

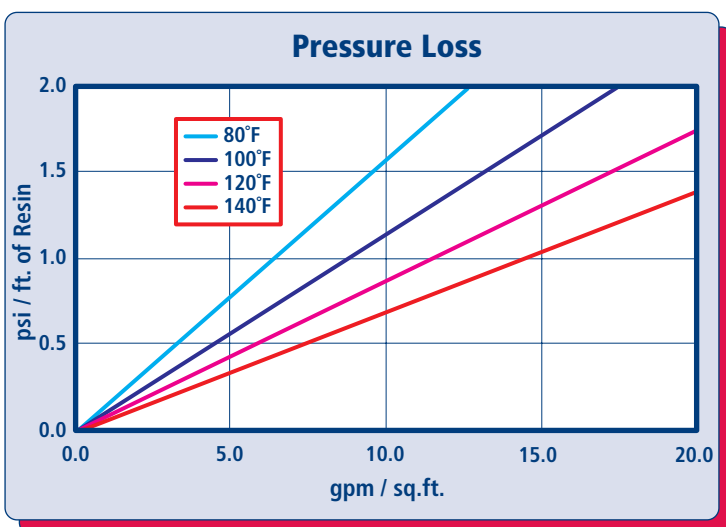
RESINTECH SBG1-HCO₃ is a bicarbonate form type 1 gel strong base anion resin. SBG1-HCO₃ is intended for use in salt form strong base anion applications where an initial pH drop is undesirable or where release of chlorides is objectionable. RESINTECH SBG1-HCO₃ is supplied in the bicarbonate form.

FEATURES & BENEFITS

- SUPPLIED IN THE BICARBONATE FORM**
Eliminates chloride spike and reduced pH when first placed into service
- HIGH TOTAL CAPACITY**
Provides long run lengths in single use applications and is ideally suited for salt form operation
- SUPERIOR PHYSICAL STABILITY**
93% plus sphericity and high crush strengths together with carefully controlled particle distribution provides long life and low pressure drop
- CONTROLLED PARTICLE SIZE**
16 to 50 mesh size provides a low pressure drop and superior kinetics
- COMPLIES WITH US FDA REGULATIONS**
Conforms to paragraph 21CFR173.25 of the Food Additives Regulations of the US FDA

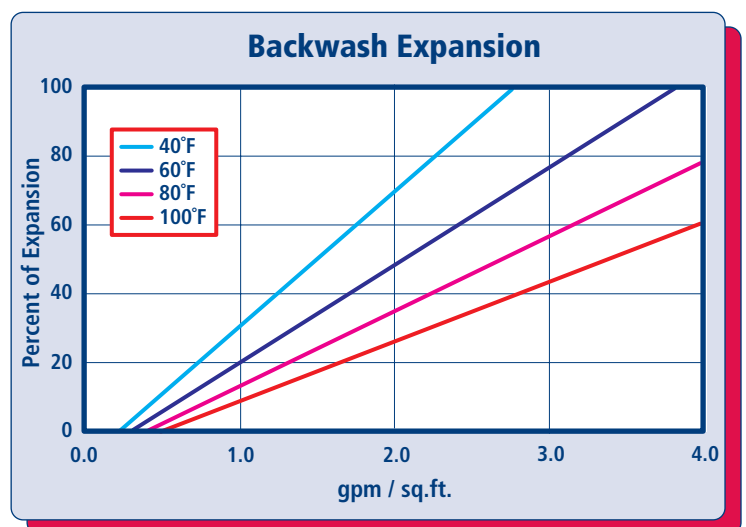
Prior to first use for potable water, resin should be backwashed for a minimum of 20 minutes, followed by 10 bed volumes of downflow rinse.

HYDRAULIC PROPERTIES



PRESSURE LOSS

The graph above shows the expected pressure loss of ResinTech SBG1-HCO₃ per foot of bed depth as a function of flow rate at various temperatures.



BACKWASH

The graph above shows the expansion characteristics of ResinTech SBG1-HCO₃ as a function of flow rate at various temperatures.

RESINTECH® SBG1-HCO3

PHYSICAL PROPERTIES

Polymer Structure	Styrene/DVB
Polymer Type	Gel
Functional Group	Trimethylamine
Physical Form	Spherical beads
Ionic Form as shipped	Bicarbonate
Total Capacity	
Bicarbonate form	>1.4 meq/mL
Water Retention	
Bicarbonate form	42 to 51 percent
Approximate Shipping Weight	
Bicarbonate form	44 lbs./cu.ft.
Screen Size Distribution (U.S. mesh)	16 to 50
Maximum Fines Content (<50 mesh)	1 percent
Minimum Sphericity	93 percent
Uniformity Coefficient	1.6 approx.
Resin Color	Amber

Note: Physical properties can be certified on a per lot basis, available upon request

SUGGESTED OPERATING CONDITIONS

Maximum continuous temperature	
Bicarbonate form	170°F
Minimum bed depth	24 inches
Backwash expansion	25 to 50 percent
Maximum pressure loss	20 psi
Operating pH range	0 to 14 SU
Regenerant Concentration	
Salt cycle	2 to 10 percent NaHCO ₃
Regenerant level	4 to 10 lbs./cu.ft.
Regenerant flow rate	0.25 to 1.0 gpm/cu.ft.
Regenerant contact time	>40 minutes
Displacement flow rate	Same as dilution water
Displacement volume	10 to 15 gallons/cu.ft.
Rinse flow rate	Same as service flow
Rinse volume	35 to 60 gallons/cu.ft.
Service flow rate	1 to 10 gpm/cu.ft.

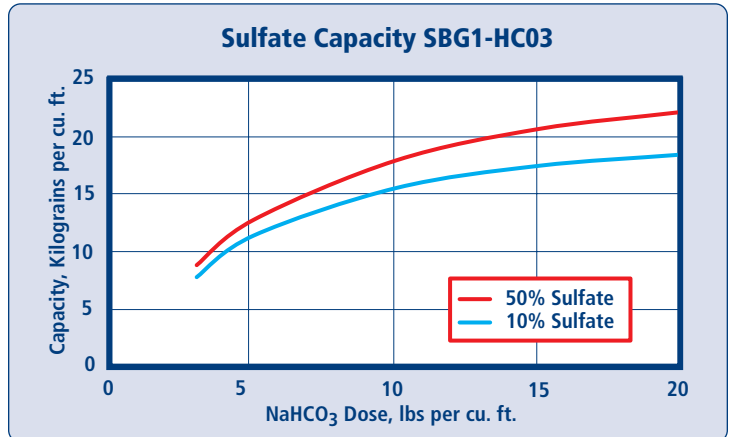
Note: These guidelines describe average low risk operating conditions. They are not intended to be absolute minimums or maximums.

For operation outside these guidelines, contact ResinTech Technical Support

APPLICATIONS

SULFATE REMOVAL

High capacity resins such as *RESINTECH SBG1-HCO3* have high affinity for divalent anions such as sulfate, provided the feedwater TDS is not greater than about 5,000 ppm. At higher TDS the resin loses its affinity for sulfate and begins to prefer chloride. Regeneration is accomplished with sodium bicarbonate brine in a fashion similar to a water softener. When treating waters with high hardness the brine dilution and displacement waters should be softened and a low hardness salt used to prevent calcium sulfate and/or calcium carbonate precipitation.



Capacity based on 500 ppm TDS (as CaCO₃), 2 to 4 gpm/cu.ft. flow rate, and 36 inch bed depth. No engineering downgrade has been applied.

TRACE CONTAMINANT REMOVAL (U, Cr, As, Se, ClO₄)

RESINTECH SBG1-HCO3 has high capacity and can be used to remove a variety of trace contaminants, even when that contaminant is not highly preferred compared to the other bulk ions in the feedwater. Useful capacities are obtained when the feedwater TDS is substantially less than the resin's internal TDS. Uranium, chromate, and perchlorate are particularly well removed. Arsenate and selenate are well removed but can be chromatographically displaced by sulfate and other ions. Use of bicarbonate form resin helps prevent a pH drop caused by the dealkalization properties of the resin when provided in the chloride form.