

Packing for **INDION**® Resins

Moist Resins		Dry Resins	
HDPE liner bags	25 / 50 lts	Dry Beads	
LDPE liner bags	0.5 cft / 1 cft / 25 lts	HDPE carboys with inner double plastic liner bags	25 / 50 kgs
Super sack	1000 lts / 35 cft		
MS drums with liner bags	180 lts	Dry Powders	
Fibre drums with liner bags	7 cft	HDPE carboys with inner double plastic liner bags	6 / 20 / 40 kgs
PVC jars with liner bags	5 / 6 lts		
HDPE drums with liner bags	50 / 100 / 180 lts		
Vacuum packing with LDPE bags	1 cft / 25 lts		

Protection of Ion Exchange Resins during Storage

Ion exchange resins, supplied in dry or moist condition, require proper care at all times. Always keep the resins drums / bags closed and in shade at a temperature between 10°C and 40°C.

Moist Resins: Resins which are supplied in moist condition should not be allowed to dry. Regularly open the drums / bags and check the condition of the resins. If the resin is not moist enough, add demineralised water to keep it in completely moist condition.

Dry Resins: Resins which are supplied as dry beads or dry powders should not be allowed to come in contact with moisture.

Measurement

Moist Resins: All water treatment resins and resins supplied in moist condition are generally sold on volume basis. The volume is measured in a column after backwashing, settling and draining of water to the bed surface.

Dry Resins: All dry resins are sold on weight basis.

Warning

Strong oxidising agents such as nitric acid, degrade ion exchange resins to a considerable extent. This may result in an explosive reaction. Thus, before using strong oxidising agents, consult sources knowledgeable in handling of such material.

Our state-of-the-art manufacturing facilities are ISO 9001, ISO 14001 & ISO 45001 certified

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. Please contact our regional / branch offices for current product specifications.

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



INDION® RESINS

The Preferred Choice

Our INDION range is backed by sustained focus on customer needs, intensive product and application R&D, sound technical support and wide application knowhow. Add to this continuous innovation, worldclass quality, state-of-the-art ISO 9001 & 14001 certified facilities, an FDA approved pharmaceutical grade resin manufacturing unit...and you get the perfect recipe that makes INDION the preferred choice across sectors for over five decades.

Wide Range. Extensive Applications.

A complete range of cation & anion resins for water and waste water treatment as well as a host of speciality applications - pharmaceutical excipients, catalysts, nuclear grade resins, chelating resins for brine softening and heavy metal removal, adsorbent grade resins, resins for removal of colour, odour, organics, nitrate & tannin, resins for purification of bio-diesel, sugar, food & beverages and many more...

- Refinery & Petrochemical
- Steel, Power & Paper
- Food & Beverages
- Pharmaceuticals
Bio-technology & Electronics
- Textiles, Sugar, Auto & Mini-steel
- Cement & Chemicals



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

Regional and Branch Offices - CLICK HERE

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

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

Overseas Offices - CLICK HERE

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

Manufacturing Units

India - Ankleshwar | Hosur | Patancheru | Rabale | Verna | Wada Overseas - Hamriyah | Kingdom of Bahrain | Indonesia | Bangladesh

All India Service and Dealer Network

www.ionindia.com | www.ionresins.com



INDION® Ion Exchange Resins

Properties and Applications - Summarised Data

Resin Type	INDION Designation	Matrix Type	Functional Group	Standard Ionic Form	Particle Size mm	Moisture Content %	Maximum Operating Temperature °C	Total Exchange Capacity meq/ml	Reversible Swelling %	Applications	
Industrial Water Treatment											
INDION Controlled Particle Size Ion Exchange Resins (CPS Resins)											
Anion Exchange Resin											
SBA	Gel	GS 3000 (Type 1)	Styrene DVB	-N ⁺ R ₃	Cl ⁻	0.50 – 0.65 (effective size)	48 – 58	60 (OH ⁻)	1.3	Cl ⁻ to OH ⁻ 25 – 30	Demineralisation in co-current and countercurrent mode. Condensate polishing & caprolactum purification.
Cation Exchange Resins											
SAC	Gel	2250 Na	Styrene DVB	-SO ₃ ⁻	Na ⁺	0.50 – 0.65 (effective size)	43 – 50	120	2.0	Na ⁺ to H ⁺ 8 approx.	Premium grade cation exchange resin for water softening.
		2250 H	Styrene DVB	-SO ₃ ⁻	H ⁺	0.50 – 0.65 (effective size)	49 – 55	120	1.8	Na ⁺ to H ⁺ 8 approx.	Premium grade cation exchange resin for demineralisation.
Industrial Water Treatment											
Anion Exchange Resins											
SBA	Isoporous	FF-IP (Type 1)	Crosslinked Polystyrene	-N ⁺ R ₃	Cl ⁻	0.3 – 1.2	47 – 55	60 (OH ⁻)	1.2	Cl ⁻ to OH ⁻ 10 – 15	Demineralisation in co-current and countercurrent mode.
		FF-IP (MB)	Crosslinked Polystyrene	-N ⁺ R ₃	Cl ⁻	0.3 – 1.2	47 – 55	60 (OH ⁻)	1.2	Cl ⁻ to OH ⁻ 10 – 15	Used in mixed bed.
		N-IP (Type 2)	Crosslinked Polystyrene	-N ⁺ R ₃	Cl ⁻	0.3 – 1.2	45 – 53	40 (OH ⁻)	1.2	Cl ⁻ to OH ⁻ 10 – 15	Demineralisation in co-current and countercurrent mode.
	Gel	GS 300 (Type 1)	Styrene DVB	-N ⁺ R ₃	Cl ⁻	0.3 – 1.2	48 – 58	60 (OH ⁻)	1.3	Cl ⁻ to OH ⁻ 25 – 30	Demineralisation in co-current and countercurrent mode. condensate polishing & caprolactum purification.
		GS 300 (OH)	Styrene DVB	-N ⁺ R ₃	OH ⁻	0.3 – 1.2	60 – 70	60 (OH)	1.0	Cl ⁻ to OH ⁻ 25 – 30	Premium grade anion exchange resin used for demineralisation in regenerable mixed bed application.
		GS 400 (Type 2)	Styrene DVB	-N ⁺ R ₃	Cl ⁻	0.3 – 1.2	45 – 51	40 (OH ⁻)	1.2	Cl ⁻ to OH ⁻ 10 – 15	Demineralisation in co-current and countercurrent mode.
	Macroporous	810 (Type 1)	Styrene DVB	-N ⁺ R ₃	Cl ⁻	0.3 – 1.2	56 – 63	60 (OH ⁻)	1.0	Cl ⁻ to OH ⁻ 15 – 20	Demineralisation in co-current and countercurrent mode.
		810 HC (Type 1)	Styrene DVB	-N ⁺ R ₃	Cl ⁻	0.3 – 1.2	47 – 55	60 (OH)	1.2	Cl ⁻ to OH ⁻ 10 – 20	Premium grade anion exchange resin for demineralisation in co-current and countercurrent mode.
		810 SO ₄	Crosslinked polystyrene	-N R ₄ ⁺	SO ₄ ⁻	0.45 – 0.6 (effective size)	56 – 63	60 (OH ⁻)	1.0 (Cl ⁻)	Cl ⁻ to OH ⁻ 15 – 20	Used in condensate polishing unit.
		830 (Type 1)	Styrene DVB	-N ⁺ R ₃	Cl ⁻	0.3 – 1.2	57 – 66	80 (Cl ⁻)	0.95	Cl ⁻ to OH ⁻ 7 – 17	Removal of organics & colour from water.
		820 (Type 2)	Styrene DVB	-N ⁺ R ₃	Cl ⁻	0.3 – 1.2	54 – 61	40 (OH ⁻)	1.0	Cl ⁻ to OH ⁻ 10 – 15	Demineralisation in co-current and countercurrent mode.
		820 HC (Type 2)	Styrene DVB	-N ⁺ R ₃	Cl ⁻	0.3 – 1.2	46 – 53	40 (OH)	1.2	Cl ⁻ to OH ⁻ 10 – 20	Premium grade anion exchange resin for demineralisation in co-current and countercurrent mode.
	WBA	Macroporous	850	Styrene DVB	-NR ₂ -N ⁺ R ₃	Free base	0.3 – 1.2	47 – 55 (Cl ⁻)	60	1.5	FB to hydrochloride 25 max
Cation Exchange Resins											
SAC	Gel	220 Na	Styrene DVB	-SO ₃ ⁻	Na ⁺	0.3 – 1.2	50 – 55	140	1.8	Na ⁺ to H ⁺ 8 approx.	Standard grade cation exchange resin for water softening.
		222 Na	Styrene DVB	-SO ₃ ⁻	Na ⁺	0.3 – 1.2	47 – 53	120	1.92	Na ⁺ to H ⁺ 8 approx.	Premium grade cation exchange resin for water softening.
		223 H	Styrene DVB	-SO ₃ ⁻	H ⁺	0.3 – 1.2	49 – 55	120	1.9	Na ⁺ to H ⁺ 8 approx.	Premium grade cation exchange resin for demineralisation in regenerable mixed bed application.
		225 H	Styrene DVB	-SO ₃ ⁻	H ⁺	0.3 – 1.2	49 – 55	120	1.8	Na ⁺ to H ⁺ 8 approx.	Premium grade cation exchange resin for demineralisation.

*meq/dry g

SAC: Strong Acid Cation, SBA: Strong Base Anion, WBA: Weak Base Anion, WAC: Weak Acid Cation, SPL: Speciality

INDION® Ion Exchange Resins

Properties and Applications - Summarised Data

Resin Type	INDION Designation	Matrix Type	Functional Group	Standard Ionic Form	Particle Size mm	Moisture Content %	Maximum Operating Temperature °C	Total Exchange Capacity meq/ml	Reversible Swelling %	Applications	
Industrial Water Treatment											
Cation Exchange Resins											
SAC	Gel	225 Na	Styrene DVB	-SO ₃ ⁻	Na ⁺	0.3 – 1.2	43 – 50	120	2.0	Na ⁺ to H ⁺ 8 approx.	Premium grade cation exchange resin for water softening.
		525 H	Styrene DVB	-SO ₃ ⁻	H ⁺	0.3 – 1.2	44 – 49	120	1.95	Na ⁺ to H ⁺ 6 approx.	Special grade cation exchanger for use in layered bed and for mixed bed condensate polishing.
		525 Na	Styrene DVB	-SO ₃ ⁻	Na ⁺	0.3 – 1.2	38 – 44	130	2.15	Na ⁺ to H ⁺ 6 approx.	Premium grade cation exchange resin for water softening.
		225 Na F	Styrene DVB	-SO ₃ ⁻	Na ⁺	0.3 – 1.2	43 – 50	140	2.0	Na ⁺ to H ⁺ 8 approx.	In the treatment of foodstuffs, beverages, potable water and water used in the processing of food. This product conforms to NSF / ANSI / CAN 61, NSF / ANSI 372 & is certified with GOLD SEAL from WQA.
		222 Na F	Styrene DVB	-SO ₃ ⁻	Na ⁺	0.3 – 1.2	47 – 53	120	1.92	Na ⁺ to H ⁺ 8 approx.	In the treatment of foodstuffs, beverages, potable water and water used in the processing of food. This product conforms to NSF / ANSI / CAN 61, NSF / ANSI 44 & is certified with GOLD SEAL from WQA.
		222 Na BL	Styrene DVB	-SO ₃ ⁻	Na ⁺	0.3 – 1.2	46 – 51	140	1.9	Na ⁺ to H ⁺ 8 approx.	Solvent free cation – in the treatment of foodstuffs, beverages, potable water and water used in the processing of food.
		303	Styrene DVB	-SO ₃ ⁻	H ⁺	0.3 – 1.2	49 – 55	120	2.0 (Na ⁺)	Na ⁺ to H ⁺ 8 approx	Colour indicating resin. Colour changes at the time of exhaustion.
	Macroporous-SPL	730	Styrene DVB	-SO ₃ ⁻	H ⁺	0.3 – 1.2	54 – 57	120	1.7 (Na ⁺)	Na ⁺ to H ⁺ 2 – 6	Recovery of metals from aqueous and non-aqueous streams.
		790	Styrene DVB	-SO ₃ ⁻	H ⁺	0.3 – 1.2	51 – 55	120	1.9 (Na ⁺)	Na ⁺ to H ⁺ 2 – 6	Demineralisation in co-current, countercurrent mode and condensate water treatment.
		790 C	Crosslinked polystyrene	-SO ₃ ⁻	H ⁺	0.45 – 0.6 (effective size)	51 – 55	120	1.7	Na to H 6	Used in condensate polishing unit.
WAC	Gel	236	Crosslinked Polyacrylic	-COO ⁻	H ⁺	0.3 – 1.2	46 – 54	120	4.0	H ⁺ to Na ⁺ 80 – 120	Removal of alkaline hardness from water.
	Macroporous	662	Methacrylic DVB	-COO ⁻	H ⁺	0.3 – 1.2	44 – 50	100	3.8	H ⁺ to Na ⁺ 70 max	Removal of alkaline hardness from water.
Mixed Bed Resins											
		MB 6SR/ Refill Pack	Styrene DVB	-SO ₃ ⁻ -N ⁺ R ₃	H ⁺ OH ⁻	0.3 – 1.2	-	60	-	-	Super-regenerated mixture of cation and anion for producing ultrapure water.
		MB – 11	Styrene DVB	-SO ₃ ⁻ -N ⁺ R ₃	H ⁺ OH ⁻	0.3 – 1.2	-	60	-	-	1:1 volume ratio of cation in H ⁺ and anion in OH ⁻ to produce high purity demineralised water.
		MB – 11 GMB	Styrene DVB	-SO ₃ ⁻ -N ⁺ R ₃	H ⁺ OH ⁻	0.3 – 1.2	-	60	-	-	Non-regenerable mixed bed application where highest quality water is required. Colour changes at the time of exhaustion.
		MB – 12	Styrene DVB	-SO ₃ ⁻ -N ⁺ R ₃	H ⁺ OH ⁻	0.3 – 1.2	-	60	-	-	1:2 stoichiometrically equivalent volume ratio of cation in H ⁺ and anion in OH ⁻ to produce high purity demineralised water.
		MB – 115	Styrene DVB	-SO ₃ ⁻ -N ⁺ R ₃	H ⁺ OH ⁻	0.3 – 1.2	-	60	-	-	40:60 volume ratio of cation and anion to produce high purity demineralised water.
		MB 151	Styrene DVB	-SO ₃ ⁻ -N ⁺ R ₃	H ⁺ OH ⁻	0.3 – 1.2	-	60	-	-	Non-regenerable EDM application.
		MB 1150 HP	Styrene DVB	-SO ₃ ⁻ -N ⁺ R ₃	H ⁺ OH ⁻	0.5 – 0.65 (effective size)	-	60	-	-	Production of high purity water in electronic & pharma industry.
Oil Removal Resin											
SPL	Oleophilic Resin	Styrene DVB	-SO ₃ ⁻	Na ⁺	0.3 – 1.2	35 – 41	120	1.6 to 1.7	-	Oil removal from steam condensate of petroleum refineries, petroleum products & water contaminated with hydrocarbon.	

*meq/dry g

SAC: Strong Acid Cation, SBA: Strong Base Anion, WBA: Weak Base Anion, WAC: Weak Acid Cation, SPL : Speciality

INDION® Ion Exchange Resins

Properties and Applications - Summarised Data

Resin Type	INDION Designation	Matrix Type	Functional Group	Standard Ionic Form	Particle Size mm	Moisture Content %	Maximum Operating Temperature °C	Total Exchange Capacity meq/ml	Reversible Swelling %	Applications	
Potable Water Treatment											
Polyiodide Resin											
SPL	SRCD I	Crosslinked Polymer impregnated with iodine	-N ⁺ R ₃	I ₃ ⁻	0.3 – 1.2	-	15 – 35	-	-	Disinfection of potable water.	
Arsenic and Iron Removal Resin											
SPL	ASM	Crosslinked Polystyrene	-	-	0.3 – 1.2	47 – 54	60	0.5 - 2.0 g As/l	-	Removal of Arsenic from potable water. This product conforms to NSF / ANSI / CAN 61 & is certified with GOLD SEAL from WQA.	
	ISR	Crosslinked Polystyrene	-	-	0.3 – 1.2	45 – 55	45	-	-	Removal of dissolved Iron from water. This product conforms to NSF / ANSI / CAN 61 & is certified with GOLD SEAL from WQA.	
Fluoride Removal Resin											
SPL	RS-F	Styrene DVB	NA	-	0.3 – 1.2	50 – 60	60	-	-	Removal of fluoride from water.	
Perchlorate Removal Resin											
SPL	PCR	Crosslinked Polystyrene	-NR ₄ ⁺	Cl ⁻	0.3 – 1.2	35 – 45	90 (Cl ⁻)	0.8	-	Selective removal of perchlorate from ground water.	
Cation Exchange Resins											
SAC	Gel	225 Na F	Styrene DVB	-SO ₃ ⁻	Na ⁺	0.3 – 1.2	43 – 50	140	2.0	Na ⁺ to H ⁺ 8 approx.	High purity food grade resin for treatment of potable water and food stuff. This product conforms to NSF / ANSI / CAN 61, NSF / ANSI 372 & is certified with GOLD SEAL from WQA.
		2250 Na F	Styrene DVB	-SO ₃ ⁻	Na ⁺	0.5 – 0.65 (effective size)	43 – 50	140	2.0	Na ⁺ to H ⁺ 8 approx.	High purity CPS food grade resin for treatment of potable water & food stuff.
		222 Na NS	Crosslinked Polystyrene	-SO ₃ ⁻	Na ⁺	0.3 – 1.2	43 – 49	120	1.9	Na ⁺ to H ⁺ 8 approx.	Water softening application. This product conforms to NSF / ANSI / CAN 61 & is certified with GOLD SEAL from WQA. The product is manufactured by a non solvent process.
WAC	Microporous	266	Crosslinked Polyacrylic	-COO ⁻	H ⁺	0.3 – 1.2	46 – 54	120	4.2	H ⁺ to Na ⁺ 65 max	Removal of alkaline hardness from water.
Anion Exchange Resin											
SBA	Macroporous	NSSR (Type 1)	Styrene DVB	-N ⁺ R ₃	Cl ⁻	0.3 – 1.2	45 – 55	100 (Cl ⁻)	0.9	Cl ⁻ to NO ₃ ⁻ Negligible	Selective removal of Nitrates from water. This product conforms to NSF / ANSI / CAN 61 & is certified with GOLD SEAL from WQA.
Oxidation, Reduction Catalyst											
SPL	ORC	-	-	-	0.3 – 1.2	-	-	-	-	Removal of halogens and oxidising agents.	
Nuclear Grade Resins											
Cation Exchange Resins											
SAC	Gel	223 H NG	Styrene DVB	-SO ₃ ⁻	H ⁺	0.3 – 1.2	49– 55	120	1.9	-	High purity ion exchange resin (in hydrogen form) for use in nuclear power plants.
		2230 H NG	Styrene DVB	-SO ₃ ⁻	H ⁺	0.5 – 0.65 (effective size)	49 – 55	120	1.9	-	High purity CPS ion exchange resin (in hydrogen form) for use in nuclear power plants.
		223 Li	Styrene DVB	-SO ₃ ⁻	Li ⁺	0.3 – 1.2	47 – 53	120	1.9	-	High purity ion exchange resin (in lithium form) for use in nuclear power plants.
Anion Exchange Resins											
SBA	Gel	ARU 104	Crosslinked Polystyrene	N ⁺ R ₃	Cl ⁻	0.3 – 1.2	38 – 42	80	1.6	-	Recovery of Uranium from leach liquors.
		GS 300 NG	Styrene DVB	-N ⁺ R ₃	OH ⁻	0.3 – 1.2	60 max	60	1.1	-	High strength strong base anion resin (Type I) for use in nuclear power plants.

* meq/dry g

SAC: Strong Acid Cation, SBA: Strong Base Anion, WBA: Weak Base Anion, WAC: Weak Acid Cation, SPL : Speciality

INDION® Ion Exchange Resins

Properties and Applications - Summarised Data

Resin Type	INDION Designation	Matrix Type	Functional Group	Standard Ionic Form	Particle Size mm	Moisture Content %	Maximum Operating Temperature °C	Total Exchange Capacity meq/ml	Reversible Swelling %	Applications	
Nuclear Grade Resins											
Anion Exchange Resins											
SBA	Gel	GS 3000 NG	Styrene DVB	-N ⁺ R ₃	OH ⁻	0.5 – 0.65 (effective size)	60 max	60	1.1	-	High strength CPS strong base anion resin (Type I) for use in nuclear power plants.
		GS 80	Crosslinked Polystyrene	-N ⁺ R ₃	-SO ₃ ⁻	0.3 – 1.2	47 – 55	-	0.8	-	Oxygen scavenging.
Mixed Bed Resins											
	Mixed Resins	CAM – 14	Styrene DVB	-SO ₃ ⁻ -N ⁺ R ₃	H ⁺ OH ⁻	0.3 – 1.2	-	60	-	-	1:4 volume mixture of cation and anion to produce high purity alkaline water for use in nuclear power plants.
		CAM – 19	Styrene DVB	-SO ₃ ⁻ -N ⁺ R ₃	Li ⁺ OH ⁻	0.3 – 1.2	-	60	-	-	1:9 volume mixture of cation and anion. Used in nuclear power plants.
Catalyst Grade Resins											
Cation Exchange Resins											
SAC	Macroporous	140	Styrene DVB	-SO ₃ ⁻	H ⁺	0.42 – 1.2	<3	150	4.8*	-	Catalyst for organic reactions like esterification etc.
		130	Styrene DVB	-SO ₃ ⁻	H ⁺	0.42 – 1.2	<3	150	4.8*	-	Catalyst grade resin for esterification and alkylation reactions.
		190	Styrene DVB	-SO ₃ ⁻	H ⁺	0.42 – 1.2	<3	150	4.7*	-	Premium catalyst for specialised applications such as esterification, alkylation etc.
	Gel	770	Styrene DVB	-SO ₃ ⁻	H ⁺	0.3 – 1.2	63 – 66	120	1.4	-	Catalyst for manufacture of butyl acetate, ethylacetate, olefin hydration & bisphenol A.
Anion Exchange Resin											
WBA	Macroporous	860	Styrene DVB	-NR ₂ -N ⁺ R ₃	Free base	0.3 – 1.2	52 – 56 (Cl ⁻)	60	1.4	FB to hydrochloride 25 max	As catalyst in aldolization reactions.
Hydrometallurgy											
Chelating Resins											
		MSR	Styrene DVB	Thiol	H ⁺	0.3 – 1.2	38 – 43	60	3.6*	-	Selective adsorption of bivalent mercury from industrial effluents.
		TCR	Styrene DVB	Thio-Uronium	-	0.3 – 1.2	41 – 47	80	1.4	-	Selective recovery of mercury and precious metals.
		BSR	Styrene DVB	Amino Phosphonic	Na ⁺	0.42 – 1.2	60 – 70	80	2.0 (H ⁺)	H ⁺ to Na ⁺ <45 H ⁺ to Ca ⁺⁺ <20	Decalcification of secondary brine in chloralkali industry.
		SIR	Styrene DVB	Iminodiacetic	Na ⁺	0.3 – 1.2	52 – 58	90	2.2 (H ⁺)	-	Extraction and recovery of metals, removal of heavy metals from various organic or inorganic chemical products.
Cation Exchange Resins											
SAC	Macroporous	790	Styrene DVB	-SO ₃ ⁻	H ⁺	0.3 – 1.2	51 – 55	120	1.9 (Na ⁺)	Na ⁺ to H ⁺ 2 – 6	Recovery of metals from aqueous and non-aqueous streams.
		730	Styrene DVB	-SO ₃ ⁻	H ⁺	0.3 – 1.2	54 – 57	120	1.7 (Na ⁺)	Na ⁺ to H ⁺ 2 – 6	Recovery of metals from aqueous and non-aqueous streams.
		740	Styrene DVB	-SO ₃ ⁻	H ⁺	0.3 – 1.2	64 – 68	120	1.3 (Na ⁺)	Na ⁺ to H ⁺ 2 – 6	Recovery of metals from aqueous and non-aqueous streams.
WAC	Gel	236	Crosslinked Polyacrylic	-COO ⁻	H ⁺	0.3 – 1.2	46 – 54	120	4.0	H ⁺ to Na ⁺ 80 – 120	Recovery of metals from aqueous and non-aqueous streams.

*meq/dry g

SAC: Strong Acid Cation, SBA: Strong Base Anion, WBA: Weak Base Anion, WAC: Weak Acid Cation, SPL: Speciality

INDION® Ion Exchange Resins

Properties and Applications - Summarised Data

Resin Type	INDION Designation	Matrix Type	Functional Group	Standard Ionic Form	Particle Size mm	Moisture Content %	Maximum Operating Temperature °C	Total Exchange Capacity meq/ml	Reversible Swelling %	Applications	
Chemical Process Application											
Anion Exchange Resins											
SBA	Gel	GS 300 (OH) (Type I)	Styrene DVB	-N ⁺ R ₃	OH	0.3 – 1.2	60 – 70	60 (OH)	1.0	Cl ⁻ to OH ⁻ 25 – 30	Removal and recovery from process streams.
		950 (Type I)	Cross linked Polyacrylic	-COO ⁻	Cl ⁻	0.4 – 1.2	54 – 64	80 (Cl)	1.2	Cl ⁻ to OH ⁻ 25 – 30	Removal of high level of colour bodies from sugar syrup.
	Macroporous	830 S (Type 1)	Styrene DVB	-N ⁺ R ₃	Cl ⁻	0.3 – 1.2	57 – 66	80 (Cl ⁻)	0.95	Cl ⁻ to OH ⁻ 7 – 17	Removal of colour bodies from sugar syrup and other process streams. This product conforms to NSF / ANSI / CAN 61 & is certified with GOLD SEAL from WQA.
WBA	Macroporous	930 A (Type 1)	Crosslinked Polyacrylic	-N ⁺ R ₃	Cl ⁻	0.3 – 1.2	65 – 72	80 (Cl ⁻)	0.8	Cl ⁻ to OH ⁻ 10 – 15	Removal of high level of colour bodies from sugar syrup.
		845 (Type 1)	Styrene DVB	-N ⁺ R ₂ -N ⁺ R ₃	-	0.3 – 1.2	52 – 58	60	1.1	Cl ⁻ to OH ⁻ 20%	Treatment of non-aqueous solution such as deashing of glucose, dextrose, sorbitol, gelatin & purification of MSG.
		860 S	Styrene DVB	-N ⁺ R ₂ -N ⁺ R ₃	Free base	0.3 – 1.2	50 – 58 (Cl ⁻)	60	1.3	FB to hydrochloride 25 max	Treatment of non-aqueous solution such as deashing of glucose, dextrose, sorbitol, gelatin & purification of MSG.
		870	Styrene DVB	-N ⁺ R ₂	Free base	0.3 – 1.2	52 – 62	60	1.6	FB to hydrochloride 25 max	Deacidification of process streams.
		880	Styrene DVB	-N ⁺ R ₂ -N ⁺ R ₃	Free base	0.3 – 1.2	58 – 63	60	1.2	FB to hydrochloride 25 max	Colour removal from textile effluent.
		890	Styrene DVB	-N ⁺ R ₂ -N ⁺ R ₃	Free base	0.3 – 1.2	52 – 56	60	1.4	-	Removal of strong acids in non water, pharma & speciality applications.
Cation Exchange Resins											
SAC	Macroporous	790	Styrene DVB	-SO ₃ ⁻	H ⁺	0.3 – 1.2	51 – 55	120	1.9 (Na ⁺)	Na ⁺ to H ⁺ 2 – 6	Special grade cation exchanger for applications demanding higher oxidation stability such as gelatin purification, heavy metal removal etc.
WAC	Macroporous	652	Methacrylic acid DVB	COO ⁻	H ⁺	0.3 – 1.2	47 – 55	100	3.5	H ⁺ to Na ⁺ 75 min	Ideal for the uptake of toxic / undesirable heavy metals, temporary hardness from process liquor and industrial water.
	Gel	236 P	Crosslinked Polyacrylic	-COO ⁻	H ⁺	0.3 – 1.2	46 – 54	120	4	H ⁺ to Na ⁺ 80 – 120	Removal of alkaline hardness from water in Beverage Industry.
Mixed Bed Resin											
		GMW 11 (GVI)	Crosslinked Polystyrene	-SO ₃ ⁻ -N ⁺ R ₂	H ⁺ OH ⁻	0.3 – 1.2	-	60	-	-	Specially developed mix of resins for use in electroplating applications. Colour changes at the time of exhaustion.

* meq/dry g

SAC: Strong Acid Cation, SBA: Strong Base Anion, WBA: Weak Base Anion, WAC: Weak Acid Cation, SPL : Speciality

INDION® Ion Exchange Resins

Properties and Applications - Summarised Data

Resin Type	INDION Designation	Matrix Type	Functional Group	Standard Ionic Form	Particle Size mm	Moisture Content %	Maximum Operating Temperature °C	Total Exchange Capacity meq/ml	Reversible Swelling %	Applications
Pharmaceutical Grade Resins										
SPL	204	Crosslinked Polyacrylic	-COO ⁻	H ⁺	< 0.15	≤5	-	10.0*	-	Taste masking of bitter drugs such as Norfloxacin, Ofloxacin, Roxithromycin, Dicyclomine Hydrochloride, Famotidine and B ₁₂ stabilisation etc.
	234	Crosslinked Polyacrylic	-COO ⁻	K ⁺	< 0.15	≤10	-	-	-	Taste masking of bitter drugs such as Ciprofloxacin, Chloroquine Phosphate etc. as well as tablet disintegration.
	254	Styrene DVB	-SO ₃ ⁻	Na ⁺	< 0.15	≤10	-	-	-	Sustained release agent in drug formulations.
	294	Crosslinked Polymethacrylic	-COO ⁻	K ⁺	< 0.15	≤10	-	-	-	Tablet disintegrant/taste masking. Product meets specifications of Polacrillin Potassium, USP.
	404	Styrene DVB	-SO ₃ ⁻	Ca ⁺⁺	< 0.15	≤8	-	-	-	Treatment of Hyperkalaemia.
	454	Styrene DVB	-N ⁺ R ₃	Cl ⁻	>0.075 – 45% <0.15 – 1%	≤12	-	1.8 – 2.2**	-	Cholestyramine resin – used for lowering serum cholesterol levels. Taste masking, drug stabilisation, controlled release & active ingredient.
	464	Crosslinked Polymethacrylic	-COO ⁻	H ⁺	< 0.15	≤5	-	10*	-	Nicotine taste masking and sustained release.

* meq/dry g

** sodium glycocholate exchange capacity

SPL : Speciality

INDION® Ion Exchange Resins

Properties and Applications - Summarised Data

Resin Type	INDION Designation	Matrix Type	Functional Group	Standard Ionic Form	Particle Size mm	Moisture Content %	Maximum Operating Temperature °C	Total Exchange Capacity meq/ml	Reversible Swelling %	Applications
Adsorbent Grade Resins										
SPL	PA 500	Styrene DVB	-	-	0.3 – 1.2	63 – 67	150	-	-	Purification of Aloe Vera juice and Methi extract.
	PA 600	Styrene DVB	-	-	0.3 – 1.2	55 – 65	130	-	-	High surface area polymers for recovering non-polar substances from aqueous and non aqueous streams.
	PA 800	Styrene DVB	-	-	0.3 – 1.2	54 – 60	150	-	-	Phenol removal from HCl and effluent.
	PA 1200	Styrene DVB	-	-	0.4 – 1.2	52 – 62	120	-	-	High surface area polymers for recovering non-polar substances from aqueous and non aqueous streams.
Biodiesel Manufacture & Purification										
SPL	190	Styrene DVB	-SO ₃ ⁻	H ⁺	0.42 – 1.2	<3	150	4.7*	-	Esterification of FFA.
	BF 100	Styrene DVB	-N ⁺ R ₃	OH ⁻	0.3 – 1.2	63 – 75	-	0.9	-	Purification of raw bio-diesel to remove residual FFA from 0.5 - 1.0% to less than 0.1%.
	BF 170	Styrene DVB	Acidic	-	0.3 – 1.2	≤3	-	-	-	Purification of raw bio-diesel for removal of glycerine, soap, moisture etc.

* meq/dry g

SPL : Speciality

For more information visit us at : www.ionresins.com

We offer several other speciality resins for a wide variety of applications. These include fine mesh resins for chromatographic separations; dessicant grade resins for moisture removal from solvents & resins for peptide synthesis.