

# ILNAS

Institut luxembourgeois de la normalisation  
de l'accréditation, de la sécurité et qualité  
des produits et services

## ILNAS-EN ISO 7218:2007

**Microbiology of food and animal  
feeding stuffs - General requirements  
and guidance for microbiological  
examinations (ISO 7218:2007)**

Microbiologie des aliments - Exigences  
générales et recommandations (ISO  
7218:2007)

Mikrobiologie von Lebensmitteln und  
Futtermitteln - Allgemeine  
Anforderungen und Leitlinien für  
mikrobiologische Untersuchungen (ISO



08/2007

## National Foreword

This European Standard EN ISO 7218:2007 was adopted as Luxembourgish Standard ILNAS-EN ISO 7218:2007.

Every interested party, which is member of an organization based in Luxembourg, can participate for FREE in the development of Luxembourgish (ILNAS), European (CEN, CENELEC) and International (ISO, IEC) standards:

- Participate in the design of standards
- Foresee future developments
- Participate in technical committee meetings

<https://portail-qualite.public.lu/fr/normes-normalisation/participer-normalisation.html>

### THIS PUBLICATION IS COPYRIGHT PROTECTED

Nothing from this publication may be reproduced or utilized in any form or by any mean - electronic, mechanical, photocopying or any other data carries without prior permission!

EUROPEAN STANDARD ILNAS-EN ISO 7218:2007  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

EN ISO 7218

August 2007

ICS 07.100.30

English Version

Microbiology of food and animal feeding stuffs - General requirements and guidance for microbiological examinations (ISO 7218:2007)

Microbiologie des aliments - Exigences générales et recommandations (ISO 7218:2007)

Mikrobiologie von Lebensmitteln und Futtermitteln - Allgemeine Anforderungen und Leitlinien für mikrobiologische Untersuchungen (ISO 7218:2007)

This European Standard was approved by CEN on 19 April 2007.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

## **Contents**

	Page
<b>Foreword.....</b>	<b>3</b>

## **Foreword**

This document (EN ISO 7218:2007) has been prepared by Technical Committee ISO/TC 34 "Agricultural food products" in collaboration with Technical Committee CEN/TC 275 "Food analysis - Horizontal methods" the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by February 2008, and conflicting national standards shall be withdrawn at the latest by February 2008.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

### **Endorsement notice**

The text of ISO 7218:2007 has been approved by CEN as a EN ISO 7218:2007 without any modification.

Third edition  
2007-08-15

---

---

---

**Microbiology of food and animal feeding  
stuffs — General requirements and  
guidance for microbiological  
examinations**

*Microbiologie des aliments — Exigences générales et  
recommendations*



**PDF disclaimer**

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

**COPYRIGHT PROTECTED DOCUMENT**

© ISO 2007

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
Case postale 56 • CH-1211 Geneva 20  
Tel. + 41 22 749 01 11  
Fax + 41 22 749 09 47  
E-mail [copyright@iso.org](mailto:copyright@iso.org)  
Web [www.iso.org](http://www.iso.org)

Published in Switzerland

## Contents

Page

<b>Foreword.....</b>	<b>v</b>
<b>Introduction .....</b>	<b>vi</b>
<b>1      Scope .....</b>	<b>1</b>
<b>2      Normative references .....</b>	<b>1</b>
<b>3      Premises .....</b>	<b>2</b>
<b>3.1     General.....</b>	<b>2</b>
<b>3.2     Safety considerations.....</b>	<b>2</b>
<b>3.3     Laboratory design.....</b>	<b>2</b>
<b>3.4     Laboratory areas.....</b>	<b>3</b>
<b>3.5     Layout and fittings of the premises .....</b>	<b>4</b>
<b>3.6     Cleaning and disinfection .....</b>	<b>5</b>
<b>4      Staff .....</b>	<b>5</b>
<b>4.1     General.....</b>	<b>5</b>
<b>4.2     Competence .....</b>	<b>6</b>
<b>4.3     Verification of on-going staff competence.....</b>	<b>6</b>
<b>4.4     Hygiene .....</b>	<b>6</b>
<b>5      Apparatus and equipment .....</b>	<b>6</b>
<b>6      Preparation of glassware and other laboratory materials .....</b>	<b>28</b>
<b>6.1     Preparation .....</b>	<b>28</b>
<b>6.2     Sterilization/decontamination.....</b>	<b>28</b>
<b>6.3     Disposable equipment and materials .....</b>	<b>28</b>
<b>6.4     Storage of clean glassware and materials .....</b>	<b>28</b>
<b>6.5     Management of sterile glassware and materials .....</b>	<b>29</b>
<b>6.6     Use of decontamination and disinfection .....</b>	<b>29</b>
<b>6.7     Waste management .....</b>	<b>29</b>
<b>6.8     Washing .....</b>	<b>30</b>
<b>7      Preparation and sterilization of culture media .....</b>	<b>30</b>
<b>8      Laboratory samples.....</b>	<b>30</b>
<b>8.1     Sampling .....</b>	<b>30</b>
<b>8.2     Transport .....</b>	<b>31</b>
<b>8.3     Receipt .....</b>	<b>31</b>
<b>8.4     Storage.....</b>	<b>32</b>
<b>8.5     Test portion .....</b>	<b>32</b>
<b>9      Examination.....</b>	<b>32</b>
<b>9.1     Hygienic precautions during analysis .....</b>	<b>32</b>
<b>9.2     Preparation of initial suspension and dilutions .....</b>	<b>34</b>
<b>10     Enumeration .....</b>	<b>34</b>
<b>10.1    General.....</b>	<b>34</b>
<b>10.2    Enumeration using a solid medium .....</b>	<b>35</b>
<b>10.3    Calculation and expression of results obtained with solid media .....</b>	<b>37</b>
<b>10.4    Enumeration of yeasts and moulds .....</b>	<b>43</b>
<b>10.5    Enumeration using a liquid medium.....</b>	<b>44</b>
<b>11     Detection method (qualitative method) .....</b>	<b>49</b>
<b>11.1    General.....</b>	<b>49</b>
<b>11.2    Principle .....</b>	<b>50</b>
<b>11.3    Measurement of uncertainty .....</b>	<b>50</b>

<b>12</b>	<b>Confirmatory methods.....</b>	<b>50</b>
12.1	General .....	50
12.2	Preparation of a pure culture.....	50
12.3	Gram's stain (modified Hucker technique).....	50
12.4	Use of biochemical galleries for identification .....	52
12.5	Use of nucleic probes for identification .....	52
12.6	Serological methods.....	53
<b>13</b>	<b>Test report.....</b>	<b>53</b>
<b>14</b>	<b>Validation of microbiological methods .....</b>	<b>54</b>
14.1	Validation of reference methods .....	54
14.2	Validation of alternative methods.....	54
14.3	Validation of in-house methods.....	54
<b>15</b>	<b>Quality assurance of results/quality control of performance.....</b>	<b>54</b>
15.1	Internal quality control .....	54
15.2	Reference strains .....	54
15.3	External quality assessment (proficiency testing) .....	55
<b>Annex A (informative) Properties of some disinfectants.....</b>		<b>56</b>
<b>Annex B (normative) Determination of most probable number (MPN) .....</b>		<b>57</b>
<b>Bibliography .....</b>		<b>64</b>