

# GETTING SMART WITH SOFTENERS

## Best Practices for Industry Professionals & Tips for Consumers



*Prepared on behalf of the  
water quality improvement industry  
by the Water Quality Association*

## **Now more than ever –**

in the face of increasing water salinity and the threat of water scarcity – it is essential for water treatment professionals to be good stewards of the environment.

**This booklet contains information appropriate for those who sell, install, and maintain residential self-generating water softeners. Homeowners, regulators and legislators may also find it useful. In producing this guidebook, the Water Quality Association (WQA) leveraged the advice of respected industry professionals and the latest in scientific research.**

**Together we can enjoy softer water while being good stewards of the environment! WQA encourages industry professionals and consumers to**

- **Conserve water and use less salt;**
- **Choose more efficient softener technologies and system settings;**
- **Avoid oversizing equipment and overtreating water; and**
- **Spread the word about how small changes can make a big difference!**

High performance water softening systems, as recommended for use in these Best Practices, are designed to provide high levels of efficiency both in terms of salt usage and water consumption, ideal for reducing chloride discharge and conserving water. In order to achieve such efficiency ratings, a system must be supplied with a source water having fewer than 2 parts per million (ppm) of iron and 750 ppm of total dissolved solids (TDS).

While a water softener may be necessary to remove iron in certain situations, high performance systems are typically not capable of achieving salt efficiencies of 4,000 grains or more per pound of salt in the presence of competing compounds such as iron or elevated TDS. In some cases, additional equipment, such as an iron filter, can be used to treat water supplies prior to the softener. However, space restrictions or very high levels of iron may require softening technology alone to be used. Even at these highly efficient salt settings, hardness leakage may occur when treating water supplies with more than 30 grains per gallon of hardness, TDS greater than 750 ppm, or iron greater than 2 ppm.

## Best Practices for All Industry Professionals

1. Proactively educate consumers about the benefits of replacing inefficient softeners with more efficient technology.
2. Promote technologies and processes that use less salt and water, such as demand initiated regeneration models including variable reserve capacity, proportional brining and twin tanks and/or uniform bead, fine mesh bead, shallow shell resins.
3. Set all softeners to remove 4,000 grains of hardness per pound of salt while using no more than five gallons of water per 1,000 grains in regeneration (as tested and certified by the capacity protocol in NSF/ANSI 44).
4. Avoid using time clocks to initiate regeneration.
5. Inform consumers about the pros and cons of sodium versus potassium as regenerants\*.
6. Provide the consumer with water leakage and conservation tips (see page 6).

### **\*Sodium & Potassium Use in Regeneration**

As a regenerant, potassium chloride (KCl) is a viable substitute for sodium chloride (NaCl) in areas where sodium discharge is regulated, or for consumers with sodium-related dietary restrictions. However, this substitution is not recommended for the reduction of chloride discharge because a 13-15% higher concentration of KCl is required for regeneration. KCl has also been known to form salt bridges more readily than NaCl, which will impact the efficiency of a water softener.

## Best Practices for Equipment Installers & Service Technicians:

1. Whenever appropriate, size the equipment and adjust its settings to minimize water consumption and salt usage.
2. Avoid oversizing of equipment and overtreatment of water, which are wasteful practices. When sizing, use the typical household of four people, which uses about 200 gallons of water per day, as a guideline and starting point.
3. Whenever feasible, bypass outside sill cocks so that softened water is used only inside the home.
4. Use calendar overrides only when necessary (e.g., vacation homes, situations in which long periods of stagnation are likely, or when dealing with contaminant issues that may foul the resin if stagnant for too long).
5. Always check the water softener's regeneration settings, and make adjustments to achieve maximum water and salt efficiency whenever possible.

## Best Practices for Sales Representatives:

1. Select only certified or licensed water treatment professionals to install equipment.
2. Only sell water treatment equipment that has been tested and certified to meet NSF/ANSI Standard 44.

### Key:

Look for these easy icons, which indicate that a practice is a:



#### QUICK FIX

A no-cost solution that works for any budget.



#### SMART UPGRADE

A way to save a lot while spending a little.








#### GREAT INVESTMENT

A larger investment that can yield a larger reward.

## Tips for Consumers

WQA encourages consumers to conserve water in and around the home by taking the following steps:

### Whole House

1. Choose low-flow shower heads, sink faucet aerators, and high-efficiency washing machines, toilets, and other appliances. 
2. Choose showers over baths whenever possible. When taking a bath, make sure the drain stopper is working properly to avoid having to refill the tub. 
3. Pay attention to your water bill, an unanticipated increase could indicate a leak. 
4. Don't ignore damp water spots on ceilings and walls. These leaks not only waste water but also can cause structural damage to your home. If you suspect a leak, consult with a plumber. 
5. Leaks can hide, easily unnoticed, underneath the sink behind supplies or under appliances. Pay special attention to musty odors, dampness or mold under sinks and appliances. 

## Whole House (continued)

6. Be aware of any dripping faucets, this can waste hundreds of gallons of water per month. Sink and shower faucet repairs are simple and cost effective.



## In the Kitchen

1. If you wash dishes in the sink, use a stopper to allow dishes to soak rather than running the faucet continuously.
2. Instead of letting the faucet run until the water becomes cold, simply keep a container of water in the refrigerator.







## In the Bathroom

1. Do not leave the water running while brushing your teeth, shaving or washing your face.
2. Shorten your time in the shower by just five minutes. Over time, this small change can save hundreds of gallons of water.
3. Make sure water from your toilet tank is not continuously leaking into the bowl. You can check by dropping some food coloring into the tank. Avoid flushing the toilet for one hour and then see if the water in the bowl has become tinted.







## In the Basement

1. Avoid running the washing machine or dishwasher at less-than-full capacity, or adjust the water usage settings for smaller loads. 
2. Upgrade existing water softeners and filters to achieve water and salt usage savings. 
3. Replace existing water softener with ultra-efficient demand initiated water softener that regenerates only when needed using optimum salt and water. 
4. The hoses bringing water to and from your washing machine can burst. Avoid potential flooding issues by turning off both the hot and cold water sources when the machine is not in use. Consider upgrading to “no-burst” hoses, and inspect the connections regularly for leaks. 

## In the Yard

1. Avoid watering your lawn and garden during midday or when it is raining, and take care not to overwater. 
2. Use drip irrigation systems for watering yards and gardens. They can save 30-50% of the water sprinklers lose from evaporation and runoff. 

### In the Yard (continued)

3. If you have an automatic watering system, make sure no water is wasted on paved areas. Always remember to shut off the automatic system off during a rainfall.
4. Choose drought-resistant flowers and plants, rather than those requiring large amounts of water, for your garden.
5. Collect water in a rain barrel and use it for watering lawns and plants.
6. Add a top layer of organic mulch, or plant with a compost pile, to help your garden retain moisture.
7. Check outdoor faucets, pools, and spas on a regular basis for leaks too.



### Web Resources:

#### General information about water treatment products and professionals

1. Water Quality Association (WQA) website – [www.wqa.org](http://www.wqa.org)
  - a. “Find a Certified Product” search tool
  - b. Gold Seal Product Certification Program
  - c. “Find a Water Treatment Professional” search tool
  - d. NSF International – [www.nsf.org](http://www.nsf.org)

## **Water conservation**

1. U.S. Environmental Protection Agency – [www.epa.gov](http://www.epa.gov)
  - a. EPA WaterSense Program
  - b. Water conserving products & information
  - c. Water conservation tips
  - d. Tips for watering wisely
  - e. Tips for smart landscaping

## **Salinity control practices**

1. Deicing Management
  - a. U.S. Environmental Protection Agency – [www.epa.gov](http://www.epa.gov)
  - b. Winter Salt Management Program – [www.smartaboutsalt.com](http://www.smartaboutsalt.com)
2. Fertilizer Management Practices
  - a. U.S. Environmental Protection Agency – [www.epa.gov](http://www.epa.gov)
  - b. International Fertilizer Industry Association – [www.fertilizer.org](http://www.fertilizer.org)
3. Pesticide Management Practices
  - a. U.S. Environmental Protection Agency – [www.epa.gov](http://www.epa.gov)
  - b. Colorado State University Extension – [www.ext.colostate.edu](http://www.ext.colostate.edu)
  - c. State of Maine – [www.maine.gov](http://www.maine.gov)
4. Food Processing/Rinse Water Land Application Management
  - a. California League of Food Processors – [www.clfp.com](http://www.clfp.com)
5. Winemaking and Grape Growing Management

- a. California Sustainable Winegrowing Alliance  
–  
[www.sustainablewinegrowing.org](http://www.sustainablewinegrowing.org)
- b. Wine Institute – [www.wineinstitute.org](http://www.wineinstitute.org)

