ISO 13165-1:2022-11 (E)

Water quality - Radium-226 - Part 1: Test method using liquid scintillation counting

Contents

Page

Foreword iv

Introduction v

1 Scope 1

2 Normative references 1

3 Termsanddefinitions 1

4 Symbols and units 2

5 Principle 2

6 Reagents and equipment 3
6.1 Reagents 3
6.2 Equipment 3

7 Sampling 4

8 Instrument set-up and calibration 4
8.1 Preparation of calibration sources 4
8.2 Optimization of counting conditions 4
8.3 Detection efficiency 4
8.4 Blank sample preparation and measurement 5

9 Procedure 5
9.1 Direct counting 5
9.2 Thermal preconcentration 5
9.3 Sample preparation 6
9.4 Sample measurement 6

10 Quality control 6

11 Expression of results 7
11.1 Calculation of massic activity 7
11.2 Standard uncertainty 7
11.3 Decision threshold 8
11.4 Detection limit 8
11.5 Limits of the coverage intervals 8
11.5.1 Limits of the probabilistically symmetric coverage interval 8
11.5.2 Shortest coverage interval 9
11.6 Calculations using the activity concentration 9

12 Interference control 9

13 Test report 9

Annex A (informative) Set-up parameters and validation data[13] 11

Bibliography 15