

ISO 19254:2026-08 (E)

Soil quality - Simultaneous determination of multi-class pesticide residues in soil using gas chromatography-tandem mass spectrometry (GC-MS/MS) and liquid chromatography-tandem mass spectrometry (LC-MS/MS) analysis

Contents

Page

Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	2
3 Terms and definitions	2
4 Principle	2
5 Interferences	3
5.1 Interferences by sample processing	3
5.2 Interferences by sample matrix and ionization competition	3
6 Reagents	3
6.1 General	3
6.2 Chemicals	3
6.3 Standard substances and solutions	4
6.3.1 Standard substances	4
6.3.2 Standard solutions	4
7 Apparatus	5
7.1 Liquid chromatograph-tandem mass spectrometer (LC-MS/MS)	5
7.2 Gas chromatograph-tandem mass spectrometer (GC-MS/MS)	5
7.3 Laboratory apparatus	6
8 Procedure	6
8.1 Sample storage and pretreatment	6
8.2 Extraction	6
8.3 Clean up (d-SPE, dispersive-solid phase extraction)	6
8.4 Preparing the test solution for GC-MS/MS and LC-MS/MS analysis	6
9 Calibration	7
10 Calculation of results	7
11 Quality assurance/quality control (QA/QC)	7
12 Test report	8
Annex A (informative) Analytical conditions for GC-MS/MS and LC-MS/MS analysis	9
Annex B (informative) Preparation of solutions	12
Annex C (informative) Limit of detection and quantification in the GC-MS/MS and LC-MS/MS measurements	13
Annex D (informative) Report of interlaboratory validation study for this document	15
Bibliography	20