



SLOVENSKI STANDARD
kSIST FprEN ISO 11268-2:2015

01-maj-2015

Kakovost tal - Učinki onesnaževal na deževnike - 2. del: Določanje učinkov na reprodukcijo Eisenia fetida/Eisenia Andrei (ISO 11268-2:2012)

Soil quality - Effects of pollutants on earthworms - Part 2: Determination of effects on reproduction of Eisenia fetida/Eisenia andrei (ISO 11268-2:2012)

Bodenbeschaffenheit - Wirkungen von Schadstoffen auf Regenwürmer - Teil 2: Bestimmung der Wirkung auf die Reproduktionsleistung von Eisenia fetida/Eisenia andrei (ISO 11268-2:2012)

Qualité du sol - Effets des polluants vis-à-vis des vers de terre - Partie 2: Détermination des effets sur la reproduction de Eisenia fetida/Eisenia andrei (ISO 11268-2:2012)

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13.080.30 Biološke lastnosti tal Biological properties of soils

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February 2015

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English Version

**Soil quality - Effects of pollutants on earthworms - Part 2:
Determination of effects on reproduction of Eisenia fetida/Eisenia
andrei (ISO 11268-2:2012)**

Qualité du sol - Effets des polluants vis-à-vis des vers de terre - Partie 2: Détermination des effets sur la reproduction de Eisenia fetida/Eisenia andrei (ISO 11268-2:2012)

Bodenbeschaffenheit - Wirkungen von Schadstoffen auf Regenwürmer - Teil 2: Bestimmung der Wirkung auf die Reproduktionsleistung von Eisenia fetida/Eisenia andrei (ISO 11268-2:2012)

This draft European Standard is submitted to CEN members for unique acceptance procedure. It has been drawn up by the Technical Committee CEN/TC 345.

If this draft becomes a European Standard, 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.

This draft European Standard was established by CEN 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.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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Contents

Page

Foreword.....3

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Foreword

The text of ISO 11268-2:2012 has been prepared by Technical Committee ISO/TC 190 “Soil quality” of the International Organization for Standardization (ISO) and has been taken over as FprEN ISO 11268-2:2015 by Technical Committee CEN/TC 345 “Characterization of soils” the secretariat of which is held by NEN.

This document is currently submitted to the Unique Acceptance Procedure.

Endorsement notice

The text of ISO 11268-2:2012 has been approved by CEN as FprEN ISO 11268-2:2015 without any modification.

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INTERNATIONAL STANDARD

ISO
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Second edition
2012-11-01

Soil quality — Effects of pollutants on earthworms —

Part 2:

Determination of effects on reproduction of *Eisenia fetida*/*Eisenia andrei*

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*Qualité du sol — Effets des polluants vis-à-vis des vers de terre —
Partie 2: Détermination des effets sur la reproduction de Eisenia fetida/
Eisenia andrei*

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Contents	Page
Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Principle	3
5 Reagents and material	4
6 Apparatus	5
7 Procedure	6
7.1 Experimental design	6
7.2 Preparation of test mixture	7
7.3 Addition of the earthworms	8
7.4 Test conditions and measurements	8
7.5 Reference substance	9
8 Calculation and expression of results	9
8.1 Calculation	9
8.2 Expression of results	9
9 Validity of the test	9
10 Statistical analysis	9
10.1 General	9
10.2 Single-concentration tests	10
10.3 Multi-concentration tests	10
11 Test report	11
Annex A (informative) Determination of the chronic toxicity of chemicals on earthworms under tropical conditions	13
Annex B (informative) Culturing of <i>Eisenia fetida</i> and <i>Eisenia andrei</i>	15
Annex C (informative) Determination of water holding capacity of artificial soil	16
Annex D (informative) Techniques for counting juvenile worms hatched from cocoons	17
Annex E (informative) Performance of the method	18
Bibliography	20

ISO 11268-2:2012(E)**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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. 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.

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.

ISO 11268-2 was prepared by Technical Committee ISO/TC 190, *Soil quality*, Subcommittee SC 4, *Biological methods*.

This second edition cancels and replaces the first edition (ISO 11268-2:1998), which has been technically revised.

ISO 11268 consists of the following parts, under the general title *Soil quality — Effects of pollutants on earthworms*:

- *Part 1: Determination of acute toxicity to Eisenia fetida/Eisenia andrei*
- *Part 2: Determination of effects on reproduction of Eisenia fetida/Eisenia andrei*
- *Part 3: Guidance on the determination of effects in field situations*

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Introduction

Ecotoxicological test systems are applied to obtain information about the effects of contaminants in soil and are proposed to complement conventional chemical analysis (see ISO 15799 ^[34] and ISO 17616 ^[35]). ISO 15799 includes a list and short characterization of recommended and standardized test systems and ISO 17616 gives guidance on the choice and evaluation of the bioassays. Aquatic test systems with soil eluate are applied to obtain information about the fraction of contaminants potentially reaching the groundwater by the water path (retention function of soils), whereas terrestrial test systems are used to assess the habitat function of soils. As standardized test systems using earthworms as indicator organisms for the habitat function of soil, an acute test for survival and a chronic test for reproduction are available.

This part of ISO 11268 describes a method that is based on the determination of sublethal effects of contaminated soils on adult earthworms of the species *Eisenia fetida* (Savigny 1826) and *Eisenia andrei* (André 1963). Optionally, the method can be used for testing chemicals added to standard soils (e.g. artificial soil) for their sublethal hazard potential to earthworms. Finally, information is provided on how to use this method for testing chemicals under tropical conditions (see Annex A).

Eisenia fetida and *Eisenia andrei* are considered to be representatives of soil fauna and earthworms in particular. Background information on the ecology of earthworms and their use in ecotoxicological testing is available. Other species, e.g. *Aporrectodea caliginosa*, *Lumbricus rubellus* and *Lumbricus terrestris*, have also been used as test organisms. These or other species have not been proven to be more sensitive in general, and the database and experience in testing soils is small ^{[16][17]}.

This part of ISO 11268 has been drawn up taking into consideration test procedures adopted by the Organization for Economic Cooperation and Development ^{[27][28]} and by the European Union ^[11].

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