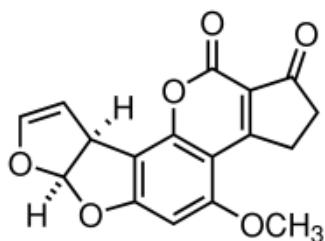


AFLA

for analysis of Aflatoxin total (AFLA) in Pistacchio



Aflatoxin B1 (AFLA)

Specification

Lot No.	00331502B210907275
Matrix Type	Pistacchio
Analyte	Aflatoxin total (AFLA)
Weight/Volume	50 g
Storage	-18 °C
Retest	09/2024

	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	7,46	16	4,17 - 10,74	0,70
Aflatoxin B2	0,74	15	0,39 - 1,09	0,12
Aflatoxin G1	presence**	10	nd	nd
Aflatoxin G2	< 0,10	15	nd	nd
Aflatoxin total	8,43	16	4,72 - 12,14	0,92

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

**It was not possible to assign a value or an uncertainty due to a bimodal distribution of data. Arithmetic mean was 0,38 $\mu\text{g}/\text{kg}$ for Aflatoxin G1.

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-MS/MS, HPLC/FLD, HPLC/UV, LC-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:

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

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 $x_{PT} \pm 2 \sigma_{PT}$.