SLOVENSKI STANDARD
SIST EN ISO 17512-1:2020

01-november-2020

Kakovost tal - Izogibalni preskus za določanje kakovosti tal in učinkov kemikalij na obnašanje - 1. del: Preskus z deževniki (Eisenia fetida in Eisenia andrei) (ISO 17512-1:2008)

Soil quality - Avoidance test for determining the quality of soils and effects of chemicals on behaviour - Part 1: Test with earthworms (Eisenia fetida and Eisenia andrei) (ISO 17512-1:2008)

Bodenbeschaffenheit - Vermeidungsprüfung zur Bestimmung der Bodenbeschaffenheit und der Auswirkungen von Chemikalien auf das Verhalten - Teil 1: Prüfung von Regenwürmern (Eisenia fetida und Eisenia andrei) (ISO 17512-1:2008)

Qualité du sol - Essai d'évitement pour contrôler la qualité des sols et les effets des produits chimiques sur le comportement - Partie 1: Essai avec des vers de terre (Eisenia fetida et Eisenia andrei) (ISO 17512-1:2008)

Ta slovenski standard je istoveten z: **EN ISO 17512-1:2020**

ICS:

13.080.30	Biološke lastnosti tal	Biological properties of soils

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 17512-1

May 2020

ICS 13.080.30

English Version

Soil quality - Avoidance test for determining the quality of soils and effects of chemicals on behaviour - Part 1: Test with earthworms (Eisenia fetida and Eisenia andrei) (ISO 17512-1:2008)

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

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

Ref. No. EN ISO 17512-1:2020 E

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European foreword

The text of ISO 17512-1:2008 has been prepared by Technical Committee ISO/TC 190 "Soil quality" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 17512-1:2020 by Technical Committee CEN/TC 444 "Environmental characterization of solid matrices" the secretariat of which is held by NEN.

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of an identical text or by endorsement, at the latest by November 2020, and conflicting national standards shall be withdrawn at the latest by November 2020.

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Endorsement notice

The text of ISO 17512-1:2008 has been approved by CEN as EN ISO 17512-1:2020 without any modification.

INTERNATIONAL STANDARD

ISO 17512-1

First edition
2008-12-15

Soil quality — Avoidance test for determining the quality of soils and effects of chemicals on behaviour —

Part 1: Test with earthworms (*Eisenia fetida* and *Eisenia andrei*)

Qualité du sol — Essai d'évitement pour contrôler la qualité des sols et les effets des produits chimiques sur le comportement —

*Partie 1: Essai avec des vers de terre (*Eisenia fetida *et* Eisenia andrei*)*

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Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
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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.

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.

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ISO 17512-1 was prepared by Technical Committee ISO/TC 190, *Soil quality*, Subcommittee SC 4, *Biological methods*.

ISO 17512 consists of the following parts, under the general title *Soil quality — Avoidance test for determining the quality of soils and effects of chemicals on behaviour*:

— *Part 1: Test with earthworms (*Eisenia fetida *and* Eisenia andrei*)*

The following part is under preparation:

— *Part 2: Test with collembolans (*Folsomia candida*)*

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). ISO 15799 includes a list and short characterisation of recommended and standardised test systems. 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 standardised test systems, a mortality test (ISO 11268-1) and a reproduction test (ISO 11268-2) exist to investigate the habitat function of a soil with respect to earthworms as representatives of the soil biocenosis.

The reproduction test with earthworms (ISO 11268-2) is applied to detect effects resulting from sublethal concentrations. Such endpoints are preferably applied to obtain information on environmental effects. However, the reproduction test is very labour-intensive and time-consuming, needing long incubation periods with results obtained only after 56 days. As the test period and the work expense dictate the costs of a given test, it is preferable to obtain the results within a short test period and at a high level of sensitivity. That is especially the case for the assessment of remediated soils. This feature is offered by the avoidance test with *Eisenia fetida* and *Eisenia andrei*. Experiences gained in a laboratory comparison test with eight contaminated soils in three laboratories point out that the avoidance test is as sensitive as the reproduction test (Reference [5]). However, it is not intended to use this test to replace the earthworm reproduction test.

NOTE The results were compared with those of the earthworm acute and reproduction tests carried out with the same soils. The results showed that with a criterion of > 80 % avoidance response, a 72 % agreement of the results was achieved.