

1. Record Nr.	UNINA9911006690303321
Titolo	Best practice guide on the sampling and monitoring of metals in drinking water / / edited by Dr. Adam Postawa
Pubbl/distr/stampa	London ; ; New York, : IWA Publishing, c2012
ISBN	9781680155709 1680155709 9781780400792 1780400799
Edizione	[1st ed.]
Descrizione fisica	1 online resource (156 p.)
Collana	Metals and related substances in drinking water series
Altri autori (Persone)	Postawa Adam
Disciplina	363.738463
Soggetti	Water - Purification Drinking water Water-supply - Environmental aspects Water resources development - Environmental aspects Water utilities - Management
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographic references (p. [125]-130).
Nota di contenuto	Cover -- Copyright -- Contents -- About this Best Practice Guide -- Authors -- Acknowledgements -- Acronyms -- Definitions -- Foreword -- Executive Summary -- Chapter 1: Introduction -- 1.1 The Scope of the Best Practice Guide -- 1.2 The Role of Sampling and Monitoring -- 1.3 Drinking Water Safety Planning -- 1.4 The Potential Consequences of Poor Sampling and Monitoring -- 1.5 Layout of the Best Practice Guide -- Chapter 2: Basic principles of sampling -- 2.1 Health and Safety -- 2.2 Design of Sampling Programmes -- 2.3 Sampling Techniques -- 2.4 Sampling Equipment -- 2.5 Sample Pretreatment and Preservation -- Chapter 3: Quality assurance of sampling procedures -- 3.1 Role of Quality Assurance -- 3.2 Sampling Strategy -- 3.3 Validation of Sampling Procedure -- 3.4 Quality Control Programme -- Chapter 4: Analytical methods for metals in water -- 4.1 Selection of an Analytical Method -- 4.2 Colorimetric Methods -- 4.3 Electrochemistry Methods -- 4.4 Atomic Absorption Spectroscopy Methods -- 4.5 Inductively Coupled Plasma Methods (ICP) -- Chapter

5: Analytical quality control -- 5.1 Performance Characteristics -- 5.2 Internal Quality Control -- 5.3 External Quality Control -- 5.4 Example of an Analytical Quality Control Program -- Chapter 6: Monitoring metals in raw water resources -- 6.1 What is Raw Water? -- 6.2 Reasons for Monitoring Raw Water -- 6.3 Types of Samples -- 6.4 Sampling Locations -- 6.5 Sampling Frequency -- 6.6 Sampling Devices -- 6.7 Automatic Sampling and Online Analysis Systems -- 6.8 Passive Sampling -- Chapter 7: Sampling and monitoring metals in water treatment -- 7.1 Metals Significant for Water Treatment -- 7.2 Reasons for Monitoring -- 7.3 Monitoring Locations -- 7.4 Methods of Monitoring -- 7.5 Interpretation of Data -- Chapter 8: Monitoring metals in distribution systems.
8.1 Metals Causing Problems in Distribution Systems -- 8.2 Reasons for Monitoring -- 8.3 Planning a Sample Survey -- 8.4 Monitoring Locations -- 8.5 Methods of Monitoring -- 8.6 Interpretation of Data -- Chapter 9: Monitoring metals at consumers' taps -- 9.1 Relevance of Consumer's Tap -- 9.2 Sampling Methods -- 9.3 Zonal Monitoring -- 9.4 Investigations at Individual Properties -- Chapter 10: Statistical tools for the evaluation of results -- 10.1 Basic Definitions -- 10.2 Selected Parametric and Nonparametric Statistical Tests -- 10.3 Confidence Interval for Mean -- 10.4 Compliance with Thresholds -- 10.5 Anova and Robust Anova -- 10.6 Data Presentation -- Chapter 11: Developing monitoring strategies -- 11.1 Source to Tap Overview -- 11.2 Reasons for Monitoring -- 11.3 Consequences of Inadequate Monitoring Data -- 11.4 Steps to Developing a Successful Monitoring Strategy -- Appendix 1: Case studies -- A1.1 Bucharest (RO) -- A1.2 England and Wales (UK) -- A1.3 Krakow (PL) -- A1.4 Myszkow (PL) -- A1.5 Targu Mures (RO) -- A1.6 Timisoara (RO) -- References.

Sommario/riassunto

Part of Metals and Related Substances in Drinking Water Set - buy all five books together to save over 30%! There is increasing concern regarding the presence of metals, particularly heavy metals in drinking water. In addition to the well-known toxic effects of lead, which are discussed at length in the Best Practice Guide on the Control of Lead in Drinking Water (in this series of Guides), the latest WHO guide values for maximum mean concentrations of arsenic, nickel and others in drinking water have been lowered compared to previous versions. European Union, USA and National standards for drinking water have followed the trend based largely on the same toxicological information. There is currently growing interest in the presence of hexavalent chromium in drinking water following its finding in some drinking waters in the USA above the national upper limit for total chromium and research suggesting that this limit needs to be considerably lowered. Some metals, particularly iron and manganese are associated with the production of discoloured (dirty) water in distribution systems and are therefore very important to the production of water with acceptable aesthetic qualities. Others (iron and aluminium) are key to the treatment of raw waters to drinking water standards. In most cases it is not possible to continuously monitor waters for metals and suitable sampling programmes must be designed and carried out to give results representative of the true water quality. The Best Practice Guide on Sampling and Monitoring of Metals in Drinking Water gives guidance on the design and quality control of sampling programmes for metals in Raw waters, in the water treatment works, in the drinking water distribution system and at the consumers tap. It also gives guidance on the analytical methods that can be used for the analysis of metals and quality control of those methods. Sampling programmes on the same water will vary according to the purpose for which they are carried out and the statistical techniques used to determine and design

the different types of programme are outlined. Finally some case studies of optimisation of sampling are set out. Best Practice Guide on Sampling and Monitoring of Metals in Drinking Water is a valuable text for scientists, engineers and quality managers working in drinking water supply, laboratory managers and scientists who carry out sampling and analysis, and water industry consultants. It is also an excellent resource for post graduate and research workers in the field of drinking water. Editor: Dr Adam Postawa, AGH University, Krakow, Poland
