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**Mikrobiologija živil in krmil - Horizontalna metoda za ugotavljanje prisotnosti in števila *Listeria monocytogenes* - 2. del: Metoda štetja (ISO 11290-2:1998)**

Microbiology of food and animal feeding stuffs - Horizontal method for the detection and enumeration of *Listeria monocytogenes* - Part 2: Enumeration method (ISO 11290-2:1998)

Mikrobiologie von Lebensmitteln und Futtermitteln - Horizontales Verfahren für den Nachweis und die Zählung von *Listeria monocytogenes* - Teil 2: Zählverfahren (ISO 11290-2:1998)

Microbiologie des aliments - Méthode horizontale pour la recherche et le dénombrement de *Listeria monocytogenes* - Partie 2: Méthode de dénombrement (ISO 11290-2:1998)

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Microbiology of food and animal feeding stuffs - Horizontal  
method for the detection and enumeration of *Listeria*  
*monocytogenes* - Part 2: Enumeration method (ISO 11290-  
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Microbiologie des aliments - Méthode horizontale pour la  
recherche et le dénombrement de *Listeria monocytogenes*  
- Partie 2: Méthode de dénombrement (ISO 11290-2:1998)

Mikrobiologie von Lebensmitteln und Futtermitteln -  
Horizontales Verfahren für den Nachweis und die Zählung  
von *Listeria monocytogenes* - Teil 2: Zählverfahren (ISO  
11290-2:1998)

This European Standard was approved by CEN on 21 June 1998.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

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

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

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EN ISO 11290-2:1998

### Foreword

The text of the International Standard ISO 11290-2:1998 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 January 1999, and conflicting national standards shall be withdrawn at the latest by January 1999.

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

### Endorsement notice

The text of the International Standard ISO 11290-2:1998 was approved by CEN as a European Standard without any modification.

NOTE: Normative references to International Standards are listed in annex ZA (normative).

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**Annex ZA** (normative)**Normative references to international publications  
with their relevant European publications**

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.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN</u>	<u>Year</u>
ISO 11290-1	1996	Microbiology of food and animal feeding stuffs - Horizontal method for the detection and enumeration of <i>Listeria monocytogenes</i> - Part 1: Detection method	EN ISO 11290-1	1996

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ISO  
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**Microbiology of food and animal feeding  
stuffs — Horizontal method for the  
detection and enumeration of *Listeria  
monocytogenes* —**

**Part 2:  
Enumeration method**

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*Microbiologie des aliments — Méthode horizontale pour la recherche et le  
dénombrement de Listeria monocytogenes —*

*Partie 2: Méthode de dénombrement*

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ISO 11290-2:1998(E)

## ISO 11290-2:1998(E)

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## 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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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International Standard ISO 11290-2 was prepared by Technical Committee ISO/TC 34, *Agricultural food products*, Subcommittee SC 9, *Microbiology*.

ISO 11290 consists of the following parts, under the general title *Microbiology of food and animal feeding stuffs — Horizontal method for the detection and enumeration of Listeria monocytogenes*:

- *Part 1: Detection method*
- *Part 2: Enumeration method*

Annexes A and B form an integral part of this part of ISO 11290. Annex C is for information only.

## Introduction

Because of the large variety of food and feed products, this horizontal method may not be appropriate in every detail for certain products. In this case, different methods, which are specific to these products may be used if absolutely necessary for justified technical reasons. Nevertheless, every attempt should be made to apply this horizontal method as far as possible.

When this part of ISO 11290 is next reviewed, account will be taken of all information then available regarding the extent to which this horizontal method has been followed and the reasons for deviations from this method in the case of particular products.

The harmonization of test methods cannot be immediate, and for certain groups of products International Standards and/or national standards may already exist that do not comply with this horizontal method. It is hoped that when such standards are reviewed they will be changed to comply with this part of ISO 11290 so that eventually the only remaining departures from this horizontal method will be those necessary for well-established technical reasons.

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# Microbiology of food and animal feeding stuffs — Horizontal method for the detection and enumeration of *Listeria monocytogenes* —

## Part 2: Enumeration method

**WARNING** — In order to safeguard the health of laboratory personnel, it is strongly recommended that tests for detecting *Listeria monocytogenes* are undertaken in properly equipped laboratories, under the control of a skilled microbiologist, and that great care is taken in the disposal of all contaminated materials. In particular, it is strongly recommended that female laboratory staff are made aware of the particular risk to the developing foetus presented by infection of the mother through exposure to *Listeria monocytogenes*. National legislation may involve more specific demands.

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### 1 Scope

This part of ISO 11290 specifies a horizontal method for the enumeration of *Listeria monocytogenes*.

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**NOTE** — The method also allows enumeration of other *Listeria* species which may be used as indicators of the hygienic quality of food or feed products.

Subject to the limitations discussed in the introduction, this part of ISO 11290 is applicable to products intended for human consumption or animal foodstuffs.

In general (see note in 9.2.1), the lower limit of enumeration of this method is 10 *L. monocytogenes* per millilitre of sample for liquid products, or 100 *L. monocytogenes* per gram of sample for other products.

### 2 Normative references

The following standards contain provisions which, through reference to the text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All Standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 6887-1:—<sup>1)</sup>, *Microbiology of food and animal feeding stuffs — Preparation of test samples, initial suspension and decimal dilutions for microbiological examination — Part 1: General rules for the preparation of the initial suspension and of decimal dilutions*.

ISO 7218:1996, *Microbiology of food and animal feeding stuffs — General rules for microbiological examination*.

ISO 11290-1:1996, *Microbiology of food and animal feeding stuffs — Horizontal method for the detection and enumeration of *Listeria monocytogenes* — Part 1: Detection method*.

1) To be published. (Revision of ISO 6887:1993)

### 3 Definitions

For the purposes of this part of ISO 11290, the following definitions apply.

#### 3.1

##### ***Listeria monocytogenes***

microorganisms which form typical colonies on the solid selective medium described and which display the morphological, physiological and biochemical characteristics described when the analysis is carried out in accordance with this part of ISO 11290

#### 3.2

##### **enumeration of *Listeria monocytogenes***

determination of the number of colony-forming units (CFU) of *Listeria monocytogenes* (see 3.1), in a given quantity of product, when the analysis is carried out in accordance with this part of ISO 11290

### 4 Principle

Within the limits of this part of ISO 11290, the enumeration of *Listeria monocytogenes* requires six successive steps (see annex A for a flowchart).

**4.1** Preparation of the initial suspension in one of the two diluents described, as necessary.

**4.2** Resuscitation for 1 h at 20 °C.

**4.3** Surface plating, on the solid selective culture medium contained in two Petri dishes, of a specified quantity of the test sample for liquid products or the initial suspension for other products.

Preparation of other dishes, under the same conditions, using decimal dilutions of the test sample or initial suspension.

**4.4** Incubation of the dishes at 35 °C or 37 °C and examination after 24 h and 48 h.

**4.5** Confirmation of presumptive colonies of *Listeria monocytogenes* with the tests described.

**4.6** From the number of confirmed colonies, calculation of the number of *Listeria monocytogenes* per gram or per millilitre of the test sample.

### 5 Culture media and reagents

For current laboratory practice, see ISO 7218.

NOTE — Because of the large number of culture media and reagents, it has been considered preferable, for clarity of the text, to describe them in annex B.

### 6 Apparatus and glassware

Usual microbiological equipment (see ISO 7218) and, in particular, the following.

#### **6.1 Apparatus for dry sterilization (oven) or wet sterilization (autoclave)**

See ISO 7218.