

# INDION® GRR 1

## Description

INDION GRR 1 is a macroporous weakly basic anion resin having a tertiary amine functionality attached to a polymeric styrene divinyl benzene matrix. INDION GRR 1 is supplied in free base form ready for immediate use. The combination of macroporous structure and tertiary amine functionality results in fast reaction rates, high regeneration efficiency, low rinse requirements and excellent chemical and physical stability.

INDION GRR 1 can be effectively regenerated with sodium hydroxide, ammonium hydroxide and sodium carbonate. It is regenerated with 110 to 120% of the quantity of alkali chemically equivalent to the operating capacity as compared to 200-300%

required for strongly basic anion exchange resins. INDION GRR 1 can be used to treat water/process streams to remove free mineral acidity. INDION GRR 1 is used in either separate or layered bed configuration.

Areas of application include conventional demineralisation of process liquors at ambient temperature, deacidification of formaldehyde, de-ashing of starch based sweeteners.

INDION GRR 1 can also be used for the recovery of chromate from plating rinse water and cooling tower blow down. INDION GRR 1 is also used as a catalyst in aldolization reactions.

Characteristics	
Appearance	Off white to brown opaque beads
Matrix	Styrene divinyl benzene copolymer
Functional Group	Tertiary amine
Ionic form as supplied	Free base
Total exchange capacity	1.4 meq/ml, minimum
Moisture holding capacity in free base form	48 - 54 %
Shipping weight*	620 - 670 kg/m <sup>3</sup>
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	0.40 to 0.55 mm
Maximum operating temperature	60° C free base form, 80° C hydrochloride form
Operating pH range	0 to 7
Volume change	Free base to hydrochloride form, 25%, maximum

Resistance to reducing agents	Good
Resistance to oxidizing agents	Generally good, chlorine should be absent
*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	:	35/40/42 cft
MS/HDPE drums with liner bags	:	180/200 lts
Fiber drums with liner bags	:	7 cft

## Storage

Ion exchange resins require 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.

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.



## ION EXCHANGE (INDIA) LTD.

### Corporate Office

Ion House, Dr. E. Moses Road, Mahalaxmi,  
Mumbai - 400011 | Tel: +91 22 6231 2000  
E-mail: [ieil@ionexchange.co.in](mailto:ieil@ionexchange.co.in)

### International Division

R-14, T.T.C MIDC, Thane - Belapur Road, Rabale,  
Navi Mumbai - 400 701 | Tel: +91 22 6857 2400  
E-mail: [export.sales@ionexchange.co.in](mailto:export.sales@ionexchange.co.in)

### Regional and Branch Offices

Bengaluru | Bhubaneswar | Chandigarh | Chennai  
Delhi | Hyderabad | Kolkata | Lucknow | Vadodara  
Vashi | Visakhapatnam

### Overseas Offices

Bangladesh | Canada | Indonesia | Kenya  
Malaysia | Oman | Portugal | Saudi Arabia | Singapore  
South Africa | Sri Lanka | Tanzania | Thailand | UAE | USA

### Manufacturing Units

India - Ankleshwar | Hosur | Patancheru | Rabale | Verna | Wada

Overseas - Bangladesh | Indonesia | Saudi Arabia | UAE

All India Service and Dealer Network

[www.ionexchangeglobal.com](http://www.ionexchangeglobal.com) | [www.ionresins.com](http://www.ionresins.com)

