

INDION® GS 3000

Description

INDION GS 3000 is a controlled particle size strong base Type 1 anion exchange resin, containing quaternary ammonium groups. It is based on crosslinked polystyrene and has a gel structure with high mechanical strength.

Applications

INDION GS 3000 is effective in removing weak acids

like carbonic and silicic acid along with strong acids. It is recommended for use in two-stage/multiple-stage or mixed bed deionising units for producing high-quality demineralised water with the lowest possible residual silica. Being a high-strength gel resin, it is recommended for use in condensate polishing. It is also recommended for speciality non-water applications such as caprolactum purification.

INDION GS 3000 is used in combination with strong acid cation resin INDION 2250.

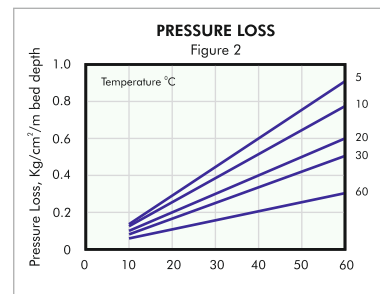
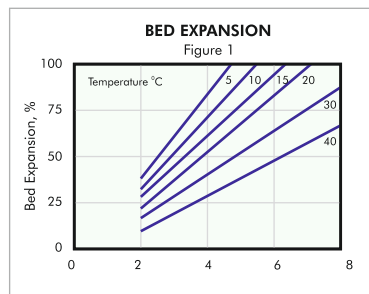
Characteristics	
Appearance	Translucent pale yellow beads
Matrix	Styrene divinylbenzene copolymer
Functional Group	Benzyl trimethyl amine
Ionic form as supplied	Chloride
Total exchange capacity	1.3 meq/ml, minimum
Moisture holding capacity	48 - 58%
Shipping weight*	650 - 710 kg/m ³
Bead strength	300 g (avg)
Uniformity co-efficient	1.2, maximum
Effective size	0.50 to 0.65 mm
Fine content (< 0.42 mm)	0.5%, maximum
Volume change	Cl to OH, 25 - 30 % approximately
Suggested operating conditions	
Maximum operating temperature	60° C in OH form, 80° C in Cl form
Operating pH range	0 to 14
Minimum bed Depth	0.8 m
Service flow rate	5-50 bv / hr
Maximum velocity	60 m/hr

Regeneration	
Regenerant	NaOH
Flow rate (bv/hr)	2-8 bv / hr
Regeneration level (Kg/m ³)	40-100 kg/m ³
Concentration (%)	2-5 %, w/v
Contact time (minutes, minimum)	20 minutes, minimum
Slow rinse	2 bv at regeneration flow rate
Fast rinse	3-6 bv at service flow rate

*Weight of resin, as supplied, occupying 1 m³ in a unit after backwashing and draining.
1 bv (bed volume) = 1 m³ fluid/m³ of resin

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



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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South Africa | Sri Lanka | Tanzania | Thailand | UAE | USA

Manufacturing Units

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Overseas - Bangladesh | Indonesia | Saudi Arabia | UAE

All India Service and Dealer Network

www.ionexchangeglobal.com | www.ionresins.com



Material Safety Data Sheet

Revision Date : 01/06/2011

1. Identification of the substance or preparation and of the company	
Identification of the substance / preparation	
Product Name	INDION GS 3000
Chemical Name	Crosslinked Polystyrene with quaternary ammonium functionality
Ionic form as supplied	Chloride
Use of the substance/preparation Main use	Ion exchange / Water Purification
Identification of the Company	
Company undertaking Identification	ION EXCHANGE (INDIA) LIMITED
Address	Ion House, Dr. E. Moses Road, Mahalaxmi, Mumbai 400 011.
Telephone	+91(022) 3989 0909
Telefax	+91(022) 2493 8737
Supplier	ION EXCHANGE (INDIA) LIMITED
Address	Ion House, Dr. E. Moses Road, Mahalaxmi, Mumbai 400 011.
Telephone	+91(022) 3989 0909
Telefax	+91(022) 2493 8737
Emergency phone number Telephone	+91(022) 3989 0909
2. Composition/information on ingredients	
Description	Concentration
Functionalised co-polymer	42 – 52% (Styrene/divinylbenzene)
Moisture content	48 – 58%
3. Hazards identification	
Contact with eyes	Irritating to eyes (R36)
Contact with skin	Mildly irritating to skin.
Ecological hazards	May change the pH of receiving waters in case of major spillages.

4. First aid measures	
Contact with skin	Remove contaminated clothing. Remove particles and wash affected area with water.
Contact with eyes	Immediately wash out with plenty of water & remove all particles. Seek medical attention if irritation persists.
Ingestion	Give 200 – 300 ml water to drink. Never give anything by mouth to an unconscious person. Seek immediate medical attention.
Inhalation	Remove patient to fresh air. Seek medical advice.
5. Fire-fighting measures	
<p>Incase of fire, use foam, carbon dioxide or dry agent. Substance evolves toxic fumes, wear self-contained breathing apparatus (see Section 10).</p> <p>Wear full protective clothing including chemical protection suit.</p> <p>Prevent run off water from entering drains if possible.</p> <p>If polluted water reaches drainage systems or water courses, immediately inform appropriate authorities.</p>	
6. Accidental release measures	
Personal precautions	Keep people away. Floor may be slippery, take care to avoid falls.
Environmental precautions	Do not allow to enter public sewers and water courses.
Clean up actions	Sweep-up and transfer to plastic containers for recovery or disposal, according to advise in section 13.
7. Handling and storage	
Handling	The usual precautions for handling chemicals should be observed.
Storage	Risk of static discharge from dry beads.
8. Exposure controls/personal protection	
Exposure controls	No special precautions are required for this product.
Occupational exposure controls	
Respiratory protection	Not required for normal operation.
Hand protection	Wear suitable gloves.
Eye protection	Wear safety glasses or goggles. An eyewash facility should be available.
Skin protection	Wear chemical protective overalls.

9. Physical and chemical properties

General information

Appearance	Light yellowish spherical beads
Physical state	Solid
Odour	No odour

Important information for human health, safety and environment

pH as supplied	Neutral in aqueous slurry
Boiling point	Not applicable
Flammability point	The preparation starts burning over 230° C only if ignited.
Flammability	The preparation is not flammable before the evaporation of moistening water
Explosive properties	None
Burning properties	None
Specific gravity	1.1, approximately
Solubility	In water : virtually insoluble In oil : insoluble
Partition coefficient	Not applicable
n-octanol/water viscosity	Not applicable
Flash point	Not applicable
Melting point	Not applicable
Auto-ignition temperature	Over 500° C

10. Stability and reactivity

Conditions to avoid	This material is considered stable under normal conditions.
Materials to avoid	Incompatible with strong oxidizing agents. Contact with strong oxidizers, especially nitric acid, may produce low molecular weight organics that may form explosive mixtures.
Hazardous decomposition products	Combustion products may include monomers, residual organics, carbon and sulphur oxides.

11. Toxicological information

Toxicological Information	LD 50 (Oral, Rat) : Not applicable LD 50 (dermal, rabbit) : Not applicable Lc50 (inhalation, rat) : Not applicable Irritation to eyes (rabbit) : Slightly Irritating Skin corrosion / irritation (rabbit) : No data available Ignition : No hazards anticipated if material has not exchanged hazardous substances.
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Carcinogenicity	No evidence of carcinogenic effects.
Teratogenicity	No evidence of teratogenic effects.
Mutagenicity	No evidence of mutagenic effects.
12. Ecological information	
Ecotoxicity	Information not available.
Mobility	Virtually insoluble in water. The product is not volatile.
Persistence and biodegradability	The product is not readily biodegradable
Risk of bioaccumulation	None
Other adverse effects	May change the pH of receiving waters in case of major spillages.
13. Disposal considerations	
<p>The product as delivered is a non-hazardous waste.</p> <p>The used product may be subject to different classifications. In any case the product shall be disposed off, according to local, regional and national regulations. EU number for exhausted or saturated ion exchange resins used for the preparation of drinking water or water for industrial use is 19 09 05.</p> <p>EU number for exhausted or saturated ion exchange resins used in waste water treatment plants not otherwise specialized is 19 08 06.</p>	
14. Transport information	
<p>Ion exchange resins as supplied are not classified as hazardous for transport.</p> <p>Classification for ROAD and RAIL transport: Not regulated (Not dangerous for transport)</p> <p>Classification for SEA transport: Not regulated (Not dangerous for transport)</p> <p>Classification for AIR transport: Not regulated (Not dangerous for transport)</p>	
15. Regulatory information	
Risk phrases	<p>The product as supplied is non hazardous.</p> <p>Risk phrases R 36 : Irritating to eyes.</p> <p>S 26 : In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.</p> <p>S 39 : Wear eye/face protection</p>
16. Other information	
Note	Industrial grade products are not intended for analytical, food, medical and pharmaceutical applications without preliminary extensive purification.

Whilst every effort has been made to be as accurate as possible, Ion Exchange (India) Limited provides no warranty with respect to this information and disclaims all liability associated with its use.