

DIN EN ISO 7932**DIN**

ICS 07.100.30

Supersedes
DIN EN ISO 7932:2005-03

**Microbiology of food and animal feeding stuffs –
Horizontal method for the enumeration of presumptive *Bacillus cereus* –
Colony-count technique at 30 degrees C (ISO 7932:2004 + Amd 1:2020,
Corrected version 2020-08);
English version EN ISO 7932:2004 + A1:2020,
English translation of DIN EN ISO 7932:2020-11**

Mikrobiologie von Lebensmitteln und Futtermitteln –
Horizontales Verfahren zur Zählung von präsumtivem *Bacillus cereus* –
Koloniezählverfahren bei 30 °C (ISO 7932:2004 + Amd 1:2020, korrigierte Fassung 2020-08);
Englische Fassung EN ISO 7932:2004 + A1:2020,
Englische Übersetzung von DIN EN ISO 7932:2020-11

Microbiologie des aliments –
Méthode horizontale pour le dénombrement de *Bacillus cereus* présumptifs –
Technique par comptage des colonies à 30 degrés C (ISO 7932:2004 + Amd 1:2020, Version
corrigée 2020-08);
Version anglaise EN ISO 7932:2004 + A1:2020,
Traduction anglaise de DIN EN ISO 7932:2020-11

Document comprises 50 pages

Translation by DIN-Sprachendienst.

In case of doubt, the German-language original shall be considered authoritative.

A comma is used as the decimal marker.

National foreword

This document (EN ISO 7932:2004 + A1:2020) has been prepared by Technical Committee ISO/TC 34 "Food products" in collaboration with Technical Committee CEN/TC 463 "Microbiology of the food chain" (Secretariat: AFNOR, France).

The responsible German body involved in its preparation was *DIN-Normenausschuss Lebensmittel und landwirtschaftliche Produkte* (DIN Standards Committee Food and Agricultural Products), Working Group NA 057-01-06-02 AK "Spore-forming bacteria" of Working Committee NA 057-01-06 AA "Microbiology of the food chain".

This document includes Amendment 1 approved by CEN on 2020-03-22.

The start and finish of text introduced or altered by amendment is indicated in the text by tags **A₁** **A₁**.

The DIN documents corresponding to the international documents referred to in this document are as follows:

ISO 5725-1:1994	DIN ISO 5725-1:1997-11
ISO 5725-2:1994	DIN ISO 5725-2:2002-12
ISO 6887-1:1999	DIN EN ISO 6887-1:1999-04
ISO 18465	DIN EN ISO 18465
ISO 20837	DIN EN ISO 20837
ISO 20838	DIN EN ISO 20838
ISO 22119	DIN EN ISO 22119
ISO 22174	DIN EN ISO 22174
ISO/TS 11133-2:2003	DIN ISO/TS 11133-2:2004-10
ISO/TS 17919	DIN CEN ISO/TS 17919

For current information on this document, please go to DIN's website (www.din.de) and search for the document number in question.

Amendments

This standard differs from DIN EN ISO 7932:2005-03 as follows:

- a) a new subclause 9.5 has been added;
- b) new informative Annexes C, D, E and F have been included;
- c) the Bibliography has been added;
- d) the standard has been editorially revised.

Previous editions

DIN 10198-1: 1992-08

DIN EN ISO 7932: 1998-02, 2005-03

National Annex NA (informative)

Bibliography

DIN CEN ISO/TS 17919, *Microbiology of the food chain — Polymerase chain reaction (PCR) for the detection of food-borne pathogens — Detection of botulinum type A, B, E and F neurotoxin-producing clostridia*

DIN EN ISO 6887-1:1999-04, *Microbiology of the food chain — Preparation of test samples, initial suspension and decimal dilutions for microbiological examination — Part 1: General rules for the preparation of the initial suspension and decimal dilutions (ISO 6887-1:1999)*

DIN EN ISO 18465, *Microbiology of the food chain — Quantitative determination of emetic toxin (cereulide) using LC-MS/MS*

DIN EN ISO 20837, *Microbiology of food and animal feeding stuffs — Polymerase chain reaction (PCR) for the detection of food-borne pathogens — Requirements for sample preparation for qualitative detection*

DIN EN ISO 20838, *Microbiology of food and animal feeding stuffs — Polymerase chain reaction (PCR) for the detection of food-borne pathogens — Requirements for amplification and detection for qualitative methods*

DIN EN ISO 22119, *Microbiology of food and animal feeding stuffs — Real-time polymerase chain reaction (PCR) for the detection of food-borne pathogens — General requirements and definitions*

DIN EN ISO 22174, *Microbiology of food and animal feeding stuffs — Polymerase chain reaction (PCR) for the detection of food-borne pathogens — General requirements and definitions*

DIN ISO 5725-1:1997-11, *Accuracy (trueness and precision) of measurement methods and results — Part 1: General principles and definitions (ISO 5725-1:1994)*

DIN ISO 5725-2:2002-12, *Accuracy (trueness and precision) of measurement methods and results — Part 2: Basic method for the determination of repeatability and -reproducibility of a standard measurement method (ISO 5725-2:1994 including Technical Corrigendum 1:2002)*

DIN ISO/TS 11133-2:2004-10, *Microbiology of food and animal feeding stuffs — Guidelines on preparation and production of culture media — Part 2: Practical guidelines on performance testing of culture media (ISO/TS 11133-2:2003)*

— This page is intentionally blank —

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 7932

Dezember 2004

+ A1

April 2020

ICS 07.100.30

Supersedes EN ISO 7932:1997

English Version

Microbiology of food and animal feeding stuffs —
Horizontal method for the enumeration of
presumptive *Bacillus cereus* —
Colony-count technique at 30 degrees C
(ISO 7932:2004 + Amd 1:2020, Corrected version 2020-08)

Microbiologie des aliments —
Méthode horizontale pour le dénombrement
de *Bacillus cereus* présumptifs —
Technique par comptage des colonies à 30 degrés C
(ISO 7932:2004 + Amd 1:2020,
Version corrigée 2020-08)

Mikrobiologie von Lebensmitteln und Futtermitteln —
Horizontales Verfahren zur Zählung von
präsumtivem *Bacillus cereus* —
Koloniezählverfahren bei 30 °C
(ISO 7932:2004 + Amd 1:2020,
korrigierte Fassung 2020-08)

EN ISO 7932 was approved by CEN on 2004-06-17 and Amendment A1:2020 on 2020-03-22.

This European Standard was corrected and reissued by the CEN-CENELEC Management Centre on 26 August 2020.

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

This amendment 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-CENELEC Management Centre has the same status as the official versions.

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



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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Contents

	Page
European foreword.....	3
[A1] European foreword to Amendment A1 [A1]	4
[A1] Foreword to Amendment A1 [A1]	5
0 Introduction	6
1 Scope	7
2 Normative references.....	7
3 Terms and definitions	7
4 Principle	7
5 Dilution fluid, culture media and reagents.....	8
5.1 Dilution fluid.....	8
5.2 Agar medium (see [1]).....	8
5.3 Sheep blood agar	10
6 Apparatus and glassware	10
7 Sampling.....	11
8 Preparation of test sample	11
9 Procedure.....	11
9.1 Test portion, initial suspension and dilutions.....	11
9.2 Inoculation and incubation	11
9.3 Counting of the colonies.....	12
9.4 Confirmation.....	12
9.5 Optional tests.....	13
10 Expression of results.....	14
10.1 Count of presumptive <i>B. cereus</i> colonies	14
10.2 No colonies.....	14
10.3 Precision.....	14
11 Test report.....	15
Annex A (normative) Confidence limits for the estimation of small numbers of colonies	16
Annex B (informative) Results of interlaboratory test.....	17
Annex C (informative) Polymerase chain reaction for the detection of <i>cytK-1</i> or <i>cytK-2</i> gene variants of cytotoxin K in isolated strains of <i>Bacillus cereus</i> group and identification of <i>Bacillus cytotoxicus</i>	20
Annex D (informative) Polymerase chain reaction for the detection of <i>ces</i> gene encoding cereulide peptide synthetase in strains of <i>Bacillus cereus</i> group.....	27
Annex E (informative) Motility as a screening test.....	36
Annex F (informative) Parasporal crystal of <i>Bacillus thuringiensis</i> — Protocol for examination by wet mount microscopy.....	37
Bibliography.....	45