SLOVENSKI STANDARD
SIST EN ISO 18763:2020

01-november-2020

Kakovost tal - Določanje toksičnih učinkov onesnaževal na kalivost in zgodnjo rast višjih rastlin (ISO 18763:2016)

Soil quality - Determination of the toxic effects of pollutants on germination and early growth of higher plants (ISO 18763:2016)

Bodenbeschaffenheit - Bestimmung der toxischen Wirkung von Schadstoffen auf die Keimung und das frühe Wachstum höherer Pflanzen (ISO 18763:2016)

Qualité du sol - Détermination des effets toxiques des polluants sur la germination et les premiers stades de croissance des végétaux supérieurs (ISO 18763:2016)

Ta slovenski standard je istoveten z: **EN ISO 18763:2020**

ICS:

13.080.30	Biološke lastnosti tal	Biological properties of soils

SIST EN ISO 18763:2020 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 18763

April 2020

ICS 13.080.30

English Version

Soil quality - Determination of the toxic effects of pollutants on germination and early growth of higher plants (ISO 18763:2016)

Qualité du sol - Détermination des effets toxiques des polluants sur la germination et la croissance primaire des plantes supérieures (ISO 18763:2016)

Bodenbeschaffenheit - Bestimmung der toxischen Wirkung von Schadstoffen auf die Keimung und das frühe Wachstum höherer Pflanzen (ISO 18763:2016)

This European Standard was approved by CEN on 13 April 2020.

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

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European foreword

The text of ISO 18763:2016 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 18763:2020 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of an identical text or by endorsement, at the latest by October 2020, and conflicting national standards shall be withdrawn at the latest by October 2020.

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Endorsement notice

The text of ISO 18763:2016 has been approved by CEN as EN ISO 18763:2020 without any modification.

INTERNATIONAL STANDARD

ISO 18763

First edition
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Soil quality — Determination of the toxic effects of pollutants on germination and early growth of higher plants

Qualité du sol — Détermination des effets toxiques des polluants sur la germination et la croissance primaire des plantes supérieures

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 190, *Soil quality*, Subcommittee SC 4, *Biological methods*.

Introduction

Ecotoxicological testing of test soils or waste materials to be disposed on soil are required to assess the potential environmental risk resulting from soil pollution or the disposal of wastes such as sewage sludge on farmland. There is also a need to monitor the quality of soil after reclamation of industrial sites. Therefore, a very practical and rapid germination and growth test has been developed based on seed germination and seedling growth in controlled environmental conditions.

The assay, which does not require any pretreatment of the seeds, is performed in "transparent test plates", incubated vertically, to allow the roots and the shoots of the germinated seeds to be seen. After 72 h exposure, a picture of the transparent test plates is taken and can be analysed "by image analysis" for multiple endpoints, such as percentage of seed germination and of length of roots and shoots. To account for the plant species variability in sensitivity, the assays are performed with the seeds of three plant species: one monocotyl (*Sorghum saccharatum*) and two dicotyls (*Lepidium sativum* and *Sinapis alba*).

A major advantage of this test is that after the shooting and storing of the pictures of the test plates, the measurements by image analysis can be postponed to any appropriate timing.

Reference or standard soils can be used as negative controls, such as, for example, the ISO standard artificial soil according to ISO 11269-1 and ISO 11269-2.

Commercially available seeds, with a shelf life longer than one year, allow the use of this test at any time of the year.

Two International interlaboratory comparisons demonstrated that the test provides good results.

A substantial number of studies report data on the application of this test on various types of soils and soil materials with several types of plant species.