

Q and A Continued

What can our customers do about our chloride problem?

They can have their water softening equipment inspected and adjusted to make them more efficient reducing the chlorides going to the wastewater treatment plant. When replacing or upgrading old water softeners use a high efficiency softener that is metered demand. Our goal is to reduce the chlorides entering the environment by reducing the rate of salt used by our water softener, while still delivering continued quality water. This in turn, will simply help keep long-term sewer rates down. You may also see some reduction in your water and salt usage, thus saving you money!

Mission

Statement

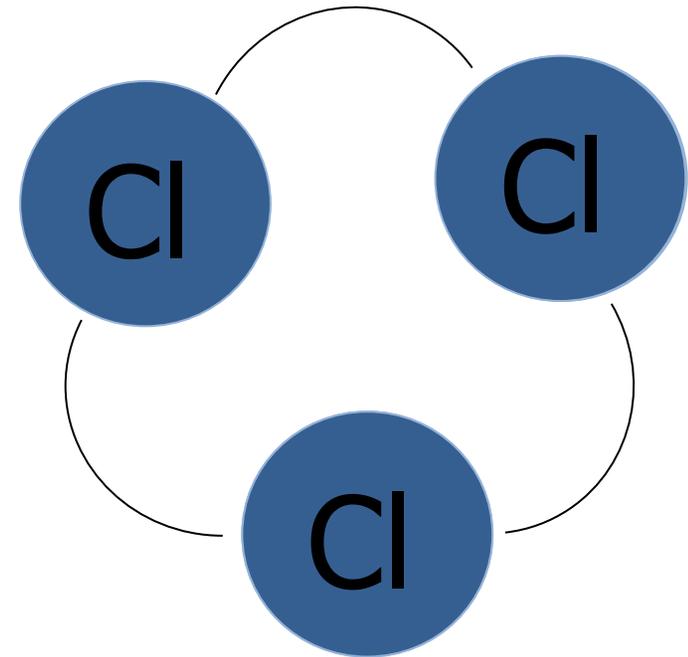
Our mission is to endeavor to provide all Sanitary District customers with cost-effective, prompt, high-quality sewer services.

Sanitary District #1
Towns of Rhine and
Plymouth

P.O. Box 127
Elkhart Lake, WI 53020
www.sanitarydistrict.com

Life of Chlorides

Softeners, Salt, and You



**SANITARY
DISTRICT #1
TOWNS OF RHINE
AND PLYMOUTH**

Background

It is estimated that most of the groundwater in the United States has some degree of hardness. Basic hardness is produced by the presence of calcium and magnesium dissolved in water. These minerals, if not removed from your water, may build up as scale on pipes and porcelain or metal fixtures. They coat water-heater elements. They may cause increased laundry detergent usage.

The Problem

The chlorides discharged from the home water softeners end up at the wastewater treatment plant. The Wisconsin Department of Natural Resources (WDNR) is asking the Wastewater Treatment Plant (WWTP) to reduce these chloride levels.

How Water Softeners Work (A Technical Explanation)

Home water softening is one good way of removing hardness from water coming to your house. Hard minerals are attached to a man-made resin in your home water-softening unit. The resin bed is first washed with a salt brine (sodium chloride dissolved in water). As hard water passes through your softener, the hard minerals (calcium and magnesium) are exchanged for sodium in the resin bed. The hard minerals take the chloride portion of the salt brine and form altered minerals (calcium chloride and magnesium chloride). The resin has a certain exchange capacity. When that capacity is reached, it is time to regenerate the resin. During regeneration, the altered minerals are flushed down the drain. A new salt brine is passed over the resin. Extra salt is flushed down the drain. This process usually happens by a preset timer or by a preset flow demand meter during the night, around midnight.

Questions & Answers

So what is the problem?

Chapter NR 140-Groundwater Quality establishes groundwater quality standards for substances detected in the groundwater resources of the state. Due to home water softeners, the Commission's plant discharge is higher than allowed by the WDNR.



Why can't we remove the hardness in our water treatment plant or remove chlorides in our wastewater treatment plant?

Construction of facilities to remove chlorides at our wastewater plant would cost approximately 2-4 million dollars, and would cause a sharp increase in overall rates. Due to the extreme costs, these alternatives are not being considered by the Sanitary District Board at this time.

