Heterotrophic Plate Counts and Drinking-water Safety

The Significance of HPCs for Water Quality and Human Health

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Published on behalf of the World Health Organization by IWA Publishing, Alliance House, 12 Caxton Street, London SW1H 0QS, UK

Telephone: +44 (0) 20 7654 5500; Fax: +44 (0) 20 7654 5555; Email: publications@iwap.co.uk www.iwapublishing.com

First published 2003 © World Health Organization 2003

Printed by TJ International (Ltd), Padstow, Cornwall, UK

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British Library Cataloguing-in-Publication Data A CIP catalogue record for this book is available from the British Library

Library of Congress Cataloging-in-Publication Data A catalog record for this book is available from the Library of Congress

ISBN: 1 84339 025 6 (IWA Publishing) ISBN: 92 4 156226 9 (WHO)

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Foreword

This monograph examines the appropriate role of the heterotrophic plate count (HPC) measurement in drinking-water quality management. It was developed from a two-day workshop attended by a group of microbiology and public health experts, including those with regulatory and medical expertise, convened by the World Health Organization and NSF International (WHO Collaborating Centre for Drinking Water Safety and Treatment) in Geneva, Switzerland, on 25–26 April 2002. The workshop followed immediately after the International Symposium on HPC Bacteria in Drinking Water — Public Health Implications?, developed by the same organizations. The Session Chairs and other selected participants in the symposium assembled in the workshop to address the issues that led to the formulation of the symposium and to provide a consensus report and conclusions to assist public health officials to interpret the information provided by HPC measurements.

The issues that were addressed include:

• the relationship between HPC in drinking-water systems (including those derived from in-line treatment systems, dispensers and bottled water) and health risks for the general public;

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- the role of HPC as an indirect indicator or index for pathogens of concern in drinking-water;
- the role of HPC in assessing the efficacy and proper functioning of water treatment and supply/distribution processes; and
- the relationship between HPC and the aesthetic acceptability of drinking-water.

This report deals with safe water supply extending from source to consumer, including plumbed-in devices, domestic and building environments, and water supplied in bottles or packages. The different ways in which drinking-water may be used in the home are considered, and specific concerns in higher-risk settings and populations at increased risk are addressed.

The Expert Meeting, supported by the papers in this monograph, addressed that debate as to the need, utility or quantitative basis for health-based standards or guidelines relating to HPC-measured growth in drinking-water and provided their consensus conclusions in the Meeting Report (chapter 1). Each chapter was originally the lead presentation in each session of the symposium. Each was revised in light of the other presented papers, the debates and discussions, and the Expert Meeting deliberations to reflect the scientific information that was presented and the collective experiences of the members. This report is the product of the Expert Meeting; its chapters were peer reviewed by members of the expert group and the editors.

We hope this document provides useful information and perspective on the utility and the limitations of HPC data in the management and operation of piped water systems, as well as other means of providing drinking-water to the public.

> J. Bartram J.A. Cotruvo M. Exner C.R. Fricker A. Glasmacher

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