# SIR-100-HP

Grade: High Purity

## Nitrate selective, strong base anion, styrene/DVB macroporous, high purity, chloride form

ResinTech SIR-100-HP is a chloride form nitrate selective strong base anion resin. It has been Gold Seal Certified by the WQA for use in potable water applications. Its unique functionality increases the selectivity for nitrate and decreases selectivity for sulfate, resulting in higher operating capacity and lower leakage than type 1 or type 2 anion resins. SIR-100-HP is intended for the removal of nitrate and/or perchlorate from otherwise potable water and has been screened for low taste and odor.

### FEATURES & BENEFITS

- Highest Operating Capacity
- Efficient Brine Regeneration
- Low Sulfate Selectivity
- Superior Physical Stability
- Controlled Particle Size

### APPLICATIONS

- Cartridge Applications
- Nitrate Removal
- Perchlorate Removal
- DBP
- Potable Water

### PHYSICAL PROPERTIES

| | |
|---|---|
| Polymer Matrix | Styrene/DVB |
| Polymer Type | Macroporous |
| Ionic Form (as shipped) | Chloride ($Cl^-$) |
| Functional Group | Triethylamine |
| Physical Form | Spherical Beads |
| Uniformity Coefficient | 1.60 |
| Particle Size | 16-50 US mesh (297-1190µm) |
| < 50 mesh (300 µm) % | < 1% |
| Minimum Sphericity (%) | 95 |
| Reversible Swelling | $Cl \rightarrow No_3$ -5 to -10% |
| Capacity (meq/mL) | 0.90 |
| Moisture Retention (%) | 46 to 56 |
| Shipping Weight | 40 - 42 lbs/cu.ft. (641 - 673 g/L) |
| Color | White to Tan |
| Regenerable | Regenerable |

### SUGGESTED OPERATING CONDITIONS

| | |
|---|---|
| Maximum Temperature | 250°F (121°C) |
| Minimum Bed Depth | 24 in. (61.0 cm) |
| Operating pH Range | 4.0 to 10.0 |
| Flow Rate | |
| Working Service | 1-4 gpm/cu.ft. (8-32 BV/h) |



RESINTECH® INC.
INNOVATIONS IN ION EXCHANGE

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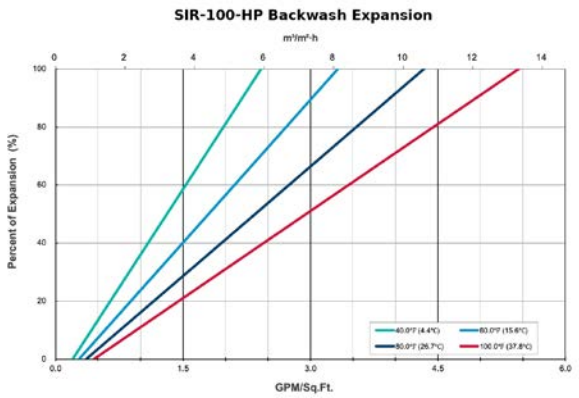
## REGENERATION DETAILS

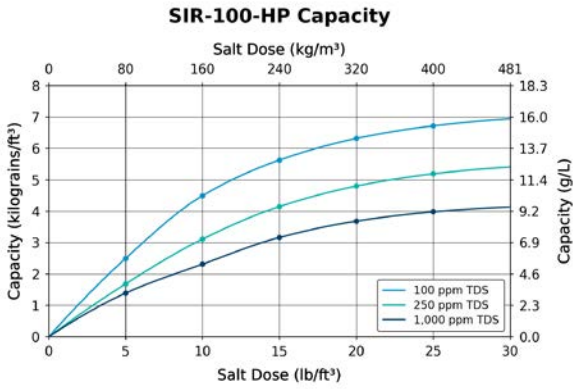
| | | | |
|---|---|---|---|
| Salt Cycle (NaCl) | 10 to 15% | Displacement Flow Rate | Same as dilution water |
| Regenerant Level | 3-10 lbs/cu.ft. (48.1-160.2 g/L) | Displacement Volume | 10-15 gals/cu.ft. (1-2 BV) |
| Regenerant Flow Rate | 0.25-1.0 gpm/cu.ft. (2-8 BV/h) | Rinse Flow Rate | Same as service flow |
| Regenerant Contact Time | > 30 minutes | Rinse Volume | 35-60 gals/cu.ft. (5-8 BV) |

## BACKWASH EXPANSION




The graph above shows the expansion characteristics of ResinTech SIR-100-HP as a function of flow rate at various temperatures.

## CAPACITY




Capacity and leakage data are based on the following: 2:1 Ca:Mg ratio, 500 ppm TDS as CaCO3, 0.2% hardness in the salt and 10% brine concentration applied co-currently through the resin over 30 minutes. No engineering downgrade has been applied.

## NITRATE REMOVAL

ResinTech **SIR-100-HP** is used in the chloride form to remove nitrates from potable water. It has a unique amine functional group that eliminates the possibility of nitrate dumping. **SIR-100-HP** has reduced affinity for sulfate which provides high operating capacity and efficient regeneration. When treating waters with high hardness the brine dilution and displacement waters should be softened and a low hardness salt used to prevent scaling.

## CERTIFICATIONS

Meets NSF/ANSI/CAN 61

Meets NSF/ANSI/CAN 372

## PACKAGING

### *Standard*

1 cu.ft. Bag | 7 cu.ft. Drum
25L Bag | 200 L Drum

### *Metric*

5 cu.ft. Drum | 42 cu.ft. Supersack
140L Drum | 1000 L Supersack

### *Shipping Weight*

40 - 42 lbs/cu.ft. (641 - 673 g/L)



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## MATERIAL SAFETY DATA SHEETS (MSDS)

Material Safety Data Sheets (MSDS) 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.

Safety Data Sheets (SDS) are available at resintech.com



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