

# INDION<sup>®</sup> 190

## Description

INDION 190 resin is a macroporous strongly acidic cation exchanger developed for heterogeneous acid catalytic application.

INDION 190 is supplied in dry form as opaque, grey coloured spherical beads. A proper mix of high cross linking and porosity gives this product outstanding physical stability while maintaining the high exchange capacity of conventional gel resins.

The unique structure of INDION 190 provides genuine porosity and a strong matrix together, with small volume change in different solutions and solvents. The large surface area leads to high catalytic activity. The functional groups throughout the entire structure are readily accessible to liquid or gaseous reactants thus ensuring efficient performance. The main applications are alkylation, esterification, etherification, condensation, hydrolysis and also for specialised applications such as MTBE.

## Characteristics

|                               |   |                                  |
|-------------------------------|---|----------------------------------|
| Appearance                    | : | Opaque grey to dark grey beads   |
| Matrix                        | : | Styrene divinylbenzene copolymer |
| Functional Group              | : | Sulphonic acid                   |
| Ionic form as supplied        | : | Hydrogen                         |
| Concentration of acid sites   | : | 4.7 meq/dry g, minimum           |
| Moisture content              | : | 3 %, maximum                     |
| Particle size range           | : | 0.42 to 1.2 mm                   |
| > 1.2 mm                      | : | 5.0%, maximum                    |
| < 0.42 mm                     | : | 5.0%, maximum                    |
| Maximum operating temperature | : | 150° C                           |
| Operating pH range            | : | 0 to 7                           |

## Reuse of INDION 190

On completion of the catalytic reaction, the resin should be filtered off the products. The solvent as well as unreacted reactants associated with the resin should be washed off by rinsing with either solvent or one of the reactants. These washings can then be reused in subsequent batch processes. If water formation exists in the reaction after filtration, dry the resin. This can be carried out in an oven at about 90°C to 100°C for 6 to 10 hours to reduce moisture content to less than 5%.

## Packing

HDPE carboys with inner  
double plastic liner bags 25 / 50 kgs

## Storage

Ion exchange resin catalysts are hygroscopic in nature. Therefore it is essential to store the dry INDION 190 in tightly packed containers, to prevent absorption of atmospheric moisture. In case moisture has been absorbed, it can be dried at 90°C - 100°C as mentioned above.

## 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 state-of-the-art ISO 9001 and ISO 14001 certified manufacturing facility at Ankleshwar, Gujarat.

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.

**INDION** is the registered trademark of Ion Exchange (India) Ltd.

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