

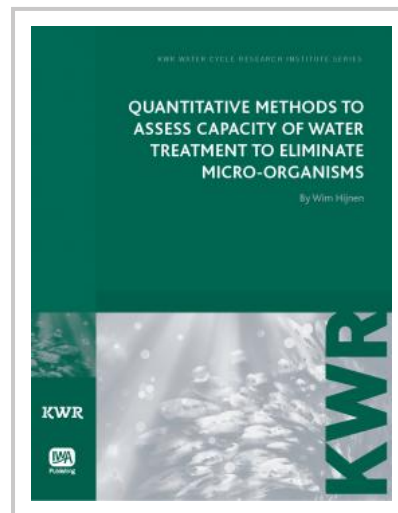
# Quantitative Methods to Assess Capacity of Water Treatment to Eliminate Micro-Organisms

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Ever since the recognition of the important role of water in the transmission of pathogenic micro-organisms in the 19th century, microbiological safety of drinking water has been a major research issue for microbiologists in the drinking water industry.

The main objective of this book is to develop a general strategy to assess elimination capacity of water treatment processes for pathogens. It investigates:

- The potential use of faecal indicators Coli44, (including E. Coli) and SSRC, (including C. perfringens) as process indicators to assess pathogen elimination in full-scale water treatment plants.
- The value of comparative challenge tests with pre-cultured organisms for the assessment of elimination capacity of full-scale processes, to study the effect of process conditions and to validate the use of process indicators.
- The use of literature data to assess elimination capacity of water treatment processes for pathogens and the effect of process conditions on this.



## Contents

Microbiologically safe drinking water; Indicator bacteria concentrations in water treatment and assessment of elimination capacity; Enumeration of faecal indicator bacteria in large water volumes using on site membrane filtration to assess water treatment efficiency; Quantitative assessment of the removal of indicator bacteria in full-scale treatment plants; Spores of sulphite-reducing clostridia (SSRC) as surrogate for verification inactivation capacity of full-scale ozonation for Cryptosporidium; Inactivation credit of UV-radiation for viruses, bacteria and protozoan oocysts: a review; Elimination of viruses, bacteria and protozoan oocysts by slow sand filtration; Removal and fate of Cryptosporidium parvum, Clostridium perfringens and Stephanodiscus hamtzhilii in slow sand filters; Transport of phage MS2, Escherichia coli, Clostridium perfringens, Cryptosporidium parvum, and Giardia intestinalis in a gravel and a sandy soil; General discussion

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**Publication Date:** 16/12/2010

**ISBN13:** 9781843393764

**eISBN:** 9781780401614

**Pages:** 290

**Print:**

**Standard price:** £106 / €133 / \$159

**Member price:** £80 / €99 / \$119

**eBook:**

**Standard price:** £106 / €133 / \$159

**Member price:** £80 / €99 / \$119