CERTIFICATE OF ANALYSIS

Deoxynivalenol in Acetonitrile LCMS grade

The certified values and uncertainty are determined in accordance with NF ISO 33401, ISO 17034, ISO/IEC 17025, ISO33405, ISO TR 16476 and JCGM 100.

Description of the Reference Material (RM)

	Product name:	Deoxynivalenol				
	Product number:	FIA000240				
	CAS number:	Deoxynivalenol	51481-10-8			
	Lot number:	DON17092702				
	Expiry date:	26-Sep-25				
	Certified value (s):	Deoxynivalenol	**100,00**	**±**	**0,79**	**µg/mL**
	Physical description:	Clear solution of toxins mixture in Acetonitrile LCMS grade				
	Packing	Amber glass vial filled with 5 mL of solution				
	Storage conditions	≤ -10°C				
	Matrix and starting material:	This material was prepared with/from:				
		Acetonitrile UPLC/MS		Batch:	0001204102BS	
		Deoxynivalenol		Internal ID:	SS-DON17092501	

Intended use of the RM:

For laboratory use for R&D purposes only. The main purpose of this material is for analytical instrument calibration (e. g. external calibration, standard addition). Not for drug, household or other uses.

Instruction for the correct use of the RM:

The vial should be stored in a dark place at ≤ -10°C . Before usage of the RM, allow the vial to warm to room temperature. The expiry date of this RM is based on the current knowledge and holds only for proper storage conditions in the originally closed vials / packages. Solutions prepared for calibration purpose should be protected from exposure to light. Discard solutions after use in accordance with appropriate safety regulations for chemical substances.

Hazardous situation:

H225 : Flammable liquid - Category 2 - Highly flammable liquid and vapour
H302 : Acute toxicity - Oral - Category 4 - Harmful if swallowed
H312 : Acute toxicity - Dermal - Category 4 - Harmful in contact with skin

In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Avoid exposure. Wear suitable protective clothing.

Safety measures:

Further information is available in the MSDS provided along with this certificate. Final users should make their own investigations to determine the suitability of the information for their particular research purposes. In no event the supplier of this RM shall be held liable for any damage resulting from handling or from contact with the product.

Traceability

The certified values are based on the results of analytical techniques previously used for purity assessment of solid mycotoxins. High purity material represents a practical realization of concentration units, through conversion of mass to molar quantity.

Calculation of certified values and associated uncertainties

This calibrant is certified on solution preparation. Toxin is pipetted and diluted in acetonitrile. Mass concentration calculation is based on certified concentration, purity and dilution step.
The pipet was calibrated with traceability to national and international standards (Dakks & ilac-MRA). All weights used for metrological control are connected to national and international standards. The weights are calibrated by an accredited laboratory.

$$C\ (\mu g/mL) = \frac{m \times P}{V}$$

Toxin	Source				Standard uncertainty
Deoxynivalenol	Purity				100,000
	Liquid solution	concentration	1762,00	(µg/mL)	1,630
	Volumetry procedure	volume	5,68	mL	0,017
	Dilution1	Volume	133	mL	0,100
$Combined_u = \sqrt{\left(\frac{u_P}{P}\right)^2 + \left(\frac{u_{Cm}}{V_{Cm}}\right)^2 + \left(\frac{u_{Vp}}{V_p}\right)^2 + \left(\frac{u_{V1}}{V_1}\right)^2}$					0,004
$Concentration_{Toxin} = \frac{Concentration\ mother}{V_{D1}}$				µg/mL	**100,00**
Total expanded uncertainty (using a coverage factor k=2)					**0,79**

Notes: The purity of the mycotoxin used for this RM was determined by liquid chromatography.
Following the Guide to the Expression of Uncertainty in measurement (GUM) the expanded uncertainty of toxin level is obtained by multiplication with a coverage factor K for which 2 is usually chosen to obtain a confidence level of 95 %.

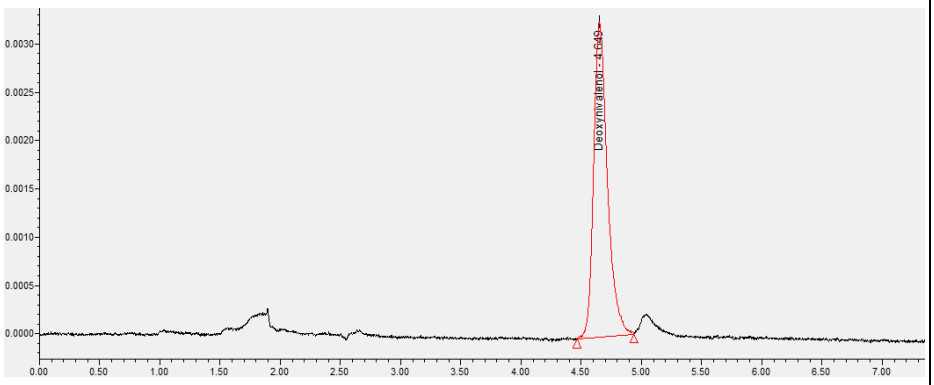
Quality control

Confirmation of the certified concentration by HPLC-PDA

The certified concentrations of the prepared solution was confirmed by HPLC-PDA against a reference batch.

Chromatogram
Chromatographic conditions:

Column:	Onyx Monolithic C18 200 x 4,6 mm2 µm			
Mobile phase:	MeOH / H2O Milli Q / Isocratique : 20%A / 80%D			
Flow mL/min:	1,40			
Temperature °C:	30,00			
Detector	PDA			
Deoxynivalenol	99,43	±	2,59	µg/mL
Mean of 6 replicates measurement against reference batch, confidence interval with P = 95%				



Chromatogram of Toxins

References:

a- ISO Guide 31, 1–7, (2000), “Reference Materials–Contents of certificates and labels”.
b- ISO Guide 35, 1–7 (2000) “Certification of Reference Materials – General and Statistical Principles”.
c- Eurachem/CITAC guide, 1–37 (2003) “Traceability in Chemical Measurement”.
d- Eurachem/CITAC guide, 1–120 (2000) “Quantifying Uncertainty in Analytical Measurement”.
e- AOAC Official Method 970.44 - Preparation of Standards for Mycotoxins.

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Quality Control

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