# SBG1

## Strong base type 1 anion resin, styrene/DVB gel, chloride form

ResinTech SBG1 is a type 1 high solids gel strong base anion resin in chloride form. It has high crosslinkage and higher ion exchange capacity than other strong base anion resins resulting in especially high selectivity for various anions. SBG1 is intended for the removal of contaminants such as nitrate, arsenate, chromate, uranium, etc.



### FEATURES & BENEFITS

- High total capacity for long run lengths
- Lower TOC leach rate
- Superior physical stability
- Controlled particle size
- Low pressure drop & better kinetics
- Complies with US FDA regulations

### APPLICATIONS

- Nitrate Reduction
- Sulfate Reduction

Meets NSF/ANSI/CAN 61
Meets NSF/ANSI/CAN 372
REACH Registered
Kosher Certified
Halal Certified

Conforms to §21CFR173.25 of the USFDA Food Additives Regulations



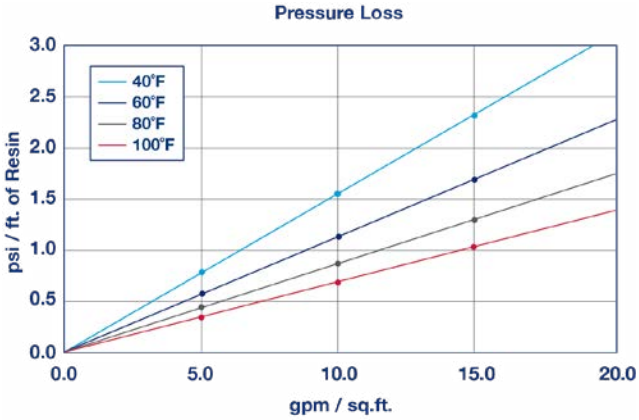
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| | |
|---|---|
| Polymer Matrix | Styrene/DVB |
| Polymer Type | Gel |
| Ionic Form (as shipped) | Chloride ($Cl^-$) |
| Functional Group | Trimethylamine |
| Physical Form | Spherical Beads |
| Particle Size US Mesh (µm) | 16 (1190) to 50 (297) |
| < 50 mesh (300 µm) % | < 1% |

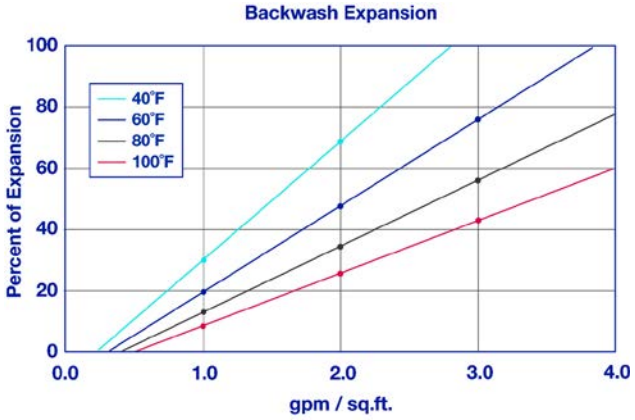
| | |
|---|---|
| Minimum Sphericity (%) | 93 |
| Reversible Swelling | 18 to 25% (Cl → OH) |
| Uniformity | Gaussian |
| Uniformity Coefficient | 1.60 |
| Capacity (meq/mL) | 1.40 |
| Moisture Retention (%) | 42 to 51 |
| Shipping Weight | 44 - 42 lbs/cu.ft. (705 - 673 g/L) |
| Color | White To Amber |

## PRESSURE LOSS




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

## BACKWASH EXPANSION




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

## SUGGESTED OPERATING CONDITIONS

| | |
|---|---|
| Maximum Temperature | 170°F (77°C) |
| Minimum Bed Depth | 24 in. (61.0 cm) |
| Maximum Pressure Loss | 20 psi (138 kPa) |
| Backwash Expansion (%) | 25 - 50 |

| | |
|---|---|
| Operating pH Range | 0 to 14 |
| Flow Rate | |
| Working Service | Depends on fluid viscosity. Contact ResinTech |



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**TRACE CONTAMINANT REMOVAL** (U, Cr, As, Se, $ClO_4$)
ResinTech **SBG1** 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 feed water. Useful capacities are obtained when the feed water 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.

**NITRATE REMOVAL**
ResinTech **SBG1** can be used in the chloride cycle to reduce nitrates along with sulfates. Regeneration is accomplished with sodium chloride brine, in a fashion similar to water softeners. Although high operating capacities and high salt efficiency can be obtained, there is also the possibility of nitrate dumping. Use of chloride form anion resin reduces pH during the early portion of the exhaustion cycle. When treating waters with high hardness the brine dilution and displacement waters should be softened and a low hardness salt used to prevent scaling during regeneration.

**SULFATE REMOVAL**
High capacity resins such as ResinTech **SBG1** have high affinity for diva- lent anions such as sulfate, provided the feed water 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 chloride brine in a fashion similar to a water softener.

**DEMINERALIZATION**
See ResinTech **SBG1-OH**.

**REGENERATION DETAILS**

| | |
|---|---|
| Hydroxide Cycle (NaOH) | 2% - 6% |
| Salt Cycle (NaCl) | 2% to 10% |
| Regenerant Level | 4-10 lbs/cu.ft. (64.1-160.2 g/L) |
| Regenerant Flow Rate | 0.25-1.0 gpm/cu.ft. (2-8 BV/h) |
| Regenerant Contact Time | > 40 minutes |
| Displacement Flow Rate | Same as dilution water |
| Displacement Volume | 10-15 gals/cu.ft. (1-2 BV) |
| Rinse Flow Rate | Same as Service Flow |
| Rinse Volume | 36-60 gals/cu.ft. (5-8 BV) |

**PACKAGING**

**Standard**

42 cu.ft. Supersack | 7 cu.ft. Drum
1 cu.ft. Bag | 5 cu.ft. Drum

**Metric**

25L Bag | 140L Drum



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## SAFETY DATA SHEETS (SDS)

Safety Data Sheets (SDS) are available for all products on the ResinTech website. They contain important health and safety information that 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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