

ISO/TS 13530:2009-03 (E)

Water quality - Guidance on analytical quality control for chemical and physicochemical water analysis

Contents		Page
Foreword		iv
1	Scope	1
2	Normative references	1
3	Terms and definitions	2
3.1	Terms related to measurement methods	2
3.2	Terms related to measurement results	3
3.3	Terms related to uncertainty	5
4	Performance characteristics of analytical systems	5
4.1	Introduction	5
4.2	Scope of the method	6
4.3	Calibration	6
4.4	Limit of detection, limit of quantification	10
4.5	Interferences and matrix effects	12
4.6	Accuracy (trueness and precision) and uncertainty of measurement	14
4.7	Robustness	14
4.8	Fitness for purpose	15
5	Choosing analytical systems	15
5.1	General considerations	15
5.2	Practical considerations	16
6	Intralaboratory quality control	16
6.1	General	16
6.2	Terms relating to within-laboratory quality control	17
6.3	Control of accuracy	17
6.4	Control of trueness	18
6.5	Control of precision	19
6.6	Principles of applying control charts	21
6.7	Conclusions	25
6.8	Control charts with fixed quality criteria (target control charts)	27
7	Quality control in sampling	27
8	Interlaboratory quality control	28
9	Quality control for lengthy analytical procedures or analysis undertaken infrequently or at an ad hoc basis	28
9.1	Quality control for lengthy analytical procedures	28
9.2	Analysis undertaken infrequently or on an ad hoc basis	29
Annex A (informative) Verification of the limit of detection and the limit of quantification		30
Annex B (informative) The nature and sources of analytical errors		32
Annex C (informative) Estimating the measurement uncertainty		35
Annex D (informative) Example for performing quality control for lengthy analytical procedures		37
Bibliography		38