

# Water Words Dictionary—Appendix B–7

## WATER TREATMENT—PROCESSES

### Preliminary and Main Treatment Processes and Their Purpose

Process/Step	Treatment Purpose
<b>Preliminary Treatment Processes</b>	
Screening	Removes large debris (leaves, sticks, fish) that can foul or damage plant equipment
Chemical pretreatment	Conditions the water for removal of algae and other aquatic nuisances
Presedimentation	Removes gravel, sand, silt, and other gritty material
Microstraining	Removes algae, aquatic plants, and small debris
<b>Main Treatment Processes</b>	
Chemical feed and rapid mix	Adds chemicals (coagulants, Ph adjusters, etc.) to water
Coagulation/flocculation	Converts nonsettleable to settleable particles
Sedimentation	Removes settleable particles
Softening	Removes hardness-causing chemicals from water
Filtration	Removes particles of solid matter which can include biological contamination and turbidity
Disinfection	Kills disease-causing microorganisms
Adsorption using granular activated carbon (GAC)	Removes radon and many organic chemicals such as pesticides, solvents, and trihalomethanes (THM)
Aeration	Removes volatile organic chemicals (VOCs), radon, H <sub>2</sub> S, and other dissolved gases; oxidizes iron and manganese
Corrosion control	Prevents scaling and corrosion
Reverse osmosis, electro dialysis	Removes nearly all inorganic contaminants
Ion exchange	Removes some inorganic contaminants, including hardness-causing chemicals
Activated alumina	Removes some inorganic contaminants
Oxidation filtration	Removes some inorganic contaminants (e.g., iron, manganese, radium)

Sources: Adapted from American Water Works Association, *Introduction to Water Treatment*, Volume 2, Denver, Colorado, 1984, and reprinted from *Environmental Pollution Control Alternatives: Drinking Water Treatment for Small Communities*, Center for Environmental Research Information, U.S. Environmental Protection Agency, Cincinnati, Ohio, April 1990, page 5.