

ISO 21392:2021-08 (E)

Cosmetics - Analytical methods - Measurement of traces of heavy metals in cosmetic finished products using ICP/MS technique

Contents		Page
Foreword		iv
Introduction		v
1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4	Principle	1
5	Reagents	2
6	Apparatus and equipment	2
7	Preparation of standards solutions	3
7.1	General	3
7.2	Diluted nitric acid	3
7.3	Diluting solution	4
7.4	Internal standard solutions	4
7.4.1	General	4
7.4.2	Rhodium standard solution, 1 mg/l	4
7.4.3	Lutetium standard solution, 1 mg/l	4
7.5	Standard solutions	4
7.5.1	General	4
7.5.2	High concentration mixed standard solution, 10 mg/l	5
7.5.3	Low concentration mixed standard solution, 0,1 mg/l	5
7.6	Calibration blank solution	5
7.7	Calibration solutions	5
8	Procedure	6
8.1	Preparation of samples	6
8.2	Pressure assisted digestion	6
8.2.1	General	6
8.2.2	Preparation of sample by digestion -- General case	6
8.2.3	Preparation of sample by digestion -- Specific cases	7
8.2.4	Microwave digestion procedure	7
8.2.5	Preparation of measurement solutions	8
8.3	Inductively coupled plasma mass spectrometry	8
8.3.1	ICP-MS operating conditions	8
8.3.2	Quantification of the analytes by ICP-MS	8
8.4	Quality control of the analysis	9
8.4.1	General	9
8.4.2	During digestion	10
8.4.3	During analysis	11
8.4.4	Example of ICP-MS sequence	11
9	Calculation	12
10	Method performance	12

11	Test report	13
	Annex A (informative) Performance of the method determined by the accuracy profile methodology	14
	Annex B (informative) Evaluation of the method via ISO 5725 statistical approach	22
	Bibliography	30