
Water quality — Gross beta activity — Test method using thick source

*Qualité de l'eau — Activité bêta globale — Méthode d'essai par
source épaisse*

iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

[ISO 9697:2018](https://standards.iteh.ai/catalog/standards/iso/f362970b-2b5d-4c74-bda1-7ed477ec92d8/iso-9697-2018)

<https://standards.iteh.ai/catalog/standards/iso/f362970b-2b5d-4c74-bda1-7ed477ec92d8/iso-9697-2018>



iTeh Standards
(<https://standards.itih.ai>)
Document Preview

ISO 9697:2018

<https://standards.itih.ai/catalog/standards/iso/f362970b-2b5d-4c74-bda1-7ed477ec92d8/iso-9697-2018>



COPYRIGHT PROTECTED DOCUMENT

© ISO 2018

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Fax: +41 22 749 09 47
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms, definitions, symbols and units	2
4 Principle	3
5 Reagents and equipment	3
5.1 Reagents	3
5.2 Equipment	4
6 Procedure	4
6.1 Sampling	4
6.2 Pre-treatment	4
6.3 Concentration stage	5
6.4 Sulfation stage	5
6.5 Ignition stage	5
6.6 Source preparation	5
6.7 Measurement	6
6.8 Determination of counting background	6
6.9 Preparation of calibration sources	6
6.10 Sensitivity and bias	7
6.11 Optimization of the determination	7
7 Source control	7
7.1 Contamination check	7
7.2 Potential disequilibrium of radionuclides	7
8 Expression of results	7
8.1 Calculation of activity concentration	7
8.2 Standard uncertainty	8
8.3 Decision threshold	9
8.4 Detection limit	9
8.5 Confidence limits	9
9 Test report	10
Annex A (informative) Example of performance criteria	11
Bibliography	12

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.

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).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 147, *Water quality*, Subcommittee SC 3, *Radioactivity measurements*.

This fourth edition cancels and replaces the third edition (ISO 9697:2015), of which it constitutes a minor revision. The changes compared to the previous edition are as follows:

- the title has been changed from “Gross beta activity in non-saline water” to “Gross beta activity”;
- the Introduction has been reworded;
- [Formulae \(10\)](#) and [\(11\)](#) have been corrected to replace $\pm$ by α in the index of r ;
- the units have been corrected so that mm² and mol/l are used throughout.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.