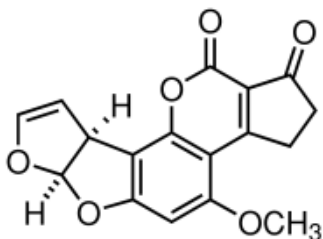


AFLA

for analysis of Aflatoxin total (AFLA) in Hazelnuts



Aflatoxin B1 (AFLA)

Specification

Lot No.	0032501221025275
Matrix Type	Hazelnuts
Analyte	Aflatoxin total (AFLA)
Weight/Volume	50 g
Storage	-18 °C
Retest	10/2025

	Concentration x_{PT} [$\mu\text{g}/\text{kg}$]	data points n	satisfactory range $x_{PT} \pm 2 \sigma_{PT}$ [$\mu\text{g}/\text{kg}$]	uncertainty* $2 u(x_{PT})$ [$\mu\text{g}/\text{kg}$]
Aflatoxin B1	9,31	16	5,21 - 13,40	1,18
Aflatoxin B2	1,44	15	0,81 - 2,07	0,18
Aflatoxin G1	4,80	16	2,40 - 7,20	0,68
Aflatoxin G2	0,89	16	0,30 - 1,47	0,24
Aflatoxin total	16,16	16	6,54 - 25,78	2,22

*Expanded uncertainty with $k=2$ for approximately 95% level of confidence (PA/PH/OMCL(18)153R1 CORR Evaluation of Measurement Uncertainty - Annex 2.5).

Comments

aokin reference matrix material is naturally contaminated and homogenized. Concentration of the analyte is determinate in a proficiency round. Unweighted mean value of the means of accepted sets of data, each set being obtained in a different laboratory and/or with a different method of determination such as HPLC/UV, HPLC-MS/MS, HPLC/FLD, UHPLC-MS/MS.

The certified value and its uncertainty are traceable to the International System of Units (SI) as chemical mass fraction as $\mu\text{g}/\text{kg}$. The assigned value, the satisfactory range and the expanded uncertainty are given.

The minimum amount of sample to be used is 10 g.

Calculation of the assigned value x_{PT}

The Assigned Value is the value attributed to a particular property of interlaboratory proficiency test (definition from ISO13528:2016). x_{PT} is derived from participants quantitative results obtained with confirmatory analysis. The procedure for determining is from the Algorithm A (ISO 13528:2016) or from the median.

The standard uncertainty is expanded by a factor $f = 1,25$ and is calculated as:

$$u(x_{PT}) = f \cdot \sigma_{PT} / \sqrt{n} \quad (\text{uncertainty of the characterization})$$

where:

- σ_{PT} is the robust estimate of the participant standard deviation;
- $\sigma_{PT} = b \cdot x_{PT}$ where b is the relative robust estimate of the participant standard deviation
- n is the number of participants used in calculating the robust assigned values.

The satisfactory range is calculated from the expanded ($k=2$) standard deviation of the proficiency assessment:

The satisfactory range equals $x_{PT} \pm 2 \sigma_{PT}$.