RESINTECH INC
INNOVATIONS IN ION EXCHANGE

SIR-900

SYNTHETIC ADSORBENT
FLUORIDE & ARSENIC SELECTIVE
ACTIVATED FORM

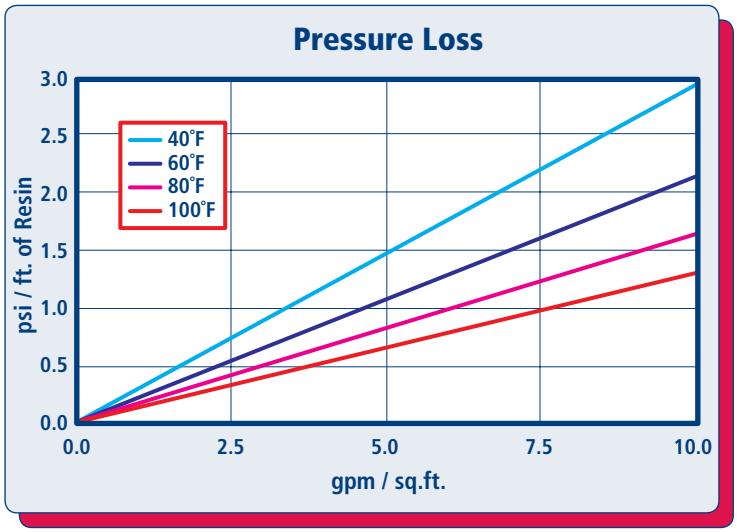
ResinTech SIR-900 is a granular aluminum oxide based adsorbent. *SIR-900* is supplied as an active oxide media based on porous aluminum oxide. *ResinTech SIR-900* is intended for removal of fluoride from water. It can also be used for the removal of arsenate, selenate, and lead from potable water. *SIR-900* is supplied in the activated adsorbent form.

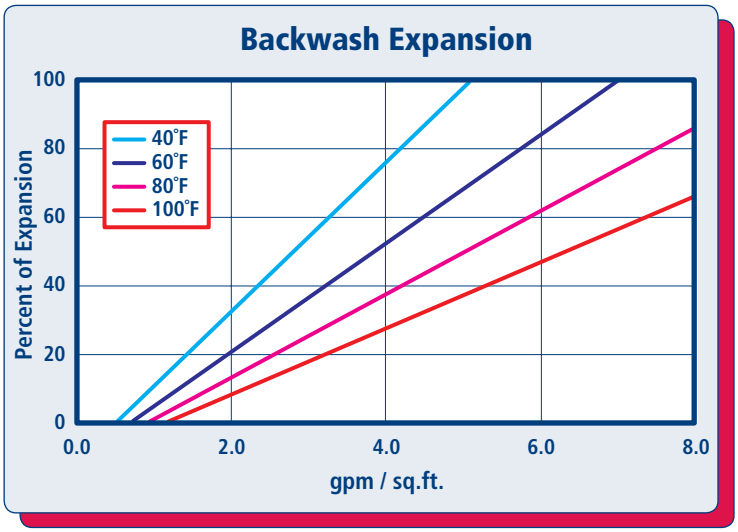
FEATURES & BENEFITS

- **HIGH AFFINITY FOR FLUORIDE**
  Adsorbs fluoride ions efficiently, especially when pH is slightly acidic
- **MULTIPLE CONTAMINANT REMOVAL**
  Removes a variety of contaminants such as arsenic and lead through a combination of adsorption and chemical reactions
- **SUPERIOR PHYSICAL STABILITY**
  Good physical integrity helps minimize breakage and fines formation
- **CONTROLLED GRANULE SIZE**
  Large granules provide good physical strength and minimal fines provide low pressure loss

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 SIR-900* per foot of bed depth as a function of flow rate at various temperatures.

BACKWASH

The graph above shows the expansion characteristics of *ResinTech SIR-900* as a function of flow rate at various temperatures.

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RESINTECH® SIR-900

PHYSICAL PROPERTIES

Physical Structure	Crystalline Aluminum Oxide
Physical Form	Granules
Water Retention	< 10 percent
Approximate Shipping Weight	38 lbs./cu.ft.
Screen Size Distribution (U.S. mesh)	16 to 50
Maximum Fines Content (<50 mesh)	1 percent
Uniformity Coefficient	2.2 approx.
Resin Color	White

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

SUGGESTED OPERATING CONDITIONS

Maximum continuous temperature	212˚F
Minimum bed depth	36 inches
Backwash expansion	25 to 50 percent
Maximum pressure loss	25 psi
Operating pH range	4 to 10 SU
Service flow rate	
Continuous	1 to 2 gpm/cu.ft.
Intermittent	1 to 5 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

FLUORIDE REMOVAL

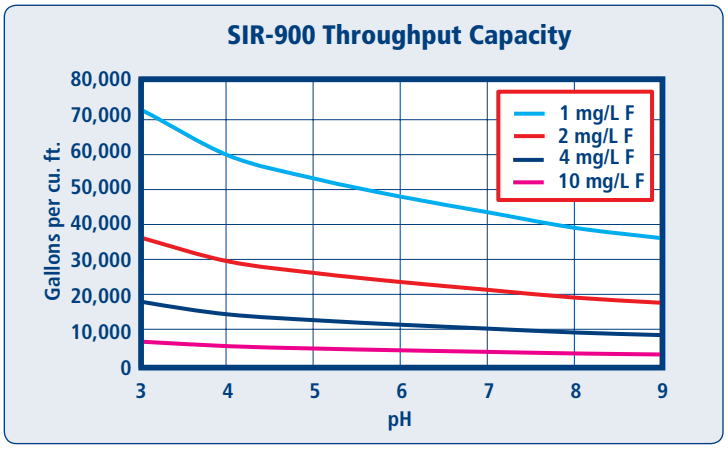
Fluoride is removed by *ResinTech SIR-900* by a chemical reaction which is flow and pH sensitive. The best results are obtained when the flow is limited to about 1 gpm/cu.ft. and the pH is held at 5.5. Higher flows and higher or lower pH results in loss of capacity. Leakage of fluoride is generally less than 0.1 mg/L to breakthrough. *SIR-900* can be regenerated with sodium hydroxide, followed by neutralization with acid at a pH of 5-6.

ARSENIC REMOVAL

Inorganic arsenic (arsenate) can be removed by *ResinTech SIR-900*. The process is pH sensitive and capacity decreases when the pH is below 5.5 or above 6.0. Arsenite is not removed nearly as well as arsenate, therefore pre-oxidation may be required.

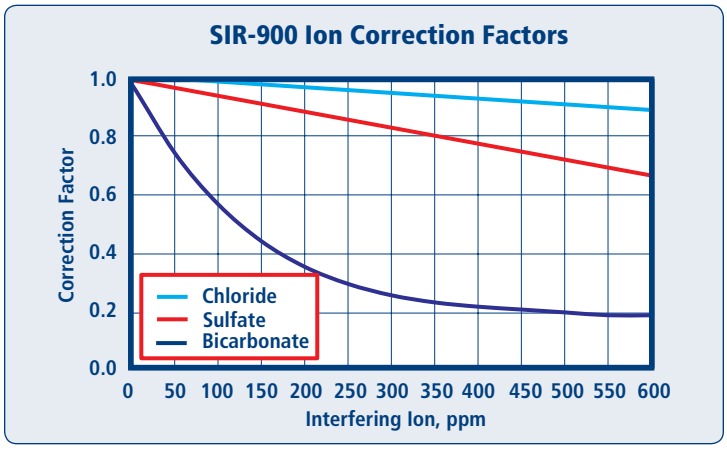
LEAD REMOVAL

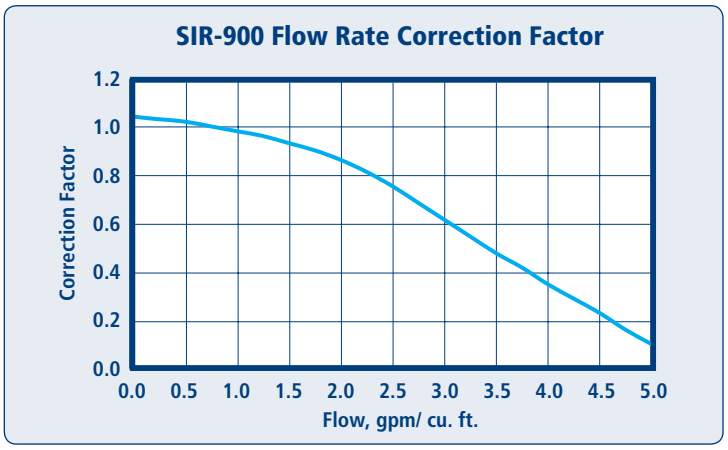
Dissolved lead is adsorbed by *ResinTech SIR-900*. This process is not dramatically affected by flow rate, temperature or TDS. However, pH should be maintained above 6.0 as lead removal drops under acidic conditions, and below 10 as lead precipitates under basic conditions.



SIR-900 capacity is based on a flow rate of 1 gpm per cu. ft. and less than 500 ppm TDS as $CaCO^3$. No engineering downgrade has been applied.

*The two charts below are capacity corection factors for specific conditions.





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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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