

Thursday 11 December - Does a water softener have Any harmful effect on a septic tank?

Several studies have been made to determine the exact nature of water softener recharge waste effluents and their effects on private sewage disposal systems.

The recharge effluents from water softeners have no deleterious effects on the biological function in septic tank and that the recharge waste effluents may actually, in some cases, be helpful.

The additional volume of wastewater from a water softener generated (typical about 50 gallons per recharge, containing calcium, magnesium, and sodium chlorides) is added slowly to the wastewater stream and does not cause any hydraulic overload problems. The frequency of recharge and the amount of wastewater generated is dependent on a number of factors, water hardness, water usage, the size of the water softener, the capacity of the resin to remove calcium and magnesium, and recharge salt dosage.

Much of the literature on irrigation contains references to the adverse effects of high sodium water on soil structure and permeability, particularly in clay-type soils. The study concluded that there was an important difference between water softener effluents and sodium effluents, which has an important bearing on soil percolation and permeability. The important difference is that water softener effluents contain significant amounts of calcium and magnesium and thus are not really sodium effluents alone. Calcium and magnesium counteract the effects of sodium and help maintain and sustain soil permeability, even in susceptible clay-type soils.

Salts in the waste effluent from recharge of water softener created no hydraulic conductivity or percolation problems in a properly designed septic tank seepage field. In fact, it was found that soil percolation was increased by water softener recharge effluent, as compared to soil receiving household sewage without the addition of effluents from the recharge of water softener. In other words, the beneficial effects of calcium and magnesium would be lost if the regeneration wastes were not discharged to the septic system.

Studies conducted by soil scientists at the University of Wisconsin and the National Sanitation Foundation concluded the study as follows : Water softener regeneration wastes

demonstrated no adverse effects on home aerobic waste water treatment plant performance, even when stressed by loading at a use rate simulating ten persons (twice the average use rate). There was no difference in performance between days in which the plant received regeneration wastes and days in which it did not.

Reference : Water Treatment Fundamentals, Seventh Edition, Joseph F. Harrison, P.E., CWS-VI, Technical Editor