SIR-110

Grade: Standard

PFAS & Perchlorate selective, strong base type 1 anion, styrene/DVB gel, chloride form

ResinTech SIR-110 is a chloride form perchlorate, nitrate, and PFAS selective gel strong base anion resin. Its unique functionality greatly increases the selectivity for nitrate while greatly decreasing the interference from sulfate ions. SIR-110 is recommended for the removal of perchlorate, nitrate, and most PFAS compounds.

FEATURES & BENEFITS

- Highest operating capacity of any perchlorate selective resin
- Low sulfate selectivity
- Superior physical stability
- Controlled particle size

APPLICATIONS

- Cartridge Applications
- Iodide Removal
- Nitrate Removal
- Pertectnetate Removal
- Perchlorate Removal
- PFAS Removal

PHYSICAL PROPERTIES

Polymer Matrix	Styrene/DVB
Polymer Type	Gel
Ionic Form (as shipped)	Chloride (Cl^-)
Functional Group	Tributylamine
Physical Form	Spherical Beads
Uniformity Coefficient	1.60
Particle Size	20-50 US mesh (297-841µm)
< 50 mesh (300 µm) %	< 1.5%
Minimum Sphericity (%)	90
Reversible Swelling	$Cl \rightarrow No_3$ -5 to -10%
Capacity (meq/mL)	0.70
Moisture Retention (%)	35 to 50
Shipping Weight	40 - 42 lbs/cu.ft. (641 - 673 g/L)
Color	White to Tan
Regenerable	Regenerable

SUGGESTED OPERATING CONDITIONS

Minimum Bed Depth	24 in. (61.0 cm)
Maximum Pressure Loss	20 psi (138 kPa)
Operating pH Range	4.0 to 10.0
Flow Rate	
Working Service	1-4 gpm/cu.ft. (8-32 BV/h)

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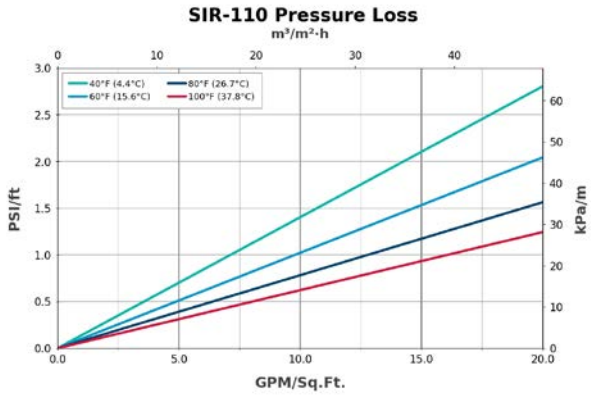
REGENERATION DETAILS

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)

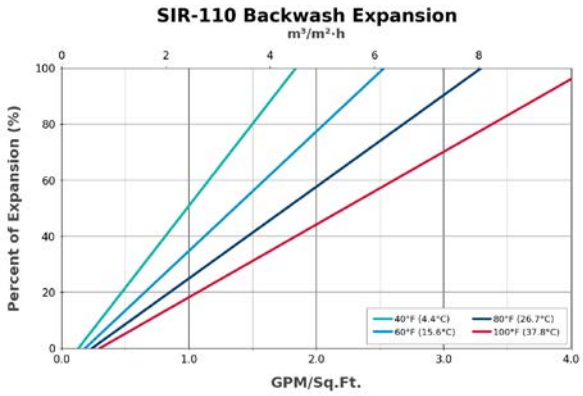
***Note:** NaCl Regeneration applicable for Nitrate Removal applications only. Media is not regenerable when used to remove Perchlorate and PFAS.

PRESSURE LOSS



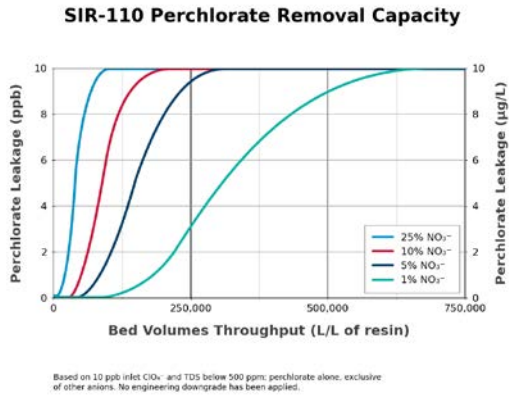
The graph above shows the expected pressure loss of ResinTech SIR-110 per foot of bed depth as a function of flow rate at various temperatures.

BACKWASH EXPANSION



The graph above shows the expansion characteristics of ResinTech SIR-110 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.

PERCHLORATE REMOVAL

ResinTech **SIR-110** is ideal for single use perchlorate removal applications and is a cost effective method to remove trace levels of perchlorate from water. The perchlorate ion is very strongly attracted to the ResinTech **SIR-110**, so much so that regeneration is impractical or impossible. However, in most cases perchlorate loads to almost the full capacity of the resin, resulting in very long service life and eliminating the need to regenerate and re-use the spent resin.

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NITRATE REMOVAL

ResinTech **SIR-110** can be used in the chloride form to remove nitrates as well as perchlorate from potable water. **SIR-110** has higher capacity for nitrate than **SIR-110** in high TDS waters. When treating waters with high hardness the brine dilution and displacement waters should be softened and a low hardness salt used to prevent scaling.

PERTECHNETATE REMOVAL

ResinTech **SIR-110** has similar affinity for pertechnetate as for perchlorate and can be used to remove trace levels of pertechnetate effectively over a very wide range of TDS and bulk ion compositions, Throughput capacities in the tens of thousands of bed volumes are typical.

CERTIFICATIONS

Meets NSF/ANSI/CAN 61

Meets NSF/ANSI/CAN 372

PACKAGING

Standard

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

Metric

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

Shipping Weight

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

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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