

Water Treatment and Pathogen Control

Increasingly, microbial issues are commanding the attention of water treatment operators, regulators, and the media. There are many treatment options to eliminate pathogenic microbes from drinking-water. Finding the right solution for a particular supply requires sifting through a range of sometimes competing processes.

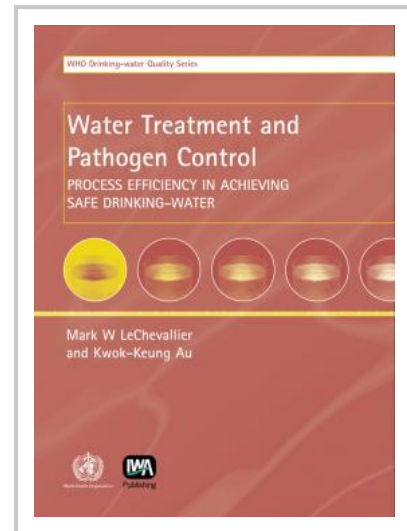
Processes for removal of microbes from water include pretreatment, coagulation/flocculation/sedimentation, and filtration. Pretreatment processes include application of roughing filters, microstrainers, off-stream storage, or bank infiltration, each with a particular function and water quality benefit. Filtration can be accomplished using granular media filters, slow sand, precoat filters, membranes, or other filters. Oxidants may be added to water for a variety of purposes, including control of taste and odor compounds, removal of iron and manganese, Zebra Mussel control, and particle removal, among others.

For control of microbes within the distribution system, disinfectants must interact with bacteria growing in pipeline biofilms. Models for removal of particles and microbes by granular media filtration, and equations for predicting microbial inactivation by disinfectants, can aid in the understanding and prediction of the effectiveness of treatment processes for microbial pathogens.

Water Treatment and Pathogen Control is intended to provide a critical analysis of the literature on removal and inactivation of pathogenic microbes in water to aid the water quality specialist and design engineer in making important decisions regarding microbial water quality.

Contents

- Introduction
- Removal Processes
- Inactivation (Disinfection) Processes
- Performance Models
- Treatment Variability
- Critical Control Strategies
- Conclusions
- Reference List



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