

RESINTECH SIR-1200 is a chloride form type 1 gel strong base anion resin. RESINTECH SIR-1200 is intended for use in uranium removal as well as removal of other trace contaminants such as chromate and arsenate. SIR-1200 is supplied in the chloride form.

FEATURES & BENEFITS

- **HIGH TOTAL CAPACITY**

Optimized to provide high throughput capacities, especially in pump-and-treat once-through applications

- **CONTROLLED PARTICLE SIZE**

16 to 50 mesh size provides a low pressure drop and superior kinetics

- **SUPERIOR PHYSICAL STABILITY**

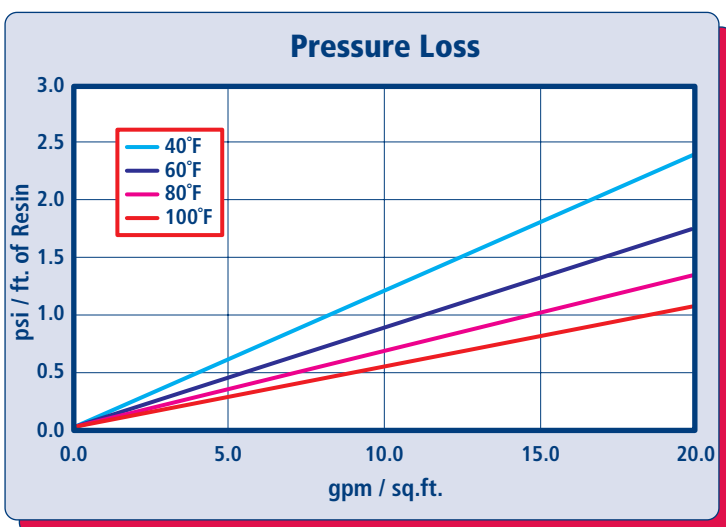
93% plus sphericity and high crush strengths together with carefully controlled particle distribution provides long life and low pressure drop

- **COMPLIES WITH US FDA REGULATIONS**

Conforms to paragraph 21CFR173.25 of the Food Additives Regulations of the US FDA

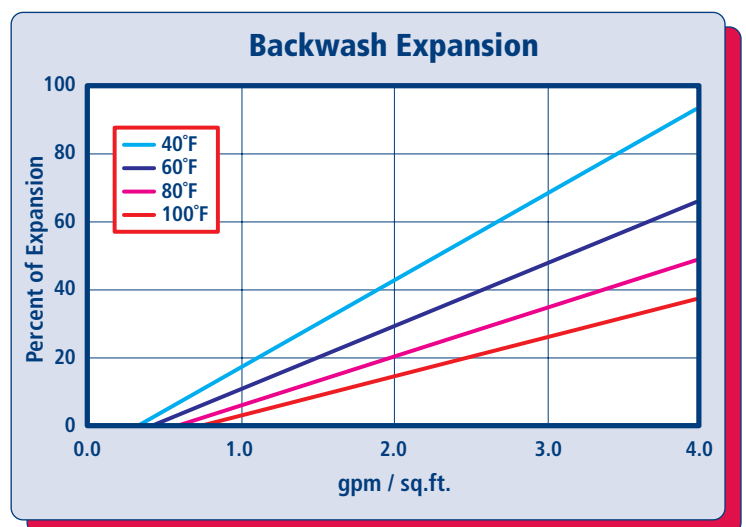
Prior to first use for potable water, resin should be backwashed for a minimum of 20 minutes, followed by 10 bed volumes of downflow rinse.

HYDRAULIC PROPERTIES



PRESSURE LOSS

The graph above shows the expected pressure loss of ResinTech SIR-1200 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-1200 as a function of flow rate at various temperatures.

RESINTECH® SIR-1200

PHYSICAL PROPERTIES

Polymer Structure	Styrene/DVB
Polymer Type	Gel
Functional Group	Trimethylamine
Physical Form	Spherical beads
Ionic Form as shipped	Chloride
Total Capacity Chloride form	>1.4 meq/mL
Water Retention Chloride form	42 to 51 percent
Approximate Shipping Weight Chloride 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	White to amber

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

SUGGESTED OPERATING CONDITIONS

Maximum continuous temperature Chloride 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 6 percent NaCl
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.

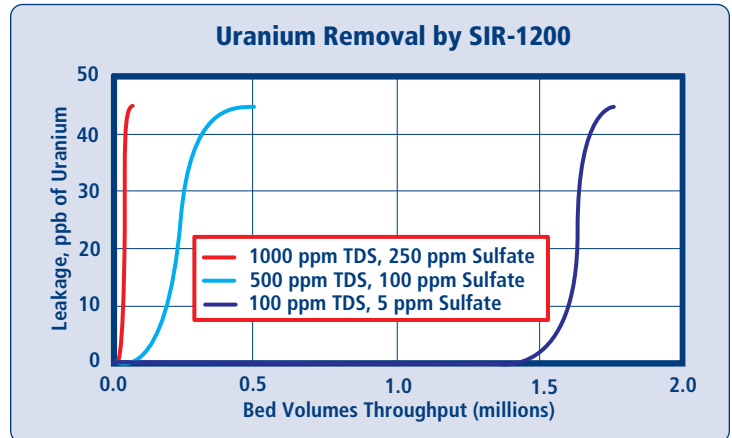
Note: These guidelines describe average low risk operating conditions. They are not intended to be absolute minimums or maximums.

For operation outside these guidelines, contact ResinTech Technical Support

APPLICATIONS

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

RESINTECH SIR-1200 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.



Throughput for uranium is highly dependent on TDS and sulfate concentration. Leakage is dependent on the resin bed remaining classified (no backwash) and unfouled during the exhaustion cycle. No engineering downgrade has been applied.

RADWASTE

RESINTECH SIR-1200 is ideally suited for radwaste applications requiring the removal of radioactive anions, especially when the feed is significantly radioactive. The high crosslinking content of SIR-1200 gives it improved resistance to chemical damage caused by ionizing radiation. Structural integrity is maintained up to approximately 1×10^9 rads exposure.

PRECIOUS METAL REMOVAL

RESINTECH SIR-1200 has high capacity for precious metals, when those metals are present as anions or as anionic complexes. SIR-1200 will remove traces of precious metal cyanides from plating rinse waters, allowing the recovery of the metal by incineration. Photographic wastes containing silver can be removed and the silver "fixed" to the resin by regeneration with sulfuric acid. Anionic chloride complexes can be removed and then eluted with water.

MOLYBDATE REMOVAL

RESINTECH SIR-1200 has exceptionally high affinity for molybdate ions, even in the presence of substantial concentrations of other ions. Regeneration is accomplished with sodium chloride brine in a fashion similar to a water softener, or with a variety of other salts such as sodium bicarbonate for applications where an increase in chloride ions is undesirable.

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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