

Water quality - Determination of selected phenoxyalkanoic herbicides, including bentazones and hydroxybenzonitriles by gas chromatography and mass spectrometry after solid phase extraction and derivatization

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN ISO 15913:2003 sisaldab Euroopa standardi EN ISO 15913:2003 ingliskeelset teksti. Käesolev dokument on jõustatud 06.06.2003 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN ISO 15913:2003 consists of the English text of the European standard EN ISO 15913:2003. This document is endorsed on 06.06.2003 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.
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Käsitlusala: This International Standard specifies a method for the determination of phenoxyalkanoic acids in ground and drinkin water in mass concentrations ≥ 50 ng/l (detailed information is given in Table A. 1 of annex A)	Scope: This International Standard specifies a method for the determination of phenoxyalkanoic acids in ground and drinkin water in mass concentrations ≥ 50 ng/l (detailed information is given in Table A. 1 of annex A)
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ICS 13.060.50

Võtmesõnad:

English version

Water quality – Determination of selected phenoxyalkanoic herbicides, including bentazones and hydroxybenzonitriles by gas chromatography and mass spectrometry after solid phase extraction and derivatization
(ISO 15913 : 2000)

Qualité de l'eau – Dosage de certain herbicides phénoxyalcanoïques, y compris bentazones et hydroxybenzonitriles, par chromatographie en phase gazeuse et spectrométrie de masse après extraction en phase solide et dérivation (ISO 15913 : 2000)

Wasserbeschaffenheit – Bestimmung von ausgewählten Phenoxyalkancarbonsäure-Herbiziden, einschließlich Bentazon und Hydroxybenzonitrilen mittels Gaschromatographie und massenspektrometrischer Detektion nach Fest-Flüssig-Extraktion und Derivatisierung (ISO 15913 : 2000)

This European Standard was approved by CEN on 2003-01-09.

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 Management Centre or to any CEN member.

The European Standards exist 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, the Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland, and the United Kingdom.

CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Management Centre: rue de Stassart 36, B-1050 Brussels

Foreword

International Standard

ISO 15913 : 2000 Water quality – Determination of selected phenoxyalkanoic herbicides, including benta-zones and hydroxybenzonitriles by gas chromatography and mass spectrometry after solid phase extraction and derivatization,

which was prepared by ISO/TC 147 'Water quality' of the International Organization for Standardization, has been adopted by Technical Committee CEN/TC 230 'Water analysis', the Secretariat of which is held by DIN, as a European Standard.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, and conflicting national standards withdrawn, by September 2003 at the latest.

In accordance with the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard:

Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, the Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland, and the United Kingdom.

Endorsement notice

The text of the International Standard ISO 15913 : 2000 was approved by CEN as a European Standard without any modification.

NOTE: Normative references to international publications are listed in Annex ZA (normative).

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WARNING — Diazomethane is explosive, extremely toxic and severely irritating, causing pulmonary oedema when inhaled in high concentrations. Long-term, low-level exposure may lead to sensitization, resulting in asthma-like symptoms. Also, diazomethane and several of its chemical precursors have been cited as carcinogens.

1 Scope

This International Standard specifies a method for the determination of phenoxyalkanoic acids in ground and drinking water in mass concentrations ≥ 50 ng/l (detailed information is given in Table A.1 of annex A). Examples of phenoxyalkanoic acids which can be determined by this method are given in Table 1.

This method may be applicable to compounds not mentioned in Table 1 or to other types of water. However, it is necessary to verify the applicability of this method for these special cases (see annex B).

Table 1 — Plant treatment agents determined by this method

Name	Molecular formula	Relative molecular mass	CAS registry No.
(2,4-Dichlorophenoxy) acetic acid	$C_8H_6Cl_2O_3$	221,0	94-75-7
Mecoprop	$C_{10}H_{11}ClO_3$	214,65	93-65-2
Dichloroprop	$C_9H_8Cl_2O_3$	235,06	120-36-5
MCPA	$C_9H_9ClO_3$	200,6	94-74-6
MCPB	$C_{11}H_{13}ClO_3$	228,67	94-81-5
(2,4,5-Trichlorophenoxy)acetic acid	$C_8H_5Cl_3O_3$	255,5	93-76-5
Bentazone	$C_{10}H_{12}N_2O_3S$	240,3	25057-89-0
Bromoxynil	$C_7H_5Br_2NO$	276,9	1689-84-5
4-(2,4-Dichlorophenoxy)-butanoic acid	$C_{10}H_{10}Cl_2O_3$	249,1	94-82-6
Fenoprop	$C_9H_7Cl_3O_3$	269,51	93-72-1

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 5667-1:1980, *Water quality — Sampling — Part 1: Guidance on the design of sampling programmes*.

ISO 5667-2:1991, *Water quality — Sampling — Part 2: Guidance on sampling techniques*.

ISO 5667-3:1994, *Water quality — Sampling — Part 3: Guidance on the preservation and handling of samples*.

3 Term, definition, abbreviations and subscripts

3.1 Term and definition

For the purposes of this International Standard, the following term and definition applies.

3.1.1

phenoxyalkanoic herbicides

herbicides which undergo derivatization with diazomethane and which may subsequently be determined by gas chromatography

EXAMPLE Typical phenoxyalkanoic herbicides include alkylhalogenated phenoxy acids, hydroxybenzonitriles and bentazone.

3.2 Abbreviations

2,4-D (2,4-dichlorophenoxy) acetic acid

2,4-DB 4-(2,4-dichlorophenoxy) butanoic acid

2,4-DP dichlorprop

MCPP mecoprop

2,4,5-T (2,4,5-trichlorophenoxy) acetic acid

2,4-TP fenoprop

3.3 Subscripts

c calibration step using an external standard

g overall procedure

i identity of the substance *i*

is internal standard

j consecutive figure *j* for pairs of values

sam sample

sol solvent