SLOVENSKI STANDARD
SIST EN ISO 23161:2012

01-februar-2012

Kakovost tal - Določevanje izbranih organokositrovih spojin - Metoda plinske kromatografije (ISO 23161:2009)

Soil quality - Determination of selected organotin compounds - Gas-chromatographic method (ISO 23161:2009)

Bodenbeschaffenheit - Bestimmung ausgewählter Organozinnverbindungen - Gaschromatographisches Verfahren (ISO 23161:2009)

Qualité du sol - Dosage d'une sélection de composés organostanniques - Méthode par chromatographie en phase gazeuse (ISO 23161:2009)

Ta slovenski standard je istoveten z: **EN ISO 23161:2011**

ICS:

13.080.10	Kemijske značilnosti tal	Chemical characteristics of soils

SIST EN ISO 23161:2012 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 23161

August 2011

ICS 13.080.10

English Version

Soil quality - Determination of selected organotin compounds - Gas-chromatographic method (ISO 23161:2009)

Qualité du sol - Dosage d'une sélection de composés organostanniques - Méthode par chromatographie en phase gazeuse (ISO 23161:2009)

Bodenbeschaffenheit - Bestimmung ausgewählter Organozinnverbindungen - Gaschromatographisches Verfahren (ISO 23161:2009)

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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Foreword

The text of ISO 23161:2009 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 23161:2011 by Technical Committee CEN/TC 308 “Characterization of sludges” the secretariat of which is held by AFNOR.

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of an identical text or by endorsement, at the latest by February 2012, and conflicting national standards shall be withdrawn at the latest by February 2012.

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Endorsement notice

The text of ISO 23161:2009 has been approved by CEN as a EN ISO 23161:2011 without any modification.

INTERNATIONAL STANDARD

ISO 23161

First edition
2009-09-01

Soil quality — Determination of selected organotin compounds — Gas-chromatographic method

Qualité du sol — Dosage d'une sélection de composés organostanniques — Méthode par chromatographie en phase gazeuse

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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 23161 was prepared by Technical Committee ISO/TC 190, *Soil quality*, Subcommittee SC 3, *Chemical methods and soil characteristics*.

Introduction

It is absolutely essential that tests conducted in accordance with this International Standard be carried out by suitably qualified staff.

It can be noted whether, and to what extent, particular problems will require the specification of additional boundary conditions.

Soil quality — Determination of selected organotin compounds — Gas-chromatographic method

WARNING — Persons using this International Standard should be familiar with normal laboratory practice. This International Standard does not purport to address all of the safety problems, if any, associated with its use. It is the responsibility of the user to establish appropriate safety and health practices and to ensure compliance with any national regulatory conditions.

1 Scope

This International Standard specifies a gas-chromatographic method for the identification and quantification of organotin compounds (OTCs) in soils as specified in Table 1. The method is also applicable to samples from sediments, sludges and wastes (soil-like materials). The working range depends on the detection technique used and the amount of sample taken for analysis. The limit of quantification for each compound is about 10 µg/kg.

Table 1 — Organotin compound, which can be determined in accordance with this International Standard

$R_nSn^{(4-n)+}$	R	n	Name	Acronym
Organotin cations[a]				
$BuSn^{3+}$	Butyl	1	Monobutyltin cation	MBT
Bu_2Sn^{2+}	Butyl	2	Dibutyltin cation	DBT
Bu_3Sn^{+}	Butyl	3	Tributyltin cation	TBT
$OcSn^{3+}$	Octyl	1	Monooctyltin cation	MOT
Oc_2Sn^{2+}	Octyl	2	Dioctyltin cation	DOT
Ph_3Sn^{+}	Phenyl	3	Triphenyltin cation	TPhT
Cy_3Sn^{+}	Cyclohexyl	3	Tricyclohexyltin cation	TCyT
Peralkylated organotin				
Bu_4Sn	Butyl	4	Tetrabutyltin	TTBT

[a] Organotin compounds are measured after derivatization.

NOTE When applying this method to the determination of other organotin compounds not specified in the scope, its suitability is proven by proper in-house validation experiments, e.g. methyltin compounds. See Table 2. Methyltin cations are unlikely to evaporate from aqueous solvents, but peralkylated methyltin compounds are volatile and subject to losses (see C.3). Therefore, additional precautions are established.

Table 2 — Methyltin compounds

$R_nSn^{(4-n)+}$	R	n	Name	Acronym
$MeSn^{3+}$	Methyl	1	Monomethyltin cation	MMT
Me_2Sn^{2+}	Methyl	2	Dimethyltin cation	DMT
Me_3Sn^{+}	Methyl	3	Trimethyltin cation	TMT