

# SUPRA SIR-600

SELECTIVE EXCHANGER

**AMMONIA & CESIUM SELECTIVE  
ZEOLITE CRYSTALLINE  
SODIUM / POTASSIUM FORM**

ResinTech SIR-600 is a sodium/potassium form granular naturally occurring aluminosilicate zeolite. It is an inorganic cation exchanger that can also capture certain ions by molecular sieving. SIR-600 is intended for the removal of radioactive cesium from wastewaters that contain moderate levels of sodium and potassium, and for the removal of ammonia from water.

## APPLICATIONS

- Ammonia Removal
- Cesium Removal

TYPICAL PROPERTIES & PHYSICAL CHARACTERISTICS	
<b>Polymer Matrix</b>	Zeolite Crystalline
<b>Ionic Form</b>	Sodium / Potassium
<b>Fuctional Group</b>	Aluminosilicate
<b>Physical Form</b>	Irregular Granules
<b>Particle Size</b>	16 to 50 US Mesh (297 - 1190 µm)
<b>% &lt; 50 mesh (300µm)</b>	< 1%
<b>Uniformity Coefficient</b>	1.6
<b>Temp Limit</b>	212°F (100°C)
<b>Capacity (meq/mL)</b>	0.6
<b>Moisture Retention</b>	0% to 10%
<b>Shipping Weight</b>	59 - 61 lbs/ft <sup>3</sup> (945 - 977 g/L)
<b>Color</b>	Light green to Tan
<b>Regenerability</b>	Yes

## PACKAGING OPTIONS

- 500 ml samples
- 1 ft<sup>3</sup> bags
- 1 ft<sup>3</sup> boxes
- 1 ft<sup>3</sup> drums
- 7 ft<sup>3</sup> drums
- 42 ft<sup>3</sup> supersacks

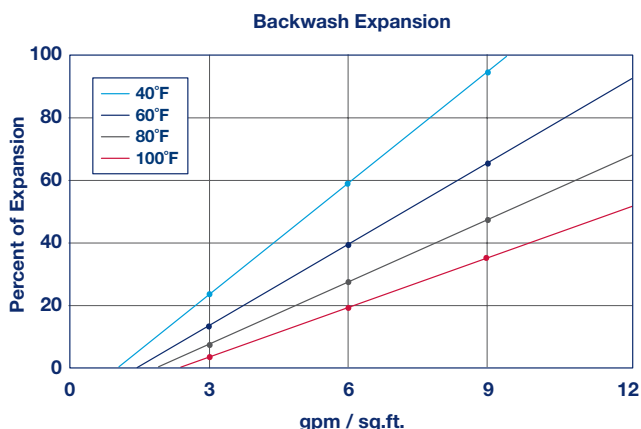
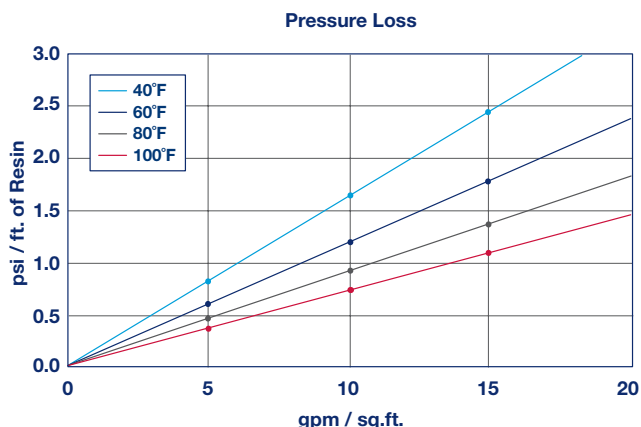


# SUPRA

## SIR-600

SELECTIVE EXCHANGER

AMMONIA & CESIUM SELECTIVE  
ZEOLITE CRYSTALLINE  
SODIUM / POTASSIUM FORM



### AMMONIA REMOVAL

ResinTech SIR-600 has high affinity for ammonia compared to sodium and moderate affinity compared to potassium. SIR-600 can be used to remove modest concentrations of ammonia from waters with TDS in the potable water range (less than 500 ppm TDS). Regeneration is accomplished with sodium chloride brine in a fashion similar to a water softener. Because the affinity for ammonia is quite large compared to sodium, the regeneration dose required to remove the ammonia from the media is substantial, generally in the range of 20 to 40 lbs per cu. ft.

### CESIUM REMOVAL

ResinTech SIR-600 has very high selectivity for cesium over sodium and divalent ions, such as calcium and magnesium. Relative affinity for cesium over common ions found in potable water supplies is typically more than 100 to 1. Cesium is not effectively eluted from SIR-600 by regeneration with brine. Cesium laden SIR-600 is easily stabilized for safe disposal due to its inorganic crystalline structure.

### SUGGESTED OPERATING CONDITIONS

Maximum continuous temperature	212°F
Sodium form	121°F
Minimum bed depth	36 inches
Backwash expansion	25 to 50 percent
Maximum pressure loss	25 psi
Operating pH range	6 to 10 SU
Regenerant Concentration	
Salt cycle	5 to 10 percent NaCl
Regenerant level	>10 lbs./cu.ft.
Regenerant flow rate	0.25 to 1.0 gpm/cu.ft.
Regenerant contact time	>30 minutes
Displacement flow rate	Same as dilution water
Displacement volume	10 to 20 gallons/cu.ft.
Rinse flow rate	Same as service flow
Rinse volume	35 to 60 gallons/cu.ft.
Service flow rate	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