

Australian Standard™

**Sterilization of medical devices —
Estimation of the population of micro-
organisms on product**

Part 2: Guidance

This Australian Standard was prepared by Committee HE-023, Processing of medical and surgical instruments. It was approved on behalf of the Council of Standards Australia on 26 June 2002 and published on 28 June 2002.

The following are represented on Committee HE-023:

Australian Chamber of Commerce and Industry
Australian College of Operating Room Nurses
Australian Dental Association
Australian Dental Industry Association Inc
Australian General Practice Accreditation
Australian Health Industry Inc
Australian Healthcare Association
Australian Industry Group
Australian Infection Control Association
Australian Medical Association
Australian Nursing Federation
Australian Veterinary Association
Commonwealth Department of Health and Ageing
Council of Textile and Fashion Industries of Australia Ltd
Dental Assistants Association of Australia Inc
Department of Defence (Australia)
Department of Human Services (South Australia)
Department of Human Services (Victoria)
Federation of Sterilizing Research and Advisory Councils of Australia
Gastroenterological Nurses College of Australia
Health Department of Western Australia
Institute of Hospital Engineering Australia
Medical Industry Association of Australia Inc
NSW Health Department
Queensland Health
Royal Australasian College of Surgeons
Royal Australian College of General Practitioners
Royal College of Pathologists of Australasia
Rural Doctors Association of Australia
The Chiropody Board of South Australia

Keeping Standards up-to-date

Standards are living documents which reflect progress in science, technology and systems. To maintain their currency, all Standards are periodically reviewed, and new editions are published. Between editions, amendments may be issued. Standards may also be withdrawn. It is important that readers assure themselves they are using a current Standard, which should include any amendments which may have been published since the Standard was purchased.

Detailed information about Standards can be found by visiting the Standards Australia web site at www.standards.com.au and looking up the relevant Standard in the on-line catalogue.

Alternatively, the printed Catalogue provides information current at 1 January each year, and the monthly magazine, *The Australian Standard*, has a full listing of revisions and amendments published each month.

We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Contact us via email at mail@standards.com.au, or write to the Chief Executive, Standards Australia International Ltd, GPO Box 5420, Sydney, NSW 2001.

This Standard was issued in draft form for comment as DR 02171.

Australian Standard™

**Sterilization of medical devices —
Estimation of the population of micro-
organisms on product**

Part 2: Guidance

First published as AS EN 1174.2—2002.

COPYRIGHT

© Standards Australia International

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher.

Published by Standards Australia International Ltd
GPO Box 5420, Sydney, NSW 2001, Australia

ISBN 0 7337 4695 0

PREFACE

This Standard has been developed to assist in the process of implementation of the Australian Medical Device legislation.

After consultation with stakeholders in both countries, Standards Australia and Standards New Zealand decided to develop this Standard as an Australian, rather than an Australian/New Zealand Standard, through the Joint Standards Australia/Standards New Zealand Committee HE-023 on Processing of medical and surgical instruments.

This Standard is identical with and has been reproduced from EN 1174-2:1996, *Sterilization of medical devices — Estimation of the population of micro-organisms on product — Part 2: Guidance*.

The objective of this Standard is to provide guidance on the implementation of requirements for the estimation of the population of viable micro-organisms on a medical device or on a component, raw material or package.

As this Standard is reproduced from a European Standard, the following apply:

- (a) Its number does not appear on each page of text and its identity is shown only on the cover and title page.
- (b) In the source text 'this European Standard' should read 'this Australian Standard'.
- (c) A full point substitutes for a comma when referring to a decimal marker.

CONTENTS

Introduction	iv
1 Scope	1
2 Normative reference	1
3 Definitions	2
4 General	2
4.1 Operation of the laboratory	2
4.2 Equipment and materials	3
4.3 Microbiological media	4
5 Selection of technique	5
5.1 General	5
5.2 Elements of bioburden determination	6
5.3 Selection of media and incubation conditions	17
6 Validation of bioburden techniques	19
6.1 General	19
6.2 Validation of technique for removal of micro-organisms	19
6.3 Validation of enumeration methods	21
7 Use of technique	21
7.1 General	21
7.2 Limit setting for process monitoring	22
7.3 Trend analysis for process monitoring	22
7.4 Sampling frequency for process monitoring	23
Annex A (informative) Bibliography	24
Annex ZA (informative) Clauses of this European Standard addressing essential requirements or other provisions of EU Directives	26

INTRODUCTION

Requirements for the estimation of the population of micro-organisms on product (this population is commonly known as the bioburden) during the manufacture of medical devices are specified in EN 1174-1. This Part of EN 1174 contains guidance on the implementation of EN 1174-1. Methods other than those given in the guidance can be used but these alternative methods should be demonstrated as being effective in achieving compliance with the requirements of EN 1174-1.

AUSTRALIAN STANDARD

Sterilization of medical devices — Estimation of the population of micro-organisms on product

Part 2: Guidance

1 Scope

This Part of this European Standard provides guidance on the implementation of the requirements specified in EN 1174-1. It is aimed at providing a better understanding of EN 1174-1 as well as assisting in implementing its requirements. The guidance given is not intended to be exhaustive, but to highlight important aspects to which attention should be given.

NOTE: This Part of EN 1174-1 is informative and does not contain requirements.

This Part of this European standard is not intended as a checklist for assessing compliance with EN 1174-1.

2 Normative reference

This European Standard incorporates, by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 1174-1: 1996 Sterilization of medical devices - Estimation of the population of micro-organisms on product - Part 1: Requirements