

CONTENTS

	Page
Introduction	
Water in Europe	3
Disinfection by-Products – A view from North America	9
DBP Formation and occurrence in Treatment and Distribution	
Disinfection by-product formation : Dutch Approach of Control Strategies	23
The Impact of Natural Organic Matter (NOM) on the Formation of Inorganic Disinfection by-Products : Chlorite, Chlorate, Bromate and Iodate	31
Identification of Drinking Water Disinfection by-Products from Ozone, Chlorine Dioxide, Chloramine, and Chlorine	46
The Influence of UV Disinfection on the Formation of Disinfection by-Products	54
Impact of Pre-ozonation and Slow Sand Filtration on Disinfection by-Products	62
The Effect of Nanofiltration on the Trihalomethane Formation Potential of Coloured Upland Waters	70
Chloramination : The Background to its Introduction , and the Management of Nitrite Formation in a Water Distribution System	78
Advances in Analysis and Monitoring	
Trace-level Determination of Bromate in Drinking Water by IC/ICP-MS	91
Field and Laboratory Methods for Bromate Determination in Drinking Water	98
On-Line Monitoring of the River Trent-to Reduce the Level of THM Formation	108
Standards and Regulation	
DBP Standards and Regulation : The North American Situation	121
DBP Standards and Regulation : The UK and European Situation	131
Meeting Strict DBP Standards – the View of the European Water Industry	140
North West Water's Options for compliance with the Proposed Revision of the European Drinking Water Directive Standard of DBPs	146
Balancing Chemical and Microbiological Risk	
The Risks of DBPs in Perspective	157
Bromate Carcinogenicity : A Non-Linear Dose Response Mechanism?	165
Developments in Microbiological Risk Assessment : From Cryptosporidium to BSE	170
Control of DBPs	
The Use of Advanced Water Treatment Processes for the Reduction of Background Organics and Disinfection by-Products	183
Treatment Strategies for Disinfection-related Trihalomethane Formation : Impact of colour in Public Water Supplies to Klaipeda, Lithuania	191
Applying Published Bromate Formation Data to Ozone Contactor Design	199
Production of Drinking Water without Chlorine : The Dutch Experience	208
Concluding Remarks	
Summary of Conference, Disinfection Products – the Way Forward	219
Subject Index	222