

CERTIFICATE

Matrix certified reference material of strawberry leaves

METRANAL® CRM AN-BM01

This Certificate is designed in accordance with ISO Guide 31

Name:

Certified reference material of strawberry leaves AN-BM01

Total element content

Packing:

25 g of powder of the strawberry leaves with a particle size of less than 100 µm in amber HDPE bottle. The sample is radiation stabilized.

Intended use:

This certified reference material is intended primarily for use in realizing metrological traceability, validation of analytical methods and the transfer of property values by total element contents to other materials of similar composition.

Recommended analytical methods for method dependent measurements:

Flame AAS, ETA-AAS, ICP-OES, ICP-MS

Specification:

The date of production: August 2020

Shelf life: 5 years from the date of production

Metrological traceability:

Metrological traceability is realized by using certified calibration standards solutions for the calibration of measurement methods used (direct traceability to SI unit) and/or by simultaneous analysis of a matrix CRM (RM) of similar composition.

Storing and instruction for use:

This CRM have to be stored in original bottle and between 5-30°C (in a dark and dry place). The material should be analysed in the "as received" state and their dry weight should be

determined on non-analysed aliquots oven-dried at 105°C till the constant weight. The material in the bottle must be rehomogenized before each use by mechanical shaking of the content for 1-2 minutes. The bottle should be opened a minimum of 2 minutes after rehomogenization in order to prevent an escape of fine powder particles from the bottle into the environment and their sedimentation.

Certified and indicative values and their uncertainties:

The certified and indicative values of total element contents are summarized in Table 1. The overall means evaluated have been given a status of certified and indicative values using the following criteria: data should be available from at least two independent analytical methods, at least 5 and 3 accepted laboratory means should be available for calculation of the overall mean for certified and indicative value, respectively. At combined uncertainties presented, the contribution of uncertainty of characterization of a particular property value is dominant.

Table 1: Certified and indicative values of total element contents and their associated uncertainties.

Element	AN-BM01	
	concentration [mg/kg]	uncertainty [mg/kg]
Al _{extractable}	(474)	(55)
Al _{total}	1 071	30
As	0.290	0.021
B	(32.3)	(2.9)
Ba	110	5
Ca	14 480	387
Cd	0.170	0.011
Co	0.403	0.044
Cr	1.74	0.11
Cu	(8.83)	(0.67)
Fe	782	39
K	20 240	619
Li	(0.719)	(0.070)
Mg	3 868	171
Mn	174	5
Mo	(0.310)	(0.034)
Na	(54.5)	(6.1)
Ni	2.47	0.15
P	2 762	130
Pb	1.70	0.14
S	(1 418)	(217)
Sr	66.3	2.7
V	1.32	0.18
Zn	24.5	1.4
N _{total} [%]	(2.04)	(0.19)

All values corrected to a dry weight at 105°C

Uncertainty – expanded combined uncertainty (k=2)

() indicative value

Note:

Detailed information about the production, homogeneity testing and characterization of this CRM are described in the Certification report, which is available on request.

Producer:

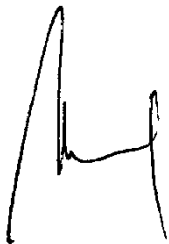
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Quality management systems of company ANALYTIKA®, spol. s r.o.:

ČSN EN ISO 9001:2016
ČSN EN ISO/IEC 17025:2018
ČSN EN ISO 17034:2017

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Revision of certificate:

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