

# INDION<sup>®</sup> NSSR

## Description

INDION NSSR is a macroporous strongly basic anion resin which is tailor made to suit removal of nitrate ions from water for potable uses. The proper mix of physico-chemical properties gives ideal nitrate exchange kinetics to this resin making suitable for nitrate removal in the presence of sulphate ions.

High concentration of nitrate in water is a potential hazard for two reasons. The nitrate ions form complexes with the blood and in the long run cause oxygen depletion affecting human life. The flow of nitrate bearing water through iron pipes can cause depletion of oxygen leading to corrosion. In view of these difficulties use of an Ion Exchange resin is the preferred process for nitrate removal.

### Characteristics

Appearance	:	Opaque off white to brown beads
Matrix	:	Styrene divinylbenzene copolymer
Functional group	:	Quaternary ammonium
Ionic form as supplied	:	Chloride
Total exchange capacity	:	0.9 meq/ml, minimum
Moisture holding capacity	:	45 - 55 %
Non spherical beads	:	10 %
Shipping weight *	:	660 kg/m <sup>3</sup> , approximately
Particle size range	:	0.3 to 1.2 mm
> 1.2 mm	:	5.0 %, maximum
< 0.3 mm	:	1.0 %, maximum
Uniformity co-efficient	:	1.7, maximum
Effective size	:	0.4 to 0.5 mm
Maximum operating temperature	:	100 <sup>o</sup> C in Cl form
Operating pH range	:	0 to 14
Resistance to reducing agents	:	Good
Resistance to oxidising agents	:	Generally good, chlorine should be absent
Osmotic stability	:	Excellent

### Typical operating data

Bed Depth	:	1.0 m
Backwash	:	5 m <sup>3</sup> / h m <sup>2</sup> for 5 to 10 minutes
Regenerant	:	NaCl
Regeneration level	:	125 kg of NaCl / m <sup>3</sup>
Regenerant concentration	:	5 % - 10% w/v
Injection flow rate	:	2 - 4 BV/h
Slow rinse volume	:	2 BV
Slow rinse flow rate	:	At injection flow rate
Fast rinse volume	:	6 BV
Fast rinse flow rate	:	At service flow rate
Minimum flow greater than or equal to	:	0.082 gpm/ft <sup>3</sup> of resin 0.66 LPH/l of resin 0.66 BV/h

\* Weight of resin, as supplied, occupying 1 m<sup>3</sup> in a unit after backwashing and draining.

## Packing

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

## Storage

Ion exchange resin requires proper care at all times. The resin must never be allowed to become dry. Regularly open the plastic bags and check the condition of the resin when in storage. If not moist, add enough clean demineralised water and keep it in completely moist condition.

Always keep the resin drum in the shade. Recommended storage temperature is between 20°C and 40°C.

## 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.



### CONFORMANCE STATEMENT:

This product conforms to NSF / ANSI Standard 61 and is certified with GOLD SEAL from WQA

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.

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

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