

PRODUCT DATA SHEET

AMBERLITE™ IRA96SB

Industrial Grade Weak Base Anion Exchanger

AMBERLITE IRA96SB 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 IRA96SB 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 in the same vessel. The particle size distribution of AMBERLITE IRA96SB resin has been specifically selected to give optimum performance in stratified bed applications combined with AMBERJET 4400 Cl or AMBERLITE IRA458RF Cl resins.

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] _____	≤ 1.60
Harmonic mean size ^[1] _____	0.440 to 0.590 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 _____	100°C
Minimum bed depth _____	700 mm
Service flow rate _____	5 to 40 BV*/h
Regeneration	
Regenerant _____	NaOH
Level _____	120 % of ionic load
Concentration _____	2 to 4 %
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

PERFORMANCE

Operating capacity

The operating capacity of AMBERLITE IRA96SB resin, when used to deionise water, depends on a number of factors :

- Ionic load,
- CO₂ content,
- SO₄/FMA ratio,
- Water temperature.

The Engineering data sheet EDS 0254 A provides information to calculate the operating capacity of AMBERLITE IRA96SB resin used in water treatment.

Organic matter

Thanks to its high porosity, AMBERLITE IRA96SB resin can adsorb reversibly organic molecules from solution. It is therefore very useful to protect strongly basic resins from irreversible fouling.

Physical stability

The tough, durable structure of AMBERLITE IRA96SB resin associated with the limited reversible volume change in service offers excellent resistance

to attrition from osmotic or physical stress. In addition, the resin has outstanding resistance to oxidation.

LIMITS OF USE

AMBERLITE IRA96SB 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 IRA96SB resin as a function of backwash flow rate and water temperature. Figure 2 shows the pressure drop data for AMBERLITE IRA96SB 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

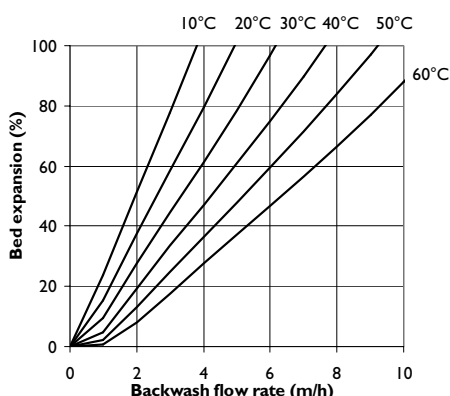
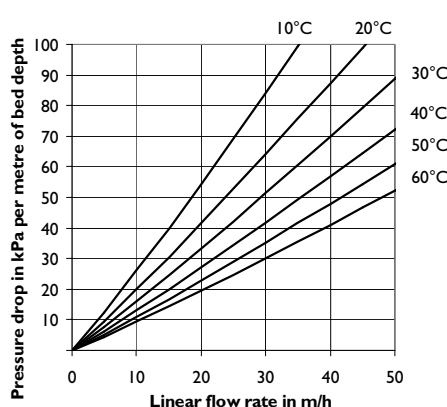


Figure 2: Pressure Drop



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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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