

**SLOVENSKI STANDARD
kSIST FprEN ISO 11704:2015
01-maj-2015**

Kakovost vode - Merjenje skupne koncentracije aktivnosti alfa in skupne koncentracije aktivnosti beta v neslanih vodah - Metoda štetja s tekočinskim scintilatorjem (ISO 11704:2010)

Water quality - Measurement of gross alpha and beta activity concentration in non-saline water - Liquid scintillation counting method (ISO 11704:2010)

Wasserbeschaffenheit - Bestimmung der Gesamt-Alpha- und Gesamt-Beta-Aktivität in nicht-salzhaltigem Wasser - Verfahren mit dem Flüssigszintillationszähler (ISO 11704:2010)

[SIST EN ISO 11704:2015](#)

<https://standards.iteh.ai/catalog/standards/sist/c0eeb1e3-9550-41da-ba59->
Qualité de l'eau - Mesurage des activités alpha globale et bêta globale des eaux non salines - Méthode de comptage par scintillation liquide (ISO 11704:2010)

Ta slovenski standard je istoveten z: FprEN ISO 11704

ICS:

13.060.60	Preiskava fizikalnih lastnosti vode	Examination of physical properties of water
17.240	Merjenje sevanja	Radiation measurements

kSIST FprEN ISO 11704:2015

en,de

**EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM**

**FINAL DRAFT
FprEN ISO 11704**

January 2015

ICS 13.060.60; 17.240

English Version

Water quality - Measurement of gross alpha and beta activity concentration in non-saline water - Liquid scintillation counting method (ISO 11704:2010)

Qualité de l'eau - Mesurage des activités alpha globale et bêta globale des eaux non salines - Méthode de comptage par scintillation liquide (ISO 11704:2010)

Wasserbeschaffenheit - Bestimmung der Gesamt-Alpha- und Gesamt-Beta-Aktivität in nicht-salzhaltigem Wasser - Verfahren mit dem Flüssigszintillationszähler (ISO 11704:2010)

This draft European Standard is submitted to CEN members for unique acceptance procedure. It has been drawn up by the Technical Committee CEN/TC 230.

If this draft becomes a European Standard, 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.

This draft European Standard was established by CEN 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.

Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Warning : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.



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

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

FprEN ISO 11704:2015 (E)

Contents	Page
Foreword.....	3

iTeh STANDARD PREVIEW (standards.iteh.ai)

SIST EN ISO 11704:2015

<https://standards.iteh.ai/catalog/standards/sist/c0eeb1e3-9550-41da-ba59-17459a04b863/sist-en-iso-11704-2015>

Foreword

The text of ISO 11704:2010 has been prepared by Technical Committee ISO/TC 147 "Water quality" of the International Organization for Standardization (ISO) and has been taken over as FprEN ISO 11704:2015 by Technical Committee CEN/TC 230 "Water analysis" the secretariat of which is held by DIN.

This document is currently submitted to the Unique Acceptance Procedure.

Endorsement notice

The text of ISO 11704:2010 has been approved by CEN as FprEN ISO 11704:2015 without any modification.

iTeh STANDARD PREVIEW (standards.iteh.ai)

SIST EN ISO 11704:2015

<https://standards.iteh.ai/catalog/standards/sist/c0eeb1e3-9550-41da-ba59-17459a04b863/sist-en-iso-11704-2015>

INTERNATIONAL STANDARD

ISO
11704

First edition
2010-07-01

Water quality — Measurement of gross alpha and beta activity concentration in non-saline water — Liquid scintillation counting method

Qualité de l'eau — Mesurage des activités alpha globale et bêta globale des eaux non salines — Méthode de comptage par scintillation liquide

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN ISO 11704:2015](#)

<https://standards.iteh.ai/catalog/standards/sist/c0eeb1e3-9550-41da-ba59-17459a04b863/sist-en-iso-11704-2015>



Reference number
ISO 11704:2010(E)

© ISO 2010

ISO 11704:2010(E)**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.

iTeh STANDARD PREVIEW (standards.iteh.ai)

SIST EN ISO 11704:2015

<https://standards.iteh.ai/catalog/standards/sist/c0eeb1e3-9550-41da-ba59-17459a04b863/sist-en-iso-11704-2015>



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
1 Scope	1
2 Normative references	1
3 Symbols, definitions and units	2
4 Principle	2
5 Reagents and equipment	3
6 Sampling	4
7 Procedure	4
7.1 Direct counting	4
7.2 Thermal preconcentration	5
7.3 Sample preparation	5
7.4 Liquid scintillation measurement	5
8 Expression of results	7
8.1 Calculation of activity per unit of mass	7
8.2 Standard uncertainty	8
8.3 Decision threshold	8
8.4 Detection limit	9
8.5 Confidence limits	9
8.6 Quality control	10
9 Interference control	10
9.1 Contamination	10
9.2 Ingrowth of radon	10
9.3 Loss of polonium	10
10 Test report	10
Bibliography	12

ISO 11704:2010(E)**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 11704 was prepared by Technical Committee ISO/TC 147, *Water quality*.

iTeh STANDARD PREVIEW (standards.iteh.ai)

SIST EN ISO 11704:2015

<https://standards.iteh.ai/catalog/standards/sist/c0eeb1e3-9550-41da-ba59-17459a04b863/sist-en-iso-11704-2015>

Water quality — Measurement of gross alpha and beta activity concentration in non-saline water — Liquid scintillation counting method

WARNING — Persons using this International Standard should be familiar with normal laboratory practice. This 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 gross alpha and gross beta activity in waters for radionuclides which are not volatile at 80 °C. Radon isotopes and their decay products of short half life are not included in the determination.

The method is applicable to raw and potable waters with a dry residue less than 5 g/l and when no correction for colour quenching is necessary.

[SIST EN ISO 11704:2015](#)

2 Normative references

[http://www.iso.org/iso/catalog/standards/sist/c0eeb1e3-9550-41da-ba59-17459a04b863/sist-en-iso-11704-2015](#)

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

ISO/IEC 17025, *General requirements for the competence of testing and calibration laboratories*

ISO 80000-10, *Quantities and units — Part 10: Atomic and nuclear physics*