

RESINTECH SBG1P is a highly porous, gelular, Type 1, strongly basic anion resin, supplied in the chloride form as moist, tough, uniform spherical beads. It has greater porosity and is slightly less dense than standard Type One resins such as *RESINTECH SBG1*. This provides superior regeneration efficiency, easier separation in regenerable mixed beds, and greater resistance to organic fouling.

RESINTECH SBG1P is intended for use in all types of deionization systems and chemical processing applications and is especially suited for use in regenerable mixed beds.

FEATURES & BENEFITS

- COMPLIES WITH FDA REGULATIONS FOR POTABLE WATER APPLICATIONS.**

Conforms to paragraph 21CFR173.25 of the Food Additives Regulations of the F.D.A. *

- HIGHLY UNIFORM PARTICLE SIZE**

16 to 50 mesh range; giving a LOWER PRESSURE DROP while maintaining SUPERIOR KINETICS.

- NSF/ANSI 61 CERTIFIED FOR MATERIAL SAFETY**

WQA Gold Seal Certified when ordered as SBG1P-HP



- SUPERIOR PHYSICAL STABILITY**

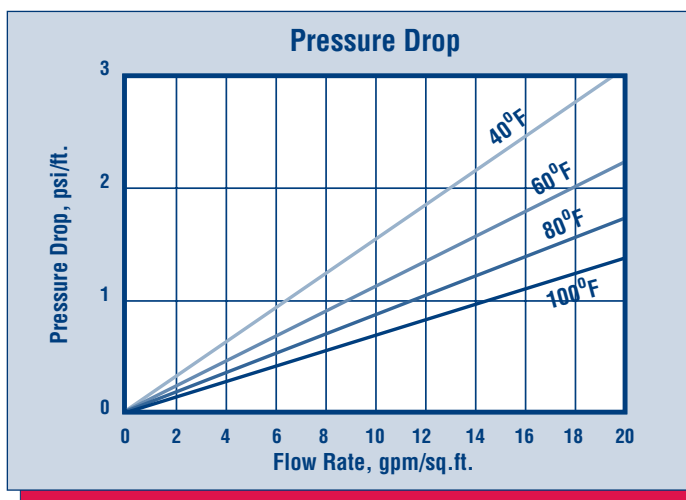
90 percent plus sphericity combined with high crush strengths and uniform particle size provide greater resistance to bead breakage. This results in longer resin life and lower pressure drop.

- ORGANIC FOULING RESISTANCE AND HIGH OPERATING CAPACITY**

The highly porous structure of *RESINTECH SBG1P* allows greater removal and elution of large organic molecules. The useful operating life of *RESINTECH SBG1P* is much greater than standard porosity resins like ResinTech SBG1 when dealing with streams containing significant amounts of organics.

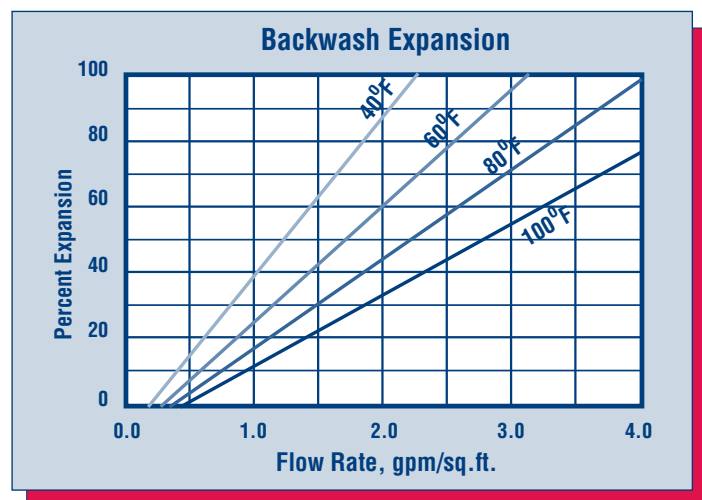
* For potable water applications, the resin must be properly pre-treated, usually by multiple exhaustion and regeneration cycles, to ensure compliance with extractable levels

HYDRAULIC PROPERTIES



PRESSURE DROP

The graph above shows the expected pressure loss per foot of bed depth as a function of flow rate, at various water temperatures.



BACKWASH

After each cycle the resin bed should be backwashed at a rate that expands the bed 50 to 75 percent. This will remove any foreign matter and reclassify the bed. The graph below shows the expansion characteristics of *RESINTECH SBG1P*, in the chloride form.

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RESINTECH® SBG1P

PHYSICAL PROPERTIES

Polymer Structure	Styrene Crosslinked with DVB
Functional Group	R-N-(CH ₃) ³⁺ X ⁻
Ionic Form, as shipped	Chloride or Hydroxide
Physical Form	Tough, Spherical Beads
Screen Size Distribution	16 to 50
+16 mesh	< 5 percent
-50 mesh	< 1 percent
pH Range	0 to 14
Water Retention Cl Form	51 to 60 percent
Solubility	Insoluble
Approximate Shipping Weight	
Cl Form	43 lbs/cu. ft.
OH Form	41 lbs/cu. ft.
Swelling Cl- to OH- Form	Approx.25 to 30 percent
Total Capacity	
Cl Form	> 1.25 meq/mL
OH Form	> 1.0 meq/ml min
Sphericity	> 93 percent

SUGGESTED OPERATING CONDITIONS

Maximum Temperature	
Hydroxide Form	140° F
Salt form	170° F
Minimum Bed Depth	24 inches
Backwash Rate	50 to 75 percent Bed Expansion
Regenerant Concentration*	2 to 6 percent
Regenerant Flow Rate	0.25 to 1.0 gpm/cu.ft.
Regenerant Contact Time	At least 60 Minutes
Regenerant Level	4 to 10 lbs/cu.ft.
Displacement Rinse Rate	Same as Regenerant Flow Rate
Displacement Rinse Volume	10 to 15 gal/cu.ft.
Fast Rinse Rate	Same as Service Flow Rate
Fast Rinse Volume	35 to 60 gal/cu.ft.
Service Flow Rate	2 to 4 gpm/cu.ft.

OPERATING CAPACITY

The operating capacity of *RESINTECH SBG1P* for acid removal at various regeneration levels when treating an influent with a concentration of 500 ppm, as CaCO₃, is shown in the following table.

Pounds NaOH/ft ³	Capacity Kilograms per cubic foot				
	HCl	H ₂ SO ₄	H ₂ SiO ₃	H ₂ CO ₃	H ₃ PO ₄
4	11.5	14.0	12.6	18.6	16.1
6	13.5	16.3	14.8	19.8	17.8
8	15.2	18.3	16.7	21.6	19.2
10	16.8	20.0	19.8	22.2	20.5

APPLICATIONS

DEMINEALIZATION -

RESINTECH SBG1P is widely used in multiple and mixed bed demineralizers, wherever complete ion and organic removal are required.

RESINTECH SBG1P's porosity provides the capability of reversibly sorbing naturally occurring organic substances that tend to foul anion resins. Its porosity also provides an increased operating capacity compared with *RESINTECH SBG1*.

Type 1 anion exchangers have greater thermal and oxidation resistance than other types of strong base resins and can be operated at higher temperatures to insure low silica leakages. *RESINTECH SBG1P's* combination of porosity and functionality make it the resin of choice where the water temperature is in excess of 85°F or where the combination of carbon dioxide plus silica exceed 40% of the total anions.

RESINTECH SBG1P's low density provides maximum separation during the regeneration cycle of mixed bed demineralizers. This results in longer service runs and higher quality effluents.

DESILICIZERS -

In certain applications, water supplies with low dissolved solids need only be treated for hardness and silica removal. ResinTech CG8 operating in the sodium cycle followed by *RESINTECH SBG1P* operating in the hydroxide cycle is a very effective way of providing low silica, and low hardness water for medium pressure boilers. This represents considerable savings over the use of deionization equipment

OTHER APPLICATIONS

RESINTECH SBG1P can also be used to remove various acids from process streams. *RESINTECH SBG1P* in either the chloride or hydroxide form can also be used for a variety of non-water treatment applications that involve the exchange of anions.

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***CAUTION:DO NOT MIX ION EXCHANGE RESIN WITH STRONG OXIDIZING AGENTS.** Nitric acid and other strong oxidizing agents can cause explosive reactions when mixed with organic materials, such as ion exchange resins.

Material Safety Data Sheets (MSDS) are available for all ResinTech Inc. products.To obtain a copy, contact your local ResinTech sales representative or our corporate headquarters. They contain important health and safety information. That information may be needed to protect your employees and customers from any known health and safety hazards associated with our products. We recommend that you secure and study the pertinent MSDS for our products and any other products being used These suggestions and data are based on information we believe to be reliable. They are offered in good faith. However we do not make any guarantee or warranty. We caution against using these products in an unsafe manner or in violation of any patents; further we assume no liability for the consequences of any such actions.

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