

# INDION® 2250 H

## Description

INDION 2250 H is a controlled particle size premium grade strong acid cation exchange resin containing sulphonic acid groups. It is based on cross-linked polystyrene and has a gel structure. The resin has high capacity and excellent kinetics.

## Applications

INDION 2250 H is used in coflow and counter flow modes as a first stage in demineralising for the removal of cations. INDION 2250 H can be used with INDION GS 3000 Cl in mixed bed and condensate polishing units.

### Characteristics

Appearance	:	Golden yellow to brown beads
Matrix	:	Styrene divinylbenzene copolymer
Functional Group	:	Sulphonic acid
Ionic form as supplied	:	Hydrogen
Total exchange capacity	:	1.8 meq/ml, minimum
Moisture holding capacity	:	49 - 55 %
Shipping weight *	:	790 kg/m <sup>3</sup> , approximately
Uniformity co-efficient	:	1.2, maximum
Effective size	:	0.50 to 0.65 mm
Fine content (< 0.42 mm)	:	0.5%, maximum
Volume change	:	Na to H, 8% approximately

### Suggested operating conditions

Maximum operating temperature	:	120°C
Operating pH range	:	0 - 14
Minimum bed Depth	:	0.8 m
Service flow rate	:	8 - 48 BV/hr
Maximum velocity	:	60 m/hr

### Regeneration

Regenerant	:	HCl		H <sub>2</sub> SO <sub>4</sub>	
		Coflow	CCR	Coflow	CCR
Flow rate (bv/hr)	:	3 - 18	3 - 18	3 - 18	3 - 18
Regeneration level (Kg/m <sup>3</sup> )	:	40 - 160	40 - 200	40 - 160	40 - 200
Concentration (%)	:	4 - 5	2.5 - 5	1.5 - 5	1.5 - 5
Contact time (minutes, minimum)	:	15	20	20 - 50	20
Slow rinse	:	2 bv at regeneration flow rate			
Fast rinse	:	1 - 3 bv at service flow rate			

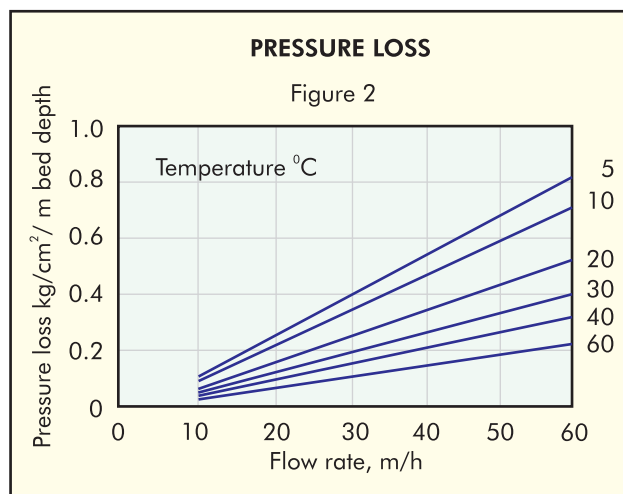
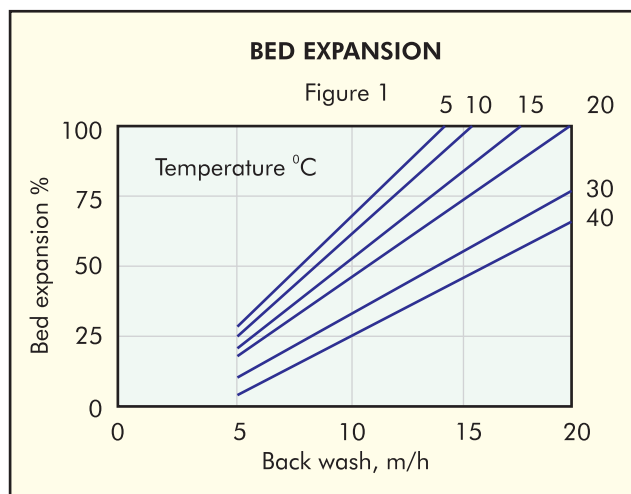
\* Weight of resin, as supplied, occupying 1 m<sup>3</sup> in a unit after backwashing and draining.

1 bv (bed volume) = 1 m<sup>3</sup> fluid/m<sup>3</sup> of resin

## Packing

HDPE Lined bags                    25/ 50 lts  
 Super sack                            1000 lts  
 Super sack                            35 cft

LDPE bags                            1 cft / 25 lts  
 MS drums with liner bags        180 lts  
 Fiber drums with liner bags      7 cft



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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**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 2250 H  
**Chemical Name** Crosslinked Polystyrene with Sulphonic acid functionality  
**Ionic Form** Hydrogen

**Use of the substance/preparation**

**Main use** Water Purification

**Identification of the Company :**

**Company undertaking** ION EXCHANGE (INDIA) LIMITED

**Identification**

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**Emergency phone number**

**Telephone** +91(022) 3989 0909

**2. COMPOSITION/INFORMATION ON INGREDIENTS**

**Description** Concentration  
**Functionalised co-polymer** 45 – 51% (Styrene/divinylbenzene)  
**Moisture content** 49 – 55%

**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.

**Contact with eyes**

Remove particles and wash affected area with water.  
Immediately wash out with plenty of water and remove all particles.

**Ingestion**

Seek medical attention if irritation persists.

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

In case of fire, use foam, carbon dioxide or dry agent.

Substance evolves toxic fumes, wear self-contained breathing apparatus (see Section 10).

Wear full protective clothing including chemical protection suit.

Prevent run off water from entering drains if possible.

If polluted water reaches drainage systems or water courses, immediately inform appropriate authorities.

#### 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.

Risk of static discharge from dry beads.

**Storage**

#### 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** Golden yellow coloured spherical beads

**Physical state** Solid

**Odour** No odour

### Important information for human health, safety and environment

**pH as supplied** Acidic 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** 1.2, 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.  
 No evidence of carcinogenic effects.  
 No evidence of teratogenic effects.  
 No evidence of mutagenic effects.

**Carcinogenicity**  
**Teratogenicity**  
**Mutagenicity**

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**  
**Mobility**

Information not available.  
 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**

The product as delivered is a non-hazardous waste.

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.  
 EU number for exhausted or saturated ion exchange resins used in waste water treatment plants not otherwise specialized is 19 08 06.

**14. TRANSPORT INFORMATION**

Ion exchange resins as supplied are not classified as hazardous for transport.

Classification for ROAD and RAIL transport: Not regulated (Not dangerous for transport)

Classification for SEA transport: Not regulated (Not dangerous for transport)

Classification for AIR transport: Not regulated  
(Not dangerous for transport)

**15. REGULATORY INFORMATION**

**Risk phrases**

The product as supplied is non hazardous.

R 36 : Irritating to eyes.

S 26 : In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 39 : Wear eye/face protection

**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.**