

### Contents

	Foreword
	Introduction
1	Scope
2	Normative references
3	Terms, definitions and symbols
3.1	Terms and definitions
3.2	Symbols
4	Principle
5	Reagents and equipment
5.1	Reagents
5.1.1	Water for the blank
5.1.2	Calibration source solution
5.1.3	Scintillation solution
5.1.4	Quenching agent
5.2	Equipment
5.2.1	General
5.2.2	Liquid scintillation counter
5.2.3	Counting vials
6	Sampling and samples
6.1	Sampling and sample transportation
6.2	Sample storage
7	Procedure
7.1	Sample preparation
7.1.1	General
7.1.2	Direct procedure
7.1.3	Distillation
7.2	Preparation of the sources to be measured
7.3	Counting procedure
7.3.1	General
7.3.2	Control and calibration
7.3.3	Measurement conditions
7.3.4	Interference control
7.3.4.1	Interference arising from luminescence
7.3.4.2	Equipment stability
8	Expression of results
8.1	General
8.2	Calculation of activity concentration
8.3	Decision threshold
8.4	Detection limit
8.5	Confidence interval limits
8.6	Calculations using the activity per unit of mass
9	Test report
Annex A	(informative) Numerical applications

**Annex B (informative) Distillation of large volume sample**

- B.1 Principle**
- B.2 Reagents and equipment**
  - B.2.1 Reagents**
  - B.2.2 Equipment**
- B.3 Distillation**
  - B.3.1 General**
  - B.3.2 Sample preparation**
    - B.3.2.1 General**
    - B.3.2.2 Oxidation in alkaline medium**
    - B.3.2.3 Homogenization**
  - B.3.3 Discard**
  - B.3.4 Collection**
  - B.3.5 Control**
- B.4 Measurement**

**Annex C (informative) Internal standard methods**

- C.1 Principle**
- C.2 Sample preparation**
- C.3 Counting procedure**
- C.4 Expression of results**

**Annex D (informative) Distillation of small volume sample**

- D.1 Principle**
- D.2 Reagents and equipment**
  - D.2.1 Reagents**
  - D.2.2 Equipment**
- D.3 Distillation**
- D.4 Sample preparation**
  - D.4.1 General**
  - D.4.2 Oxidation in alkaline medium**
  - D.4.3 Neutralization**
  - D.4.4 Collect**
  - D.4.5 Control**
- D.5 Preparation of the sources to be measured**

**Annex E (informative) Simplified distillation**

- E.1 Principle**
- E.2 Reagents and equipment**
  - E.2.1 Reagents**
  - E.2.2 Equipment**
- E.3 Distillation**
  - E.3.1 Preparation**
  - E.3.2 Formation of the lens ice and collection of the distilled water**
- E.4 Preparation of the sources to be measured**

Page count: 25