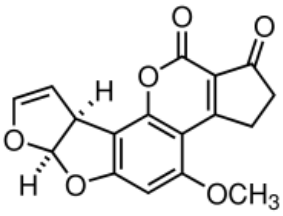
aokin ReferenceMatrixMaterial

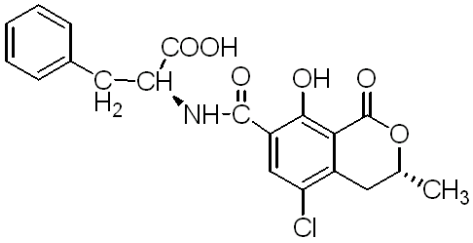
AFLA OTA FUM

Order No.: RMM-345-3500r

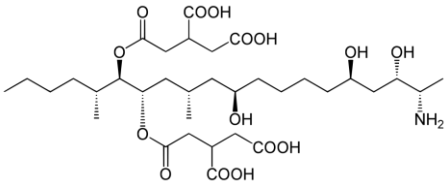
for analysis of Aflatoxin total (AFLA), Ochratoxin A (OTA)
and Fumonisin total (FUM) in Corn



Aflatoxin B1 (AFLA)



Ochratoxin A (OTA)



Fumonisin B1 (FUM)

Specification

Lot No.	3453500230921275
Matrix Type	Corn
Analyte	Aflatoxin total (AFLA), Ochratoxin A (OTA), Fumonisin total (FUM)
Weight/Volume	40 g
Storage	-18 °C
Retest	09/2026

	Concentration x_{PT} [µg/kg]	data points n	satisfactory range $x_{PT} \pm 2\,\sigma_{PT}$ [µg/kg]	uncertainty* $2\,u(x_{PT})$[µg/kg]
Aflatoxin B1	16,58	27	6,75 - 26,42	1,54
Aflatoxin B2	1,06	22	0,59 - 1,53	0,10
Aflatoxin G1	0,35	9	0,11 - 0,59	0,12
Aflatoxin G2	presence**	24	nd	nd
Aflatoxin total	18,52	22	7,72 - 29,33	1,52
Ochratoxin A	11,98	21	5,99 - 17,97	1,74
Fumonisin B1	1527,50	14	835,67 - 2219,33	324,52
Fumonisin B2	442,00	13	241,61 - 642,39	94,32
Fumonisin total	2014,84	13	1118,34 - 2911,34	392,66

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

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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/MS, LC--MS/MS, HPLC--MS/MS, Chemiluminescence, ELISA, HPLC, Lateral flow, aokin.
The certified value and its uncertainty are traceable to the International System of Units (SI) as chemical mass fraction as µg/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:
$u(x_{PT}) = \mathrm{f}\ {}^{\sigma_{PT}}/_{\sqrt{n}}$ (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 $x_{PT} \pm 2\ \sigma_{PT}$.