Resinex™ AP SO₄₄
Strong base anion exchange resin

Resinex™ AP SO₄ is a high purity, premium grade, strongly basic macroporous anion exchange resin type 1. The macroporous crosslinked matrix offers a very high resistance to physical breakage and organic fouling. Its remarkable physical stability makes it highly suitable for industrial applications at very high velocities, such as condensate treatment and reversible removal of organics.

The selected bead distribution of Resinex™ AP SO₄ is especially adapted for all modern counter-current systems (i.e. Schwebebett, UPCORE, ...).

Typical Properties

**Type**
Crosslinked polystyrene divinylbenzene

**Form**
Macroporous, milky white, spherical beads

**Functional group**
Quaternary amine, Type 1

**Whole bead count**
96% min.

**Ionic form, as shipped**
SO₄⁻

**Bead size**
0.42 - 1.42 mm

**Uniformity coefficient**
1.60 max.

**Bulk density, as shipped**
680 kg/m³

**Real density**
1.08 g/cm³

**Water retention**
50 - 60%

**Total capacity (Cl⁻ form)**
1.15 eq/l min.

**Volume change Cl⁻ → OH⁻**
20% max.

**Stability, temperature**
60°C (OH⁻ form) max.

**Stability, pH**
0 - 14

Key Features and Benefits

- **High Integrity Beads**
  Excellent resistance to mechanical degradation ensures low pressure drop

- **Excellent Resistance To Organic Fouling**
  Removable organics

- **Resistance To Osmotic Shock**
  Extended lifetime and very low number of broken beads

- **Selected Bead Size**
  Lower pressure drop

Typical Applications

- **Demineralisation in industrial water treatment systems**, especially in the presence of high organic loadings

- **Demineralisation and polishing when used in combination with Resinex™ KP**

- **Treatment of electroplating rinse waters in combination with Resinex™ KP**

Standard Design Conditions

**Bed depth**
> 700 mm

**Service flow rate**
8 - 40 BV/h

**Backwash expansion**
50 - 75%

Standard Packaging

- 25 lt. PE valve bag
- 1000 litre big bag
Resinex™ AP SO₄
Strong base anion exchange resin

**Pressure Drop**

<table>
<thead>
<tr>
<th>Flow Rate, m/h</th>
<th>0</th>
<th>20</th>
<th>40</th>
<th>60</th>
<th>80</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pressure Drop, kPa/m</td>
<td>0</td>
<td>0.2</td>
<td>0.4</td>
<td>0.6</td>
<td>0.8</td>
<td>1.0</td>
</tr>
<tr>
<td>Pressure Drop, bar/m</td>
<td>0</td>
<td>0.02</td>
<td>0.04</td>
<td>0.06</td>
<td>0.08</td>
<td>0.1</td>
</tr>
</tbody>
</table>

**Backwash Expansion**

<table>
<thead>
<tr>
<th>Flow Rate, m/h</th>
<th>0</th>
<th>20</th>
<th>40</th>
<th>60</th>
<th>80</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Backwash Expansion, %</td>
<td>0</td>
<td>20</td>
<td>40</td>
<td>60</td>
<td>80</td>
<td>100</td>
</tr>
</tbody>
</table>

**Standard Regeneration Parameters**

<table>
<thead>
<tr>
<th></th>
<th>Co-Flow</th>
<th>Counter-Flow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concentration</td>
<td>4% NaOH</td>
<td>2% NaOH</td>
</tr>
<tr>
<td>Level</td>
<td>60-150 g/l</td>
<td>50-80 g/l</td>
</tr>
<tr>
<td>Flow rate regenerant</td>
<td>4-6 BV/h</td>
<td>6-8 BV/h</td>
</tr>
<tr>
<td>Contact time regenerant</td>
<td>30-60 min.</td>
<td>20-40 min.</td>
</tr>
<tr>
<td>Flow rate slow rinse</td>
<td>4-6 BV/h</td>
<td>6-8 BV/h</td>
</tr>
<tr>
<td>Slow rinse water required</td>
<td>2-4 BV</td>
<td>2BV</td>
</tr>
<tr>
<td>Flow rate fast rinse</td>
<td>10-30 BV/h</td>
<td>10-30 BV/h</td>
</tr>
<tr>
<td>Fast rinse water required</td>
<td>6-10 BV</td>
<td>6-10 BV</td>
</tr>
</tbody>
</table>

The use of a weak base solution such as ammonia or sodium carbonate as a regenerant is an alternative to caustic soda. Please contact your nearest Jacobi Carbons sales office for further information.

**Product Packing**

- 25 lit. polyethylene valve bag
- 48 bags per pallet
- Polypropylene FIBCs (big bag), 1,000 lit.

**CAUTION** Strong oxidizing agents such as nitric acid can react violently with ion exchange resins and cause explosive type reactions. Before using strong oxidants, consult sources knowledgeable in the handling of these materials.

**NOTICE** Due to the progressive nature of the Jacobi Carbons Group and the continually improving design and performance of our products, we reserve the right to change product specifications without prior notification. The information contained in this datasheet is intended to assist in customer evaluation and selection of products supplied by Jacobi Carbons. The customer is responsible for determining whether the products and the information contained in this document are appropriate for customer’s use. Jacobi Carbons assumes no obligation or liability for the usage of the information in this datasheet, no guarantees or warranties, expressed or implied, are provided by Jacobi Carbons. Jacobi Carbons disclaims responsibility and the user must accept full responsibility for performance of systems based on this data.

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