INDION 223 H NG is a nuclear grade strongly acidic cation exchange resin. It is a gel type ion exchanger having cross linked polystyrene matrix and sulphonic acid functionality. The resin is supplied in highly purified form, free from all impurities.

### Description

**Characteristics**

<table>
<thead>
<tr>
<th>Appearance</th>
<th>Spherical beads</th>
</tr>
</thead>
<tbody>
<tr>
<td>Matrix</td>
<td>Styrene divinylbenzene copolymer</td>
</tr>
<tr>
<td>Functional group</td>
<td>Sulphonic acid</td>
</tr>
<tr>
<td>Ionic form as supplied</td>
<td>Hydrogen</td>
</tr>
<tr>
<td>Bead strength</td>
<td>500 g, average</td>
</tr>
<tr>
<td>Microscopic examination</td>
<td>Surface cracks not more than 5%</td>
</tr>
<tr>
<td>Total exchange capacity</td>
<td>1.9 meq/ml, minimum</td>
</tr>
<tr>
<td>Ionic conversion</td>
<td>99% minimum H⁺</td>
</tr>
<tr>
<td>Moisture holding capacity</td>
<td>47 - 54 %</td>
</tr>
<tr>
<td>Shipping weight *</td>
<td>780 kg/m³, approximately</td>
</tr>
<tr>
<td>Particle size range</td>
<td>0.3 to 1.2 mm</td>
</tr>
<tr>
<td>&gt; 1.2 mm</td>
<td>5.0%, maximum</td>
</tr>
<tr>
<td>&lt; 0.3 mm</td>
<td>0.5, maximum</td>
</tr>
<tr>
<td>Uniformity co-efficient</td>
<td>1.7, maximum</td>
</tr>
<tr>
<td>Effective size</td>
<td>0.45 to 0.55 mm</td>
</tr>
<tr>
<td>Stability</td>
<td>Stable up to 120°C</td>
</tr>
<tr>
<td></td>
<td>Stable in pH range 0 - 14</td>
</tr>
<tr>
<td></td>
<td>Resistant to oxidizing and reducing agents</td>
</tr>
<tr>
<td></td>
<td>Stable in Radiation field up to 10⁷ rad</td>
</tr>
</tbody>
</table>

### Impurities

| Iron      | 20 mg/l, maximum |
| Copper    | 10 mg/l, maximum |
| Heavy metals as Pb | 10 mg/l, maximum |
| Water soluble organics | 0.1 mg KMnO₄/ml, maximum |

*Weight of resin, as supplied, occupying 1 m³ in a unit after backwashing and draining.*
**Packing**

HDPE Lined bags 25/50 lts  
LDPE bags 1 cft/25 lts  
Super sack 1000 lts  
Fiber drums 35 cft  
MS drums 180 lts  
with liner bags 7 cft

**Storage**

Ion exchange resins require proper care at all times. The resins must never be allowed to become dry. The drum should therefore be always kept in shade in tightly closed condition.

**Safety**

Acid and alkali solutions used for regeneration are corrosive and should be handled in a manner that will prevent eye and skin contact. If any oxidising agents are used, necessary safety precautions should be observed to avoid accidents and damage to the resin.

INDION range of Ion Exchange resins are produced in a state-of-the-art ISO 9001 and ISO 14001 certified manufacturing facilities at Ankleshwar, in the state of Gujarat in India.

To the best of our knowledge the information contained in this publication is accurate. Ion Exchange (India) Ltd. maintains a policy of continuous development and reserves the right to amend the information given herein without notice.

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