ionic form as shipped	Free Base (FB)
Total exchange capacity	1.25 eq/L (27.3 kgr/ft)
Moisture retention capacity	57–63%
Shipping weight	670 g/L (42 lbs/ft)
Particle size	AMBERLITE IRA96
Uniformity coefficient max.	1.8
Harmonic mean size	0.55–0.75 mm
< 0.300 mm max.	1%
Reversible swelling	FB to Cl^- 15%

Suggested Operating Conditions

Maximum operating temperature	100°C / 212°F		
Minimum bed depth	700 mm (2.3 ft)		
Service flow rate	5–40 BV*/h (0.6–5.0 gpm/ft^3)		
Regenerant	NaOH	NH_3	Na_2CO_3
Level (% of ionic load)	120	150	200
Concentration	2–4%	2–6%	5–8%
Minimum contact time	30 minutes		
Slow rinse	2 BV at regeneration flow rate		
Fast rinse	4–8 BV at service flow rate		

*1 BV (Bed Volume) = 1 m^3 solution per m^3 resin or 7.5 gals per ft^3 resin

Packaging

25 liter bags or 7 cubic foot drum

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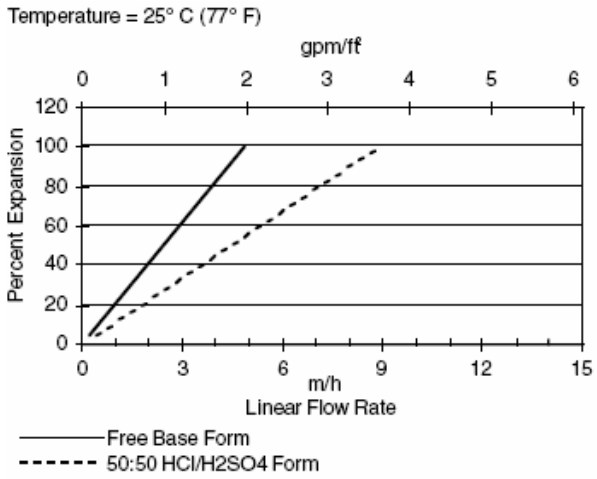
Hydraulic Characteristics

Figure 1 shows the bed expansion of AMBERLITE™ IRA96 Resin as a function of backwash flow rate and water temperature. Figure 2 shows the pressure drop data for AMBERLITE IRA96 Resin as a function of service flow rate and water temperature. These data are valid for water treatment and have to be corrected according to the solution to be treated.

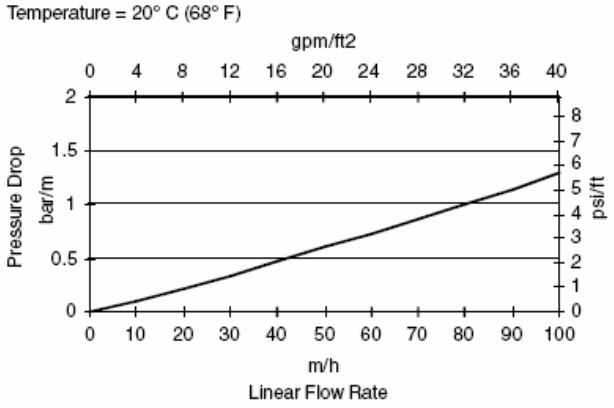
Figure 1. AMBERLITE IRA96 Resin Backwash Expansion Data



For other temperatures use:

$F_T = F_{77°F}$ [1+ 0.008 ($T_{°F}$ -77)], where F ≡ gpm/ft^2
$F_T = F_{25°C}$ [1+ 0.008 (1.8$T_{°C}$ - 45)], where F ≡ m/h

Figure 2. AMBERLITE IRA96 Resin Pressure Drop Data



For other temperatures use:

$P_T = P_{20°C}$ / (0.026 $T_{°C}$ + 0.48), where P ≡ bar/m
$P_T = P_{68°F}$ / (0.014 $T_{°F}$ + 0.05), where P ≡ psi/ft

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:
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Pacific: +60 3 7958 3392
Japan: +813 5460 2100
China: +86 21 2301 1000
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.

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