

ResinTech CG8 easily removes most of the metal ions on the EPA hit list. ResinTech CG8 is most often recommended for the removal of the following:

Zinc	Cadmium
Lead	Radium
Uranium	Copper
Nickel	Chrome
Cobalt	Manganese
Silver	

ResinTech CG8 has the fastest operating kinetics of all commercial types of ion exchange resins and has the highest ratio of operating capacity per dollar cost. However, ResinTech CG8 is non-selective so that all cations in the waste stream are likely to be removed by the resin. ResinTech CG8 can be operated in the sodium form to provide a neutral effluent suitable for discharge or recirculation. If the objectionable ions are a small percentage of the overall ionic load then it may not be a practical operation in which to use ResinTech CG8. A selective resin for the particular ions may be a better choice.

In most cases the competing ions are usually calcium or magnesium (hardness) which are present in the raw water used for rinsing and solution preparation. These ions are present in all normal water supplies to varying degrees. Since calcium has the highest affinity for the resin compared with other cations in the wastewater stream, the effect of calcium in the water is to dilute the capacity of the resin. Magnesium has a similar but lesser effect. The hydrogen ion may be present in rinse water in the form of acid from many industrial operations. Hydrogen and sodium ions have very little ability to compete with the heavy metal ions and in most cases hydrogen and sodium can be ignored.

The operating capacity of ResinTech CG8 for heavy metal ions in treating dilute rinse waters can be improved dramatically by using softened water or demineralized water for the rinse. A softener removes the calcium and magnesium from the rinse water replacing it with sodium ions that have little ability to compete with the heavy metal ions, thereby eliminating the dilution effect and increasing the operating capacity of the ion exchange resin. A demineralizer also removes sodium, and although this may not increase ResinTech CG8's capacity, it can improve quality of the rinse by lowering the salt concentration.

REGENERATION AND OPERATING CAPACITY

When used on a total exhaustion throw away basis, ResinTech CG8 can provide up to 41 kilograins per cubic foot of calcium carbonate for the removal of heavy metals. When the ionic concentration of the wastewater is low, the cost associated with resin disposal is usually favorable compared to the added expense of installing regeneration and waste treatment equipment.