



NSAI
Standards

Irish Standard
I.S. EN ISO 27108:2013

Water quality - Determination of selected plant treatment agents and biocide products - Method using solid-phase microextraction (SPME) followed by gas chromatography-mass spectrometry (GC-MS) (ISO 27108:2010)

I.S. EN ISO 27108:2013

Incorporating amendments/corrigenda/National Annexes issued since publication:

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard – national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation - recommendation based on the consensus of an expert panel and subject to public consultation.

SWIFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

This document replaces:

This document is based on:
EN ISO 27108:2013

Published:
27 August, 2013

This document was published under the authority of the NSAI and comes into effect on:
27 August, 2013

ICS number:

13.060.50

NSAI
1 Swift Square,
Northwood, Santry
Dublin 9

T +353 1 807 3800
F +353 1 807 3838
E standards@nsai.ie
W NSAI.ie

Sales:
T +353 1 857 6730
F +353 1 857 6729
W standards.ie

Údarás um Chaighdeáin Náisiúnta na hÉireann

ICS 13.060.50

English Version

**Water quality - Determination of selected plant treatment agents
and biocide products - Method using solid-phase microextraction
(SPME) followed by gas chromatography-mass spectrometry
(GC-MS) (ISO 27108:2010)**

Qualité de l'eau - Détermination d'agents de traitement et
de produits d'usine sélectionnés - Méthode utilisant une
micro-extraction en phase solide (MEPS) suivie d'une
chromatographie en phase gazeuse-spectrométrie de
masse (CG-SM) (ISO 27108:2010)

Wasserbeschaffenheit - Bestimmung ausgewählter
Pflanzenschutzmittel und Biozidprodukte - Verfahren
mittels Festphasenmikroextraktion (SPME) gefolgt von der
Gaschromatographie und Massenspektrometrie (GC-MS)
(ISO 27108:2010)

This European Standard was approved by CEN on 12 April 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.



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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

Page

Foreword.....3

Foreword

The text of ISO 27108:2010 has been prepared by Technical Committee ISO/TC 147 "Water quality" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 27108:2013 by Technical Committee CEN/TC 230 "Water analysis" the secretariat of which is held by DIN.

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 2014, and conflicting national standards shall be withdrawn at the latest by February 2014.

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.

Endorsement notice

The text of ISO 27108:2010 has been approved by CEN as EN ISO 27108:2013 without any modification.

This page is intentionally left BLANK.

I.S. EN ISO 27108:2013
**INTERNATIONAL
STANDARD**

**ISO
27108**

First edition
2010-04-15

**Water quality — Determination of
selected plant treatment agents and
biocide products — Method using solid-
phase microextraction (SPME) followed
by gas chromatography-mass
spectrometry (GC-MS)**

*Qualité de l'eau — Détermination d'agents de traitement et de produits
d'usine sélectionnés — Méthode utilisant une micro-extraction en phase
solide (MEPS) suivie d'une chromatographie en phase gazeuse-
spectrométrie de masse (CG-SM)*



Reference number
ISO 27108:2010(E)

© ISO 2010

PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.



COPYRIGHT PROTECTED DOCUMENT

© ISO 2010

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

Contents

Page

Foreword	iv
Introduction.....	v
1 Scope	1
2 Normative references	1
3 Principle.....	1
4 Interferences	2
5 Reagents.....	4
6 Apparatus	5
7 Sampling and sample pretreatment	6
8 Procedure	6
9 Calibration	8
10 Calculation	11
11 Expression of results	11
12 Test report.....	11
Annex A (informative) Examples of gas chromatograms for compounds listed in Table 1	12
Annex B (informative) Mass spectra of compounds of Table 1 (full-scan, EI, 70 eV)	21
Annex C (informative) Precision data	35
Annex D (informative) General information about SPME	36
Bibliography.....	37

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 27108 was prepared by Technical Committee ISO/TC 147, *Water quality*, Subcommittee SC 2, *Physical, chemical and biochemical methods*.

Introduction

In recent years, ground water contamination as well as surface water contamination by pesticides has become a matter of public concern. Identification and quantification of pesticides at trace level concentrations often require both high sensitive chromatographic equipment and effective enrichment steps. In the analysis of aqueous samples, sample preparation techniques including solid-phase extraction (SPE) are frequently the most time-consuming steps and in many cases can be effectively replaced by solid-phase microextraction (SPME).

When using this International Standard, it may be necessary in some cases to determine whether and to what extent particular problems could require the specification of additional marginal conditions.

Water quality — Determination of selected plant treatment agents and biocide products — Method using solid-phase microextraction (SPME) followed by gas chromatography-mass spectrometry (GC-MS)

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.

IMPORTANT — It is absolutely essential that tests conducted according to this International Standard be carried out by suitably trained staff.

1 Scope

This International Standard specifies a method for the determination of the dissolved amount of selected plant treatment agents and biocide products in drinking water, ground water and surface water by solid-phase microextraction (SPME) followed by gas chromatography-mass spectrometry (GC-MS). The limit of determination depends on the matrix, on the specific compound to be analysed and on the sensitivity of the mass spectrometer. For most plant treatment agents and biocides to which this International Standard applies, it is at least 0,05 µg/l. Validation data related to a concentration range between 0,05 µg/l and 0,3 µg/l have been demonstrated in an interlaboratory trial.

This method may be applicable to other compounds not explicitly covered by this International Standard or to other types of water. However, it is necessary to verify the applicability of this method for these special cases.

NOTE Determinations by this International Standard are performed on small sample amounts (e.g. sample volumes between 8 ml and 16 ml).

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 3696, *Water for analytical laboratory use — Specification and test methods*

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

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

3 Principle

Substances under investigation are extracted from the water sample by solid-phase microextraction (SPME) according to their equilibrium of distribution. The extraction is performed by a chemically modified fused-silica

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

-
- [Looking for additional Standards? Visit Intertek Inform Infostore](#)
 - [Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation](#)
-