RESINTECH® SIR-900
LEAD, FLUORIDE AND ARSENIC SELECTIVE MEDIA

RESINTECH SIR-900 is a high capacity synthetic absorbent media that is highly selective for lead, arsenic and fluoride. The extremely high surface area and pore distribution gives this media the highest possible operating capacity and lowest possible leakage.

FEATURES & BENEFITS

RESINTECH SIR-900 is a synthetic aluminum oxide that is specially processed to have a minimum of fines and other foreign matter.

RESINTECH SIR-900 removes metals through a combination of adsorption and chemical reaction with the media, thus the removal is not dependent on ion exchange.

RESINTECH SIR-900 has a uniform particle size similar to ion exchange resins. It has minimal shrinkage or swelling and low pressure loss. It is physically stable and can be used over a wide pH range.

TYPICAL PROPERTIES

Chemical Structure	Crystalline Aluminum Oxide
Physical Form	Tough Uniform Granules
Screen Size Distribution	
+28 Mesh	10%
-48 Mesh	5%
pH Range	4 - 10
Water Retention	Less than 5%
Solubility	Nil
Shipping Weight	47 lb/cu.ft.

SUGGESTED OPERATING CONDITIONS

Maximum Temperature	100 ^{o}C (212^{o}F)
Maximum Free Chlorine	1 PPM
Minimum Bed Depth	36” (5-7 ft. Preferred)
Backwash Rate	To achieve l0-25% Expansion
Service Flow Rate	1-2 GPM/cu.ft.

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ARSENIC REMOVAL

Inorganic arsenic (arsenite and arsenate) can be removed by **RESINTECH SIR-900**. The process is very pH sensitive and capacity decreases rapidly when the pH is below 5.5 or above 6.O. Arsenite is not removed nearly as well as arsenate; therefore, prechlorination to convert arsenite to arsenate may be required. Arsenic removal is also affected by temperature and by the TDS of the feedwater. Increasing temperature increases capacity while increasing TDS decreases capacity.

Equilibrium capacity for arsenate (l,000 PPM TDS, 25^{o}C, 1 mg/L As) is approximately 0.66 lb/cu.ft. Operating capacity to a l0% leakage end point is approximately l0% of the equilibrium capacity. Regeneration can be accomplished by using 3-4 lbs/cu.ft. of 2-4% sodium hydroxide, over 20-30 minutes, followed by neutralization with acid to a pH of
5-6.

FLUORIDE REMOVAL

Fluoride is removed by **RESINTECH SIR-900** by a chemical reaction with the media. The process is flow and pH sensitive. The best results are obtained when the flow is limited to about l GPM/cu.ft. and the pH is held at 5.5. Higher flows and higher or lower pH causes a significant loss of capacity. The best capacity obtainable is approximately 0.2 lbs. per cu.ft. Leakage of fluoride is generally less than 0.1 mg./L to breakthrough.

Regeneration can be accomplished using 3-4 lb./cu.ft. of 2-4% sodium hydroxide over
20-30 minutes, followed by neutralization with acid to a pH of 5-6.

LEAD REMOVAL

Dissolved lead is adsorbed by **RESINTECH SIR-900** and is not normally regenerable. Capacity for lead is at least 0.4 lb. per cu.ft. while maintaining greater than 98% lead removal. 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 l0 as lead precipitates under basic conditions.

***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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