

This is a preview of "ISO 21149:2017". [Click here to purchase the full version from the ANSI store.](#)

Second edition
2017-06

Cosmetics — Microbiology — Enumeration and detection of aerobic mesophilic bacteria

*Cosmétiques — Microbiologie — Dénombrement et détection des
bactéries aérobies mésophiles*



Reference number
ISO 21149:2017(E)

© ISO 2017

This is a preview of "ISO 21149:2017". [Click here to purchase the full version from the ANSI store.](#)



COPYRIGHT PROTECTED DOCUMENT

© ISO 2017, Published in Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

This is a preview of "ISO 21149:2017". [Click here to purchase the full version from the ANSI store.](#)

Contents

	Page
Foreword	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Principle	2
4.1 General.....	2
4.2 Plate count.....	2
4.3 Membrane filtration.....	2
4.4 Detection of bacteria by enrichment.....	3
5 Diluents, neutralizers and culture media	3
5.1 General.....	3
5.2 Neutralizing diluents and diluents.....	3
5.3 Diluent for the bacterial suspension (tryptone sodium chloride solution).....	4
5.4 Culture media.....	4
6 Apparatus and glassware	7
7 Strains of microorganisms	7
8 Handling of cosmetic products and laboratory samples	7
9 Procedure	7
9.1 General recommendation.....	7
9.2 Preparation of the initial suspension.....	7
9.2.1 General.....	7
9.2.2 Water-miscible products.....	8
9.2.3 Water-immiscible products.....	8
9.3 Counting methods.....	8
9.3.1 Dilutions for counting methods.....	8
9.3.2 Plate-count methods.....	8
9.4 Enrichment.....	9
9.4.1 General.....	9
9.4.2 Incubation of the sample.....	9
10 Counting of colonies (plate counts and membrane filtration methods)	9
11 Detection of growth (enrichment method)	9
12 Expression of results	10
12.1 Method of calculation for plate count.....	10
12.2 Interpretation.....	11
12.3 Examples.....	11
12.4 Detection after enrichment.....	13
13 Neutralization of the antimicrobial properties of the product	13
13.1 General.....	13
13.2 Preparation of inoculum.....	14
13.3 Suitability of counting methods.....	14
13.3.1 Principle.....	14
13.3.2 Suitability test of the pour-plate method.....	14
13.3.3 Suitability of the surface spread method.....	14
13.3.4 Suitability of the membrane filtration method.....	14
13.4 Suitability of the detection method by enrichment.....	15
13.4.1 Procedure.....	15
13.4.2 Interpretation of results.....	15
13.5 Interpretation of suitability test results.....	15
14 Test report	16

This is a preview of "ISO 21149:2017". [Click here to purchase the full version from the ANSI store.](#)

Annex A (informative) Other neutralizing diluents	17
Annex B (informative) Other diluents	19
Annex C (informative) Other culture media	20
Annex D (informative) Neutralizers of antimicrobial activity of preservatives and rinsing liquids	23
Bibliography	24

This is a preview of "ISO 21149:2017". [Click here to purchase the full version from the ANSI store.](#)

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 217, *Cosmetics*.

This second edition cancels and replaces the first edition (ISO 21149:2006), of which it constitutes a minor revision with the following changes:

- in the Scope, “validated” has been changed to “shown to be suitable”;
- in the Scope, “see ISO 29621” has been added and the reference has been added to the Bibliography;
- in [4.1](#), “validated” has been changed to “demonstrated”;
- in [4.3](#), “validated” has been changed to “described”;
- in 5.1, “specifications” has been changed to “instructions”;
- in [9.3.2.1](#), [9.3.2.2](#) and [9.3.2.3](#), “validated” has been changed to “described”;
- in [9.3.2.3](#), “procedure developed during the validation” has been changed to “suitability test procedure”;
- in [9.4.1](#), “validation” has been changed to “suitability test”;
- in [12.2.1](#), “validated according to the chosen method” has been changed to “demonstrated to be suitable for the chosen method”;
- in [13.3](#) and [13.4](#), “validation” has been changed to “suitability”;
- in [13.3.2](#), [13.3.3](#) and [13.3.4](#), “validation” has been changed to “suitability”;
- in [13.3.2](#), [13.3.3](#) and [13.3.4](#), “if the validation count is at least 50 % (0,3 log) of the control count” has been changed to “if the count is at least 50 % of the control”;
- in [13.4.1](#), instances of “validation test” have been changed to “suitability test”;

This is a preview of "ISO 21149:2017". [Click here to purchase the full version from the ANSI store.](#)

- in [13.4.2](#), instances of “validation plate” have been changed to “suitability test plate”;
- in [13.5](#), “validation results” has been changed to “suitability test results” and “validation plates” has been changed to “suitability test plates”;
- in [Clause 14](#) f), “validation of the method” has been changed to “demonstration of the suitability”;
- in [A.1](#), [B.1](#) and [C.1](#), “validated” has been changed to “demonstrated to be suitable”.