

# DIN EN ISO 22036:2024-04 (E)

## Environmental solid matrices - Determination of elements using inductively coupled plasma optical emission spectrometry (ICP-OES) (ISO 22036:2024)

---

<b>Contents</b>		<b>Page</b>
<b>European foreword</b>	.....	3
<b>Foreword</b>	.....	4
<b>Introduction</b>	.....	5
<b>1 Scope</b>	.....	6
<b>2 Normative references</b>	.....	6
<b>3 Terms and definitions</b>	.....	6
<b>4 Principle</b>	.....	7
<b>5 Interferences</b>	.....	8
5.1 General	.....	8
5.2 Spectral interferences	.....	8
5.3 Non-spectral interferences	.....	9
<b>6 Reagents</b>	.....	10
<b>7 Apparatus</b>	.....	12
<b>8 Procedure</b>	.....	13
8.1 Cleaning of glassware	.....	13
8.2 Instrument performance parameters	.....	13
8.3 Instrument optimization	.....	14
8.4 Instrument set-up	.....	14
8.4.1 General requirements	.....	14
8.4.2 Software method development, wavelength selection	.....	14
8.4.3 Inter-element correction	.....	14
8.4.4 Reference element	.....	14
8.4.5 Long-term stability	.....	15
8.4.6 Preliminary instrument check	.....	15
8.5 Calibration	.....	15
8.5.1 Linear calibration function	.....	15
8.5.2 Standard addition calibration	.....	16
8.6 Solutions to be prepared	.....	16
8.6.1 General	.....	16
8.6.2 Blank calibration solution	.....	16
8.6.3 Blank test solution	.....	16
8.6.4 Calibration solutions	.....	16
8.6.5 Test sample solutions	.....	17
8.6.6 Test solutions	.....	17
8.7 Measurement procedure	.....	17
<b>9 Calculation</b>	.....	17
<b>10 Expression of results</b>	.....	18
<b>11 Performance characteristics</b>	.....	18
11.1 Calibration check	.....	18
11.2 Interference	.....	18
11.3 Recovery	.....	19
11.4 Performance data	.....	19
<b>12 Test report</b>	.....	19
<b>Annex A (informative) Repeatability and reproducibility data</b>	.....	20
<b>Annex B (informative) Wavelengths and estimated instrumental detection limits</b>	.....	26
<b>Annex C (normative) Inter-element correction</b>	.....	32
<b>Bibliography</b>	.....	34