ISO 11704:2018 (E)

Water quality — Gross alpha and gross beta activity — Test method using liquid scintillation counting

Contents

Foreword

Introduction

1 Scope

2 Normative references

3 Terms, definitions, symbols and abbreviated terms

3.1 Terms and definitions
3.2 Symbols and abbreviated terms

4 Principle

5 Reagents and equipment

6 Sampling

7 Procedure

7.1 Direct counting
7.2 Thermal preconcentration
7.3 Sample preparation
7.4 Liquid scintillation measurement
7.4.1 Preparation of alpha and beta calibration sources
7.4.2 Optimization of counting conditions
7.4.3 Blank sample preparation and measurement
7.4.4 Alpha and beta efficiencies
7.4.5 Sample measurement

8 Expression of results

8.1 Calculation of activity per mass
8.2 Standard uncertainty
8.3 Decision threshold
8.4 Detection limit
8.5 Confidence limits
8.6 Quality control

9 Interference control

9.1 Contamination
9.2 Ingrowth of radon
9.3 Loss of polonium

10 Test report

Annex A (informative) Set-up parameters and validation data

A.1 General
A.2 Instrument set up and calibration
A.3 Expression of results
A.4 Validation data
A.4.1 Linearity
A.4.2 Precision under intermediate repeatability conditions
A.4.3 Accuracy

Annex B (informative) Method performances under different conditions