SLOVENSKI STANDARD
SIST EN ISO 18187:2018

01-julij-2018

Kakovost tal - Kontaktni preskus za trdne vzorce z dehidrogenazno aktivnostjo Arthrobacter globiformis (ISO 18187:2016)

Soil quality - Contact test for solid samples using the dehydrogenase activity of Arthrobacter globiformis (ISO 18187:2016)

Bodenbeschaffenheit - Feststoffkontakttest unter Verwendung der Dehydrogenaseaktivität von Arthrobacter globiformis (ISO 18187:2016)

Qualité du sol - Essai contact pour échantillons solides utilisant l'activité déshydrogénase de Arthrobacter globiformis (ISO 18187:2016)

Ta slovenski standard je istoveten z: **EN ISO 18187:2018**

ICS:

13.080.30	Biološke lastnosti tal	Biological properties of soils

SIST EN ISO 18187:2018 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 18187

February 2018

ICS 13.080.30

English Version

Soil quality - Contact test for solid samples using the dehydrogenase activity of Arthrobacter globiformis (ISO 18187:2016)

Qualité du sol - Essai contact pour échantillons solides utilisant l'activité déshydrogénase de Arthrobacter globiformis (ISO 18187:2016)

Bodenbeschaffenheit - Feststoffkontakttest unter Verwendung der Dehydrogenaseaktivität von Arthrobacter globiformis (ISO 18187:2016)

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

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Ref. No. EN ISO 18187:2018 E

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European foreword

The text of ISO 18187:2016 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 18187:2018 by Technical Committee CEN/TC 444 “Test methods for 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of an identical text or by endorsement, at the latest by August 2018, and conflicting national standards shall be withdrawn at the latest by August 2018.

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Endorsement notice

The text of ISO 18187:2016 has been approved by CEN as EN ISO 18187:2018 without any modification.

INTERNATIONAL STANDARD

ISO 18187

First edition
2016-05-01

Soil quality — Contact test for solid samples using the dehydrogenase activity of *Arthrobacter globiformis*

Qualité du sol — Essai contact pour échantillons solides utilisant l'activité déshydrogénase de Arthrobacter globiformis

Reference number
ISO 18187:2016(E)

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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

This International Standard describes the miniaturized solid contact assay with *Arthrobacter globiformis* that allows the preliminary assessment of solid material (i.e. soil and waste materials) within 6 h. The principle of the assay relies on dehydrogenase activity inhibition of an added test organism, caused by bioavailable toxic substances in soil and waste samples. This is an ecologically relevant assay as far as it uses a ubiquitous soil bacteria species with high affinity to surfaces[16][6] which dehydrogenases are involved in different biological mechanisms withstanding bacteria integrity (e.g. respiratory chains). Moreover, it has been noticed that this parameter (dehydrogenase activity inhibition) is quite sensitive to different toxic substances.[19][10][14][15]

Overall, this assay is non-labour-intensive, rapid, cost-effective and sensitive, providing results that improve the physical and chemical assessment of natural samples while allowing a quick indication of their biological effects.

The miniaturized solid contact assay is based on the solid contact assay established by Reference [7].

This International Standard is also based on Reference [23].

The results of an interlaboratory trial towards the evaluation of test variability to assess different waste and soil samples, as well as chemicals, are presented in Annex A.