

ISO 11916-3:2021-09 (E)

Soil quality - Determination of selected explosives and related compounds - Part 3: Method using liquid chromatography-tandem mass spectrometry (LC-MS/MS)

Contents		Page
Foreword		iv
Introduction		v
1	Scope	1
2	Normative references	1
3	Terms and definitions	2
4	Principle	2
5	Interferences	2
6	Reagents	2
6.1	General	2
6.2	Chemicals	2
6.3	Standard substances and solutions	3
6.3.1	Standard substances	3
6.3.2	Standard solutions	3
7	Apparatus	4
7.1	General	4
7.2	Equipment for extraction	4
7.3	Liquid chromatograph-tandem mass spectrometer (LC-MS/MS)	4
8	Procedure	5
8.1	Sample pre-treatment, sample storage and determination of water content	5
8.2	Extraction	5
8.2.1	General	5
8.2.2	Extraction using ultrasonic waves	5
8.2.3	Extraction using mechanical shaking	6
8.3	Storage of extract	6
9	Liquid chromatography tandem mass spectrometry (LC-MS/MS)	6
9.1	General	6
9.2	Identification and quantification	6
9.3	Calibration	7
10	Calculation of results	7
11	Quality assurance/quality control (QA/QC)	8
12	Expression of results	9
13	Test report	9
Annex A (informative)	Conditions of high performance liquid chromatography tandem mass spectrometry (LC-MS/MS)	10

Annex B (informative) Comparison of LC-MS and LC-MS/MS application for PETN, 1,3,5-TNB and tetryl	13
Annex C (informative) Comparison of LOD and LOQ in the measurement of HPLC and LC-MS/MS.16 Annex D (informative) Comparison of extractive capability of acetonitrile and methanol when using LC-MS/MS	19
Bibliography	23