



## AMBERLITE™ IRA96SB Resin Industrial Grade Weak Base Anion Exchanger

For Industrial Water treatment

### Description

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 4500 Cl or AMBERLITE IRA458RF Cl Resins.

### Typical Physical and Chemical Properties

Physical form		Tan opaque spherical beads
Matrix		Styrene divinylbenzene copolymer
Functional group		Tertiary amine
Ionic form as shipped		Free base (FB) form
Total volume capacity	eq/L kgr/ft <sup>3</sup> as CaCO <sub>3</sub>	≥1.25
Moisture retention capacity	%	57–63
Particle size†		
Uniformity coefficient		≤1.60
Harmonic mean diameter	mm	0.440–0.590
< 0.300 mm	%	1.0 max
Reversible swelling (FB → Cl <sup>-</sup> )	%	≤ 15
Shipping density**	g/L lbs/ft <sup>3</sup>	670 42

† For additional particle size information, please refer to Particle Size Distribution Cross Reference Chart (Form No. 177-01775).

\*\*As per the backwashed and settled density of the resin, determined by ASTM D-2187

## Suggested Operating Conditions

Maximum operating temperature	100°C
Bed depth, min.	700 mm
Flow rates:	
Service flow rate	5–40 BV*/h
Slow rinse	2 BV at regeneration flow rate
Fast rinse	4–8 BV at service flow rate
<b>Regeneration</b>	
Regenerant	<b>NaOH</b>
Level	120% of ionic load
Concentration	2–4%
Minimum contact time	30 minutes

\*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

## Performance

### Operating capacity

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

- Ionic load,
- CO<sub>2</sub> content,
- SO<sub>4</sub>/FMA ratio,
- Water temperature.

### 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.

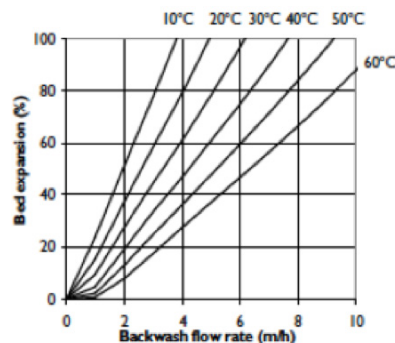
## Packaging

7 cubic foot drum

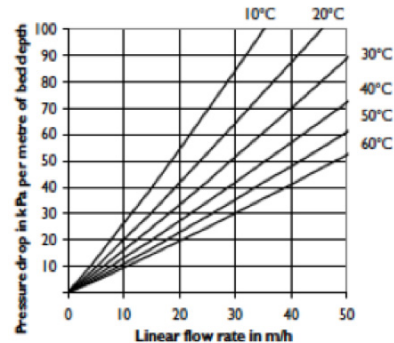
## Hydraulic Characteristics

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**



## **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: (+32) 3-450-2240  
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.

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.

