

ILNAS

Institut luxembourgeois de la normalisation
de l'accréditation, de la sécurité et qualité
des produits et services

ILNAS-EN ISO 15681-1:2004

Water quality - Determination of orthophosphate and total phosphorus contents by flow analysis (FIA and CFA) - Part 1: Method by flow injection

Qualité de l'eau - Dosage des orthophosphates et du phosphore total par analyse en flux (FIA et CFA) - Partie 1:
Méthode par analyse avec injection en

Wasserbeschaffenheit - Bestimmung von Orthophosphat und Gesamtphosphor mittels Fließanalytik (FIA und CFA) - Teil 1: Verfahren mittels

National Foreword

This European Standard EN ISO 15681-1:2004 was adopted as Luxembourgish Standard ILNAS-EN ISO 15681-1:2004.

Every interested party, which is member of an organization based in Luxembourg, can participate for FREE in the development of Luxembourgish (ILNAS), European (CEN, CENELEC) and International (ISO, IEC) standards:

- Participate in the design of standards
- Foresee future developments
- Participate in technical committee meetings

<https://portail-qualite.public.lu/fr/normes-normalisation/participer-normalisation.html>

THIS PUBLICATION IS COPYRIGHT PROTECTED

Nothing from this publication may be reproduced or utilized in any form or by any mean - electronic, mechanical, photocopying or any other data carries without prior permission!

English version

Water quality - Determination of orthophosphate and total phosphorus contents by flow analysis (FIA and CFA) - Part 1:
Method by flow injection analysis (FIA) (ISO 15681-1:2003)

Qualité de l'eau - Dosage des orthophosphates et du phosphore total par analyse en flux (FIA et CFA) - Partie 1:
Méthode par analyse avec injection en flux (FIA) (ISO 15681-1:2003)

Wasserbeschaffenheit - Bestimmung von Othophosphat und Gesamphosphor mittels Fließanalytik (FIA und CFA) - Teil 1: Verfahren mittels Fließinjektionsanalyse (FIA) (ISO 15681-1:2003)

This European Standard was approved by CEN on 21 December 2004.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

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



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

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

Foreword

The text of ISO 15681-1:2003 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 15681-1:2004 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 June 2005, and conflicting national standards shall be withdrawn at the latest by June 2005.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

Endorsement notice

The text of ISO 15681-1:2003 has been approved by CEN as EN ISO 15681-1:2004 without any modifications.

First edition
2003-12-15

**Water quality — Determination of
orthophosphate and total phosphorus
contents by flow analysis (FIA and
CFA) —****Part 1:
Method by flow injection analysis (FIA)**

*Qualité de l'eau — Dosage des orthophosphates et du phosphore total
par analyse en flux (FIA et CFA) —*

Partie 1: Méthode par analyse avec injection en flux (FIA)



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.

© ISO 2003

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 Interferences.....	2
3.1 General interferences	2
3.2 Interferences in the determination of total-P	2
4 Principle	2
4.1 Determination of orthophosphate	2
4.2 Total phosphorus with manual digestion.....	2
5 Reagents	2
6 Apparatus.....	6
6.1 Flow injection analysis (FIA).....	6
6.2 Additional apparatus	6
6.3 Additional apparatus for the determination of total phosphorus	6
7 Sampling and sample preparation	7
8 Procedure.....	7
8.1 Analysis preparation.....	7
8.2 Instrument performance check	7
8.3 Reagent blank check	7
8.4 Calibration.....	8
8.5 Check of digestion efficiency for determination of total-P	8
8.6 Measurement	8
8.7 Closing down the system.....	8
9 Calculation of results.....	9
10 Expression of results	9
11 Test report.....	9
Annex A (informative) Example of an FIA system.....	10
Annex B (informative) Precision and accuracy	11
Annex C (informative) Determination of orthophosphate-P and total-P by FIA using ascorbic acid reduction	13
Annex D (informative) Replacement of hydrazine sulfate by DEHA (<i>N,N</i>-diethylhydroxylamine)	18
Bibliography	19