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PRODUCT DATA SHEET

AMBERLITE™ IRA96

Industrial Grade Weak Base Anion Exchanger

AMBERLITE IRA96 resin is a macroreticular weak base anion exchange resin. Its very stable structure and limited reversible swelling make it very resistant to osmotic shock. The high degree of porosity of this resin provides efficient adsorption of large organic molecules and their desorption during regeneration, thus allowing excellent protection against organic fouling. AMBERLITE IRA96 resin is intended primarily for the removal of strong acids from water following a strongly acidic cation exchange resin, and it provides excellent protection against organic fouling for the strong base anion exchange resin placed downstream in a deionization plant.

PROPERTIES

Physical form	Tan opaque spherical beads
Matrix	Styrene divinylbenzene copolymer
Functional group	Tertiary amine : at least 85 %
Ionic form as shipped	Free base (FB)
Total exchange capacity [1]	≥ 1.25 eq/L (FB form)
Moisture holding capacity [1]	57 to 63 % (FB form)
Shipping weight	670 g/L
Specific gravity	1.040 to 1.060 (FB form)
Particle size	
Uniformity coefficient [1]	≤ 1.80
Harmonic mean size [1]	0.550 to 0.750 mm
< 0.300 mm [1]	1.0 % max
Reversible swelling	FB → Cl^- ≤ 15 %

[1] Contractual value

Test methods are available on request.

SUGGESTED OPERATING CONDITIONS

Maximum operating temperature	60 °C		
Minimum bed depth	700 mm		
Service flow rate	5 to 40 BV*/h		
Regenerant	NaOH	NH_3	Na_2CO_3
Level (% of ionic load)	120	150	200
Concentration (%)	2 to 4	2 to 6	5 to 8
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^3 solution per m^3 resin*

PERFORMANCE

The Engineering data sheet EDS 0254 A provides information to calculate the operating capacity of AMBERLITE IRA96 resin used in water treatment.

LIMITS OF USE

AMBERLITE IRA96 resin is suitable for industrial uses. For all other specific applications such as pharmaceutical, food processing or potable water applications, it is recommended that all potential users seek advice from Rohm and Haas in order to determine the best resin choice and optimum operating conditions.

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. Pressure drop data are valid at the start of the service run with clear water and a correctly classified bed. These data are valid for water treatment and have to be corrected according to the solution to be treated.

Figure 1: Bed Expansion

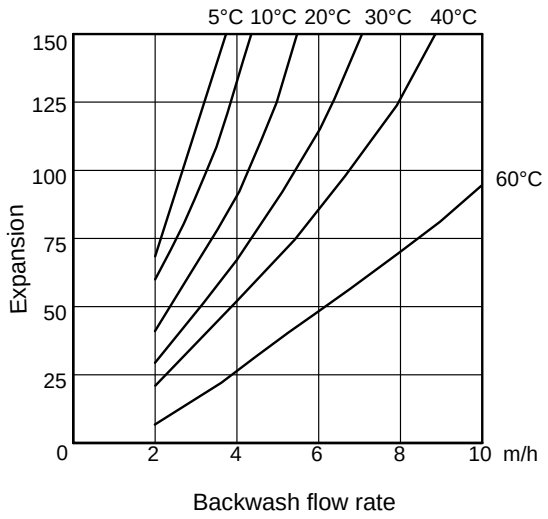
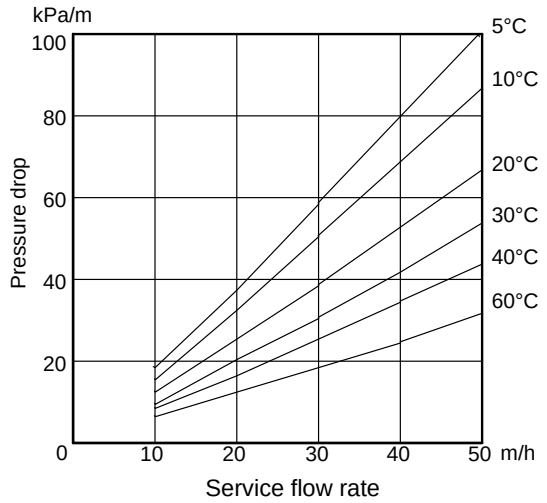


Figure 2: Pressure Drop



ROHM AND HAAS

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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.