

# SLOVENSKI STANDARD

## SIST EN ISO 11269-2:2013

01-maj-2013

Nadomešča:  
SIST ISO 11269-2:2006

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### Kakovost tal - Vpliv onesnaževal na talno floro - 2. del: Vpliv onesnaženih tal na kalitev in rast višjih rastlin (ISO 11269-2:2012)

Soil quality - Determination of the effects of pollutants on soil flora - Part 2: Effects of contaminated soil on the emergence and early growth of higher plants (ISO 11269-2:2012)

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Bodenbeschaffenheit - Bestimmung der Wirkungen von Schadstoffen auf die Bodenflora - Teil 2: Wirkung von kontaminierten Böden auf Saataufgang und frühes Wachstum höherer Pflanzen (ISO 11269-2:2012)

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Qualité du sol - Détermination des effets des polluants sur la flore du sol - Partie 2: Effets des sols contaminés sur l'émergence et la croissance des végétaux supérieurs (ISO 11269-2:2012)

**Ta slovenski standard je istoveten z: EN ISO 11269-2:2013**

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#### **ICS:**

13.080.30      Biološke lastnosti tal      Biological properties of soils

**SIST EN ISO 11269-2:2013**      en,fr,de

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN ISO 11269-2**

February 2013

ICS 13.080.30

English Version

**Soil quality - Determination of the effects of pollutants on soil  
flora - Part 2: Effects of contaminated soil on the emergence and  
early growth of higher plants (ISO 11269-2:2012)**

Qualité du sol - Détermination des effets des polluants sur  
la flore du sol - Partie 2: Effets des sols contaminés sur  
l'émergence et la croissance des végétaux supérieurs (ISO  
11269-2:2012)

Bodenbeschaffenheit - Bestimmung der Wirkungen von  
Schadstoffen auf die Bodenflora - Teil 2: Wirkung von  
verunreinigten Böden auf Saataufgang und frühes  
Wachstum höherer Pflanzen (ISO 11269-2:2012)

This European Standard was approved by CEN on 5 February 2013.

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-CENELEC 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-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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



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COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

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## Foreword

The text of ISO 11269-2:2012 has been prepared by Technical Committee ISO/TC 190 “Soil quality” of the International Organization for Standardization (ISO) and has been taken over as EN ISO 11269-2:2013 by Technical Committee CEN/TC 345 “Characterization of soils” 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 August 2013, and conflicting national standards shall be withdrawn at the latest by August 2013.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

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, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## iTeh STANDARD PREVIEW Endorsement notice (standards.iteh.ai)

The text of ISO 11269-2:2012 has been approved by CEN as EN ISO 11269-2:2013 without any modification.

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# INTERNATIONAL STANDARD

**ISO**  
**11269-2**

Third edition  
2012-01-15

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## Soil quality — Determination of the effects of pollutants on soil flora —

Part 2:

### Effects of contaminated soil on the emergence and early growth of higher plants

**iTeh STANDARD PREVIEW**  
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*Qualité du sol — Détermination des effets des polluants sur la flore du  
sol —*

*Partie 2: Effets des sols contaminés sur l'émergence et la croissance  
des végétaux supérieurs*

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Reference number  
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## ISO 11269-2:2012(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 11269-2 was prepared by Technical Committee ISO/TC 190, *Soil quality*, Subcommittee SC 4, *Biological methods*.

This third edition cancels and replaces the second edition (ISO 11269-2:2005), which has been technically revised.

ISO 11269 consists of the following parts, under the general title *Soil quality — Determination of the effects of pollutants on soil flora*:

- Part 1: Method for the measurement of inhibition of root growth
- Part 2: Effects of contaminated soil on the emergence and early growth of higher plants

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## Introduction

This part of ISO 11269 describes a procedure for evaluating the quality of soils of different origin carrying unknown contaminations. The evaluation of the effects on plant growth is based on emergence and inhibitory effects on early growth of at least two species of higher plants. Guidance for assessing potential effects of substances on seedling emergence and growth is given in OECD Guideline 208<sup>[14]</sup>.

This part of ISO 11269 refers closely to ISO 22030 and is based on:

- a) results from the German research project “Entwicklung eines innovativen und technischen Instrumentariums zur Optimierung der ökotoxikologischen Bewertung von Böden im Hinblick auf Sanierungsziele und Schutzerfordernisse”;
- b) discussions within the joint project “Ecotoxicological Test Batteries” forming part of the BMBF Joint Research Group “Processes for the Bioremediation of Soil”<sup>[23]</sup>;
- c) results from the BMBF Joint Research Group ERNTE “Erprobung und Vorbereitung einer praktischen Nutzung ökotoxikologischer Testsysteme”<sup>[17]</sup>;
- d) ring-test results of “Ecotoxicological Characterisation of Waste — Results and Experiences from an International Ring Test”<sup>[8]</sup>.

Plant growth can be influenced strongly by soil properties such as texture, pH or levels of nutrients. When testing natural soils either reference soils (uncontaminated soils with the same properties as the test soil) or standard soils are used as mixing and control substrate. In the latter case, variations in plant growth can result from either soil contaminants or differences in soil properties like nutrients and texture. Therefore, results from soil testing can less easily be interpreted than results from testing of chemicals .

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