

DIN EN ISO 22017:2024-10 (E)

Water quality - Guidance for rapid radioactivity measurements in nuclear or radiological emergency situation (ISO 22017:2020)

Contents	Page
European foreword	3
Foreword	4
Introduction	5
1 Scope	7
2 Normative references	7
3 Terms and definitions	8
4 Guidance on emergency measurement	10
4.1 Objective of a specific rapid measurement.....	10
4.2 Routine screening levels versus intervention levels.....	10
4.3 Operational intervention levels (OILs) from EU, USA and IAEA.....	11
5 Rapid measurements	11
5.1 Adaptation of the methods used.....	11
5.2 Sampling.....	12
5.3 Rapid test methods.....	12
5.3.1 Pre-screening: Identification of most contaminated samples.....	12
5.3.2 Selection of the analytical strategy.....	12
5.3.3 Appropriate sample volumes and counting times related to intervention levels.....	15
5.3.4 Gross-alpha and gross-beta determination and gamma spectrometry.....	16
5.3.5 Specific separations for alpha emitters or pure beta emitters measurement.....	17
6 Laboratory management to perform rapid measurements	18
6.1 Protection of laboratory staff.....	18
6.2 Sample management.....	18
6.3 Material and staff.....	18
6.4 Quality management.....	19
6.5 Expression of results and test report.....	19
Annex A (informative) World Health Organization screening for radionuclides in drinking water	20
Annex B (informative) Operational Intervention Levels (OILs) from EU, US and IAEA	21
Annex C (informative) Overview of different types of rapid measurements during a nuclear or radiological emergency	22
Annex D (informative) Example of a decision scheme for rapid measurements in the early phase	24
Bibliography	25