⮞ **aokin** *ReferenceMatrixMaterial*

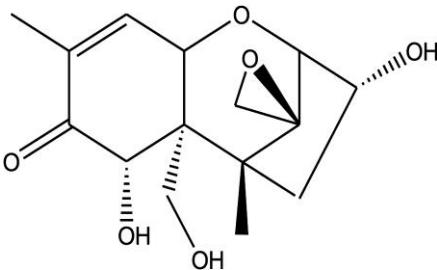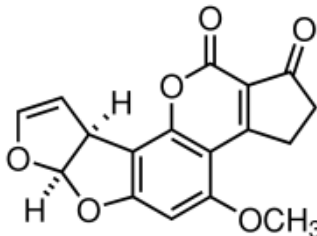## DON AFLA

for analysis of Deoxynivalenol (DON)
and Aflatoxin total (AFLA) in Durum Wheat

Deoxynivalenol (DON)

Aflatoxin B1 (AFLA)

Specification

Lot No.	23156222210220275
Matrix Type	Durum Wheat
Analyte	Deoxynivalenol (DON), Aflatoxin total (AFLA)
Weight/Volume	50 g
Storage	-18 °C
Retest	06/2024

	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	< 0,05	20	nd	nd
Aflatoxin B2	< 1,0	20	nd	nd
Aflatoxin G1	< 0,05	20	nd	nd
Aflatoxin G2	< 1,0	20	nd	nd
Aflatoxin total	< 1,0	20	nd	nd
Deoxynivalenol	893,00	12	446,50 – 1339,50	167,78

*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-FLD, GC-MS, HPLC-MS/M, HPLC/F, HPLC/FLD, HPLC/UV, LC-MS/MS, HPLC.
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:
$$u(x_{PT}) = f\ {}^{\sigma_{PT}}\!/\!{}_{\sqrt{n}} \quad \text{(uncertainty of the characterization)}$$
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 $x_{PT} \pm 2\,\sigma_{PT}$.

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