

ISO 12010:2019 (E)

Water quality — Determination of short-chain polychlorinated alkanes (SCCP) in water — Method using gas chromatography-mass spectrometry (GC-MS) and negative-ion chemical ionization (NCI)

Contents

	Foreword
	Introduction
1	Scope
2	Normative references
3	Terms and definitions
4	Principle
5	Interferences
6	Reagents and standards
6.1	Solvents for extraction and preparation of stock solutions
6.2	Reference SCCP stock solutions
6.3	Internal standard stock solutions from individual congeners
6.4	Calibration solutions
6.5	Extraction auxiliary and clean-up materials
7	Apparatus
8	Sampling and sample pretreatment
9	Procedure
9.1	Extraction with liquid-liquid extraction
9.2	Extraction with higher content of suspended matter
9.3	Extract clean-up
9.4	Measurement and integration of the chromatogram
9.5	Calibration
9.5.1	General
9.5.2	Basic calibration
9.5.3	Identification and quantification with mass fragment combinations
9.5.4	Calculation of the results
9.5.5	Quality checks for internal standardization
10	Expression of results
11	Test report
Annex A	(normative) Independent quality control check solutions
Annex B	(informative) Explanation of the calibration of the sum of SCCPs with multiple linear regression
B.1	Common calibration with linear regression and inverse calibration
B.2	Multiple linear regression calibration
B.3	Multiple regression calibration to analyse the sum of SCCPs
B.4	Mass spectrometric interpretation of the selected mass ions
Annex C	(informative) Typical GC-MS conditions

C.1	Example 1
C.2	Example 2
C.3	Example 3
C.4	Example 4
Annex D	(informative) Typical chromatograms of standard solutions and quality control check solutions 1 µg/ml
Annex E	(informative) Presentation of goodness of fit
Annex F	(normative) Alternative clean-up with column chromatography
F.1	Reagents
F.2	Extract clean-up procedure
F.3	Interferences with chlorinated chemicals (technical products)
Annex G	(informative) Alternative clean-up with gel chromatography
Annex H	(informative) Chromatograms of real SPM samples
Annex I	(informative) Performance data
I.1	Performance data of ISO 12010:2012
I.2	Performance data of this document

Page count: 42