DIN EN ISO 13161:2016-01 (E)

Water quality - Measurement of polonium 210 activity concentration in water by alpha spectrometry (ISO 13161:2011)

Contents

Page

European Foreword 3
Foreword 4

Introduction 5

1 Scope 6

2 Normative references 6

3 Terms, definitions, symbols and units 6
3.1 Terms and definitions 7
3.2 Symbols, definitions and units 7

4 Principle 7
4.1 General 7
4.2 Treatment 8
4.3 Principle of alpha spectrometry 8

5 Reagents and equipment 8
5.1 Reagents 8
5.2 Preparation material and treatment 9
5.3 Alpha spectrometry measuring equipment 9

6 Sampling and samples 9

7 Chemical treatment and deposit process 9
7.1 General 9
7.2 Chemical treatment 10
7.3 Disc cleaning 10
7.4 Deposition phase 10

8 Measurement by alpha spectrometry 11
8.1 General 11
8.2 Quality control 11
8.3 Measurement 11

9 Expression of results 11
9.1 General 11
9.2 Total yield 12
9.3 Activity concentration of 210Po in the sample 12
9.4 Combined uncertainties 13
9.5 Decision threshold 13
9.6 Detection limit 13
9.7 Confidence limits 14

10 Test report 14

Annex A (informative) Cell deposit examples 16

Annex B (informative) Spectrum examples 18

Bibliography 20