**DOWEX MONOSPHERE 550A LC NG (OH)**

A Uniform Particle Size Strong Base Anion Exchange Resin for Non-Regenerable Demineralizers in Nuclear Water Applications

<table>
<thead>
<tr>
<th>Product</th>
<th>Type</th>
<th>Matrix</th>
<th>Functional group</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOWEX™ MONOSPHERE™ 550A LC NG (OH)</td>
<td>Type I strong base anion</td>
<td>Styrene-DVB, gel</td>
<td>Quaternary amine</td>
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</tbody>
</table>

**Guaranteed Sales Specifications**

<table>
<thead>
<tr>
<th></th>
<th>Total exchange capacity, min.</th>
<th>Water content (%)</th>
<th>Bead size distribution†</th>
<th>Crush strength</th>
<th>Ionic conversions</th>
<th>Trace metals, ppm dry resin, max.</th>
<th>Typical Physical and Chemical Properties</th>
<th>Recommended Operating Conditions</th>
</tr>
</thead>
</table>
|                          | eq/L                          | %                 | µm                       | g/bead         | OH⁻ 95% min.    | Na 40  Fe 50  Cu 10  Al 50  Mg 50  Ca 50  Co 30  Pb 10  Hg 10  Heavy metals (as Pb) 0.1% max. |                        | Maximum operating temperature 60°C (140°F)  
                                   | kgr/ft³ as CaCO₃             |                   | 590 ± 50      | 350            | Cl⁻ 0.1% max.    | 40 50 10 50 50 50 30 10 10 10 |                        | pH range 0 - 14  
                                   |                              |                   | 1.1          | 95             | CO₃⁻ 5% max.    |                         |                        | Bed depth, min.:  
                                   |                              |                   | 0.2          |                | SO₄²⁻ 0.1% max. |                         |                        | Mixed bed: 450 mm (1.5 ft)  
                                   |                              |                   |              |                |                |                         |                        | Single bed: 800 mm (2.6 ft)  
|                          | 1.1                           | 55 - 65           | 1.1                      | 95             |                  |                         |                        |                                  |
|                          | 24.0                          |                   | 0.2                      |                |                  |                         |                        |                                  |

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

**Recommended Operating Conditions**

- Maximum operating temperature: 60°C (140°F)
- pH range: 0 - 14
- Bed depth, min.:  
  - Mixed bed: 450 mm (1.5 ft)  
  - Single bed: 800 mm (2.6 ft)

**Typical Physical and Chemical Properties**

<table>
<thead>
<tr>
<th></th>
<th>OH⁻ form</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Particle density</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>g/mL</td>
<td></td>
<td>g/L</td>
<td>lbs/ft³</td>
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<tr>
<td></td>
<td></td>
<td>1.08</td>
<td></td>
<td>640</td>
<td>40</td>
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**Typical Properties and Applications**

DOWEX MONOSPHERE 550A LC NG (OH) anion resin has outstanding purity and performance. The uniform particle size and absence of fine beads result in a low pressure drop. It also has excellent physical stability and low metallic impurity levels.

**Packaging**

50 liter or 5 cubic foot fiber drums

**Figure 1. Pressure Drop Data**

Temperature = 20°C (68°F)

![Pressure Drop Data Graph]

For other temperatures use:

\[ P_T \approx \frac{P_{20^\circ C}}{(0.028 T_{°C} + 0.48)} \]

where \( P \approx \text{bar/m} \)

\[ P_T \approx \frac{P_{68°F}}{(0.014 T_{°F} + 0.05)} \]

where \( P \approx \text{psi/ft} \)

**DOWEX Ion Exchange Resins**

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.

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