

The Environmental Impact of Salt-Type Water Softeners

The Environment

The healthy growth of plants and animals is what allows human life to flourish. We are dependant upon our environment for water. The quality of the air we breathe, and the food that we eat is to a great extent determined by the quality of our water supply. In turn, freshwater quality affects the plants, trees, and animals we need in order to exist. How we treat the water supplies in our environment has a profound effect on the quality of life and the future of our planet.



Two out of three inhabitants of the planet will live in water stressed environments by 2025. Freshwater consumption has raised over six fold this century. Yet we continue to poison the very source of our own life.

Salt accumulation is increasing in the freshwater of our lakes, rivers, and streams. This salt makes it though the food chain and eventually arrives in our food and drinking water. Much of today's drinking water has twice the EPA limit for sodium content. In the end, humans consume from two to ten times the amount of salt needed for healthy existence.

Freshwater from the Florida everglades to California coastal waterways are experiencing a dramatic increase in salt content. This has been effecting the migration of bird populations who cannot tolerate the high levels of salts in their drinking water.

Frogs in today's freshwater systems are like canaries in a coal mine. They breathe through their skin and are very sensitive to water pollution of all types. Countless species of frogs are dying off around the world as the freshwater systems succumb to human pollutants such as salt.

Traditional methods of softening water use salt in order to remove calcium from the water. These systems require regular flushing with salt and must dump salt brine into our sewage systems. One family with a salt-based softener can dump 600 pounds of brine per year into the ecosystem. The salt brine discharged from these units is dumped into rivers, lakes and streams without treatment by municipal waste facilities.

This salt is harmful to all living species. Plants, fish and animals are forced to suffer from caustic amounts of salt in the freshwater supplies. Salt significantly reduces all aspects of plant growth. Root and shoot growth are reduced and tip burn is increased. Crops such as strawberries, lettuce, and avocados are especially sensitive to salt content in their irrigation water.

There is no practical or inexpensive way to remove these salts during waste treatment. The county of Los Angeles estimates it would cost 300 million dollars to remove salt in the process of treating wastewater. Many areas are at the limits of salt content in both potable and wastewater. The end result for the earth is that billions of pounds of salt are dumped into the environment every year.

Although many governmental agencies are passing legislation against salt softening systems, opposition against this type of legislation is intense. The status quo consists of salt distribution and softener manufacturers who have much to lose. They are a powerful group. The cost of potential litigation makes it difficult for all but the largest municipalities to create new legislation.

Health Effects

The human body is a 96% saline solution. We are composed of over 90% seawater. Unfortunately, our diets in combination with the foods we eat create ten times the level of salinity we need. Salt aggravates existing high blood pressure. Coronary hypertension is now a problem that 9 out of 10 people will develop during their middle years. In Japan, where salt is a common preservative, hypertension are very high. By comparison, hypertension is rare in cultures that use little salt in their diet. Salt-type softening systems add salt to our diets. Many physicians recommend that water from these water salt-type softeners should not be given to infants.

Calcium

In a salt-type softener, a portion of the calcium is removed from the water. The problem is that this process is not complete. A new salt-based system typically removes about 75% of the calcium from the water. An older unit will often perform at less than 40%. In any case the balance of calcium will make its way into the plumbing system and form hard deposits

These hard deposits cost billions of dollars in annual energy costs. Calcium is an insulator. It prevents appliances and equipment in home, commercial, and industrial applications from using energy efficiently. Studies of home water heaters indicate that ¼ inch of scale can increase fuel consumption by as much as 40%. In cases where the scale builds up to 1 inch, there is a 95% reduction in heat transfer. In commercial water heaters the cost of operation will often exceed the cost of the unit itself.

The Soo~Soft System

The Soo~Soft System is unique in both its operation and results. The intention in design and manufacture was to create an alternative to salt-based systems. It works. It is effective in every water condition. It does not remove calcium, but it converts the calcium into a soft form called calcium aragonite. This form has a particle size that is microscopic. It has the constancy of talcum powder and produces water that is a much better solvent. The Soo~Soft unit also changes the electrical charge of the water, preventing the particles of calcium from sticking to surfaces. This treated water then dissolves the existing calcium deposits in everything through which it flows through in 90 days.

In contrast to other water softening systems, the Soo~Soft digital water softener helps living things grow. Green plants of all kinds grow better under the influence of this chemical free water treatment. In areas where there is a natural salt content to the soil, a dramatic increase in crop yields has been reported. In other areas, the absence of hard calcium crystals in the water helps nutrients find their way to the furthest reaches of the plants cellular system. This reduces tip burn in sensitive plants.

Its very small size prevents it from reverting to a hard form until the water is heated to over 700 degrees. This is well out of the range of any kitchen appliance and most industrial applications. As it is the most powerful unit on the market, it is both reliable and consistent. The grief of calcium deposits is over. Lime scale no longer forms in sinks, toilets, and bathtubs. The effectiveness of soaps, detergents and other chemical agents used for cleaning increases as much as 60%. Housekeeping labor is then reduced with the absence of lime scale deposits. Appliances in home, industry, and commercial applications last longer and consume less energy. This is due to the fact that calcium deposits no longer foul them and shorten their life expectancy. It is our hope that is one of the solutions that will help to prevent the downward spiral in the quality of our water supply.