

ION EXCHANGE RESIN Selection Guide

PRODUCT	TYPE	MATRIX	FUNCTIONALITY	IONIC FORMS	TOTAL CAPACITY meq/mL	% WATER RETENTION	% IONIC FORM	SHIP WT, LB/CF g/L
STRONG BASE ANION								
GR 1-0	SBA Type I	Styrene DVB Gel	$-N^+-(CH_3)_3$	OH^- $Cl^- HCO_3^-$	1.1	43-48	95	41 / 655
GR 1-1	SBA Type I	Styrene DVB Porous Gel	$-N^+-(CH_3)_3$	OH^- $Cl^- HCO_3^-$	1	50-58	95	40 / 640
GR 1-2	SBA Type II	Styrene DVB Gel	$-N^+-(CH_3)_2CH_2CH_2OH$	OH^- Cl^-	1	40-45	95	41 / 655
GR 1-3	SBA Type II	Styrene DVB Porous Gel	$-N^+-(CH_3)_2CH_2CH_2OH$	OH^- Cl^-	0.9	60-70	95	43 / 690
GR 1-5	SBA Type I	Styrene DVB Macroporous	$-N^+-(CH_3)_3$	OH^- $Cl^- HCO_3^-$	0.9	60-70	95	40 / 640
GR 1-6	SBA Type I	Acrylic DVB Gel	$-N^+-(CH_3)_3$	OH^- Cl^-	0.8	55-70	95	42 / 670
WEAK BASE ANION								
GR 1-7	WBA	Acrylic DVB Gel	$-N^+-(CH_3)_2$	Free Base	1.6	50-60	95	45 / 720
GR 1-8	WBA	Styrene DVB Macroporous	$-N^+-(CH_3)_2$	Free Base	1.2	50-60	95	41 / 655
STRONG ACID CATION								
GR 2-0	SAC	Styrene DVB Gel	$-SO_3^-$	H^+ Na^+	2.0	46-51	99	50 / 800
GR 2-1	SAC	Styrene DVB Gel	$-SO_3^-$	H^+ Na^+	1.8	48-55	99	50 / 800
GR 2-5	SAC	Styrene DVB Macroporous	$-SO_3^-$	H^+ Na^+	1.6	50-56	99	47 / 750
WEAK ACID CATION								
GR 2-6 MP	WAC	Acrylic DVB Macroporous	$-COOH$	H^+	3	48-58	99	46 / 735
MIXED BEDS								
Components Ratio								
GR 3-0	SAC SBA Type I	Styrene DVB Gel	$-SO_3^-$ $-N^+-(CH_3)_3$	H^+ OH^-	GR 2-0/2-1 GR 1-0	1:1 by capacity	99 95	43 / 690
GR 3-1	SAC SBA Type I	Styrene DVB Porous Gel	$-SO_3^-$ $-N^+-(CH_3)_3$	H^+ OH^-	GR 2-1 GR 1-1	1:1 by capacity	99 95	43 / 690
GR 3-2	SAC SBA Type II	Styrene DVB Gel	$-SO_3^-$ $-N^+-(CH_3)_2CH_2CH_2OH$	H^+ OH^-	GR 2-1 GR 1-2	1:1 by capacity	99 95	43 / 690
GR 3-4	SAC SBA Type I	Styrene DVB Gel	$-SO_3^-$ $-N^+-(CH_3)_3$	H^+ OH^-	GR 2-1 GR 1-0	1:1 by volume	99 95	45 / 720
GR 3-8	SAC SBA Type I	Styrene DVB Gel	$-SO_3^-$ $-N^+-(CH_3)_3$	H^+ OH^-	GR 2-0 GR 1-0	2:1 by volume	99 95	47 / 750
GR 3-15	SAC SBA Type I	Styrene DVB Gel	$-SO_3^-$ $-N^+-(CH_3)_3$	H^+ OH^-	GR 2-1 GR 1-0	3:1 by volume	99 95	48 / 765
GR 3-18	SAC SBA Type I	Styrene DVB Macroporous	$-SO_3^-$ $-N^+-(CH_3)_3$	H^+ OH^-	GR 2-1 GR 1-0	1:1 by capacity	99 95	44 / 705



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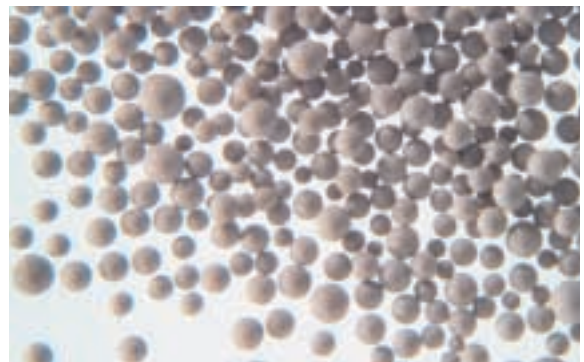
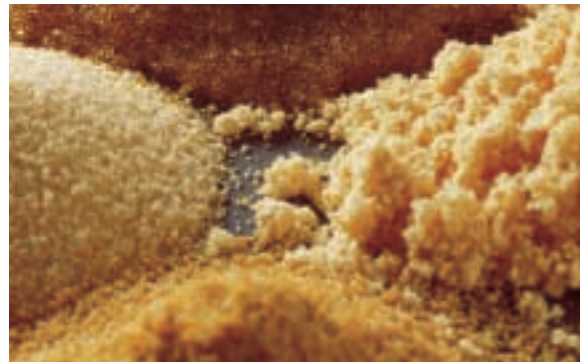
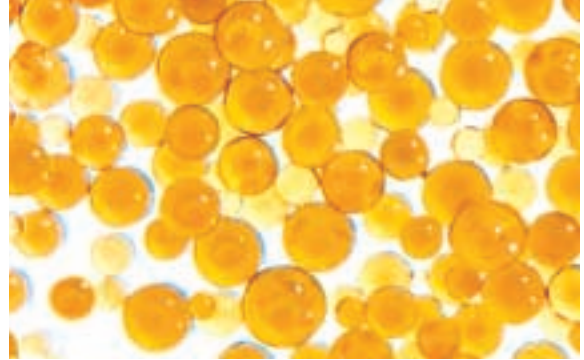
Superior process purity starts with a superior resin

When it comes to removing dissolved and low-level suspended contaminants from your process stream, you can depend on the superior products and ion exchange experts at Graver Technologies. We've been providing ion exchange bead and powdered resins to the power generation, utility and industrial water treatment industries for more than 40 years.

Graver ion exchange products treat more than 6 1/2 billion gallons of process water every day. Over 75 percent of the nuclear industry uses our resins. We've achieved this by consistently delivering dependable, high performance products.

At Graver Technologies, we take pride in our ability to provide effective solutions for all types of applications. Whether you're treating DI water, processing nuclear or industrial waste, or performing mission-critical condensate polishing, there's a Graver Technologies ion exchange resin that will perform for you. GRAVEX[®] cation, anion and mixed bed bead resins are high purity, quality-certified products. These cost-effective alternatives to branded bead resins are used for all applications, including make-up, condensate polishing, rad-waste, steam generator blowdown demineralizers and PWR primary side purification. GRAVEX ion selective resins are used for precious metal recovery and decontamination of waters, as well as radionuclide reduction. POWDEX[®] and POWDEX Premix[™] powdered resins are used for condensate polishing and waste treatment in both nuclear and fossil power plants. ECODEX[®] and ECODEX Meridian[™] precoat products are designed and used for condensate polishing, waste and specialty applications. ECOGUARD[®] precoats are formulated specifically for economical condensate polishing in fossil power plants.

All resins are manufactured in accordance with a quality assurance program meeting the requirements of Title 10 of the Code of Federal Regulations, Part 50, Appendix B (10CFR50 App. B). Additionally, 10CFR21 is accepted for nuclear, safety related orders. Products for all orders are individually QC tested assuring the quality and purity of our resins.



Graver Technologies offers a wide variety of resin products including gel and macroporous resins, powdered resins, cation, anion and mixed bed resins.

You demand a lot from your ion exchange resins. You can expect a lot from Graver Technologies.

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