

CERTIFICATE

Matrix certified reference material of green tea

METRANAL® CRM AN-BM02

This Certificate is designed in accordance with ISO Guide 31

Name:

Certified reference material of Chinese green tea AN-BM02

Total element content

Packing:

30 g of powder of the green tea with a particle size of less than 200 µm in amber glass bottle.

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, ICP-OES, ICP-MS, AMA

Specification:

The date of production: May 2022

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.

Homogeneity and stability:

Homogeneity and short term stability has been demonstrated according to the ISO GUIDE 35. This CRM will be monitored for over the period of its validity.

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-BM02	
	concentration [mg/kg]	uncertainty [mg/kg]
Al	1 700	60
As	0.156	0.012
B	(16.7)	(1.3)
Ba	44.5	2.4
Ca	5 100	278
Cd	0.075	0.004
Co	0.372	0.020
Cr	0.603	0.043
Cu	13.2	0.8
Hg	0,014	0,002
Fe	216	15
K	16 000	512
Mg	1 930	71
Mn	1 200	41
Na	(43.4)	(5.2)
Ni	4.84	0.13
P	2 250	91
Pb	1.54	0.09
S	2 500	306
Sr	22.1	1.0
Tl	(0.200)	(0.030)
V	0.239	0.022
Zn	26.2	0.9

All values corrected to a dry weight at 105°C

Uncertainty – expanded combined uncertainty (k=2)

() indicative value

Verze certifikátu / Version of the certificate:01

2/3

Verze formuláře / Version of the form: 03

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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