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

<table>
<thead>
<tr>
<th>Property</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical form</td>
<td>Tan opaque spherical beads</td>
</tr>
<tr>
<td>Matrix</td>
<td>Styrene divinylbenzene copolymer</td>
</tr>
<tr>
<td>Functional group</td>
<td>Tertiary amine : at least 85 %</td>
</tr>
<tr>
<td>Ionic form as shipped</td>
<td>Free base (FB)</td>
</tr>
<tr>
<td>Total exchange capacity [1]</td>
<td>≥ 1.25 eq/L (FB form)</td>
</tr>
<tr>
<td>Moisture holding capacity [1]</td>
<td>57 to 63 % (FB form)</td>
</tr>
<tr>
<td>Shipping weight</td>
<td>670 g/L</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>1.040 to 1.060 (FB form)</td>
</tr>
<tr>
<td>Uniformity coefficient [3]</td>
<td>≤ 1.80</td>
</tr>
<tr>
<td>Harmonic mean size [1]</td>
<td>0.550 to 0.750 mm</td>
</tr>
<tr>
<td>&lt; 0.300 mm [1]</td>
<td>1.0 % max</td>
</tr>
<tr>
<td>Reversible swelling</td>
<td>FB → Cl⁻ ≤ 15 %</td>
</tr>
</tbody>
</table>

[1] Contractual value
Test methods are available on request.

SUGGESTED OPERATING CONDITIONS

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum operating temperature</td>
<td>60 °C</td>
</tr>
<tr>
<td>Minimum bed depth</td>
<td>700 mm</td>
</tr>
<tr>
<td>Service flow rate</td>
<td>5 to 40 BV*/h</td>
</tr>
<tr>
<td>Regenerant</td>
<td>NaOH  NH₃  Na₂CO₃</td>
</tr>
<tr>
<td>Level (% of ionic load)</td>
<td>120  150  200</td>
</tr>
<tr>
<td>Concentration (%)</td>
<td>2 to 4  2 to 6  5 to 8</td>
</tr>
<tr>
<td>Minimum contact time</td>
<td>30 minutes</td>
</tr>
<tr>
<td>Slow rinse</td>
<td>2 BV at regeneration flow rate</td>
</tr>
<tr>
<td>Fast rinse</td>
<td>4 to 8 BV at service flow rate</td>
</tr>
</tbody>
</table>

* 1 BV (Bed Volume) = 1 m³ solution per m³ 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.