

# ISO 54321:2020 (E)

## Soil, treated biowaste, sludge and waste — Digestion of aqua regia soluble fractions of elements

---

### Contents

	Foreword
	Introduction
1	Scope
2	Normative references
3	Terms and definitions
4	Principle
5	Interferences and sources of errors
6	Reagents
7	Apparatus
7.1	General
7.2	Method A — Apparatus for thermal heating under atmospheric conditions
7.2.1	Method A1 — Thermal heating under reflux conditions
7.2.2	Method A2 — Thermal heating with a heating block with containers
7.3	Method B — Microwave digestion with temperature control, closed vessels
8	Procedure
8.1	General
8.2	Blank test
8.3	Method A — thermal heating under atmospheric conditions
8.3.1	Method A1 — Thermal heating under reflux conditions
8.3.2	Method A2 — Thermal heating with a heating block with containers
8.4	Method B — Microwave digestion with temperature control, closed vessels
9	Test report
Annex A	(informative) Repeatability and reproducibility data for soil, biowaste and sludge samples
Annex B	(informative) Repeatability and reproducibility data for waste samples
B.1	Inter-laboratory study (methods A1 and B)
B.1.1	General
B.1.2	Selection of laboratories
B.1.3	Selection of samples
B.1.4	Experimental
B.1.5	Results
B.1.6	Conclusions
B.2	Inter-laboratory study (method A2)
B.2.1	General
B.2.2	Selection of laboratories
B.2.3	Selection of samples
B.2.4	Experimental
B.2.5	Results
B.2.6	Conclusions
B.3	Robustness study
B.3.1	General
B.3.2	Analytical method
B.3.3	Results
B.3.4	Conclusion