Naturally Contaminated Certified Reference Material
Certificate of Analysis

Description of the Certified Reference Material (CRM)

Name	Naturally contaminated deoxynivalenol in corn
Product Code	TCRM-M2111-100
Batch Code	121133(1.8M)
Expiration date	September 1, 2023
Quantity	100g
Storage	≤ 8° C
Physical description of RM	Finely ground corn naturally contaminated with deoxynivalenol
Packaging	Zippered sealed foil pack

Certified values and uncertainties

Compound	**Mass Concentration**	
	Certified Value	*Uncertainty
Deoxynivalenol	1.8 mg/kg	± 0.2 mg/kg

* Expanded uncertainty at a 95% confidence level (k = 2). All calculations of expanded uncertainty are based on the criteria outlined in the JCGM 100:2008; Guide to the Expression of Uncertainty in Measurement.

Metrological traceability

The corresponding parameters for this naturally contaminated material are assigned value based on results from multiple methods. All equipment calibrations are performed using Certified Reference Materials. Measurements utilized for value assignment of the certified value are traceable to SI units through an unbroken chain providing metrological traceability.

Julie Brunkhorst – VP of the Technical Division

April 1, 2019

This CoA verifies the reference material passes the required specifications and is released for sale. This Certified Reference Material is produced and certified under the Trilogy Analytical Laboratory ISO 17034:2016 scope of accreditation. This certificate has been electronically signed.

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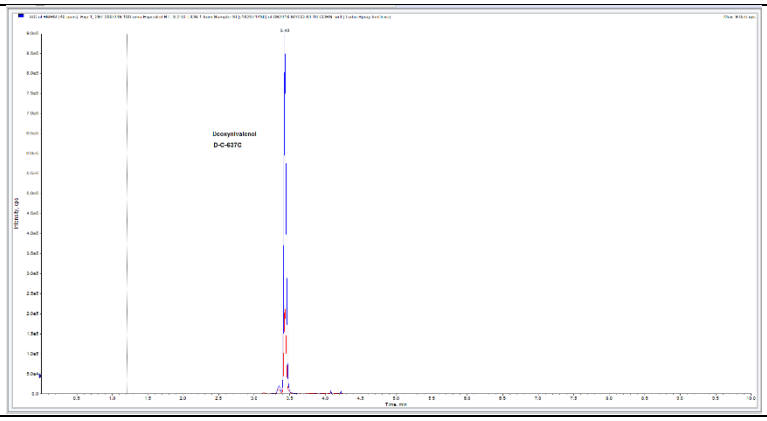
TIN 43-1852208
DUNS 165269478

Method of analyte verification

LCMSMS Column: Kinetex 2.6µm C18 100Ax3.0mm Ionization: ESI positive mode System: API5500/6500/6500+ Precursor 297.2, Fragments 249.1/91.1	

Method reference for characterization

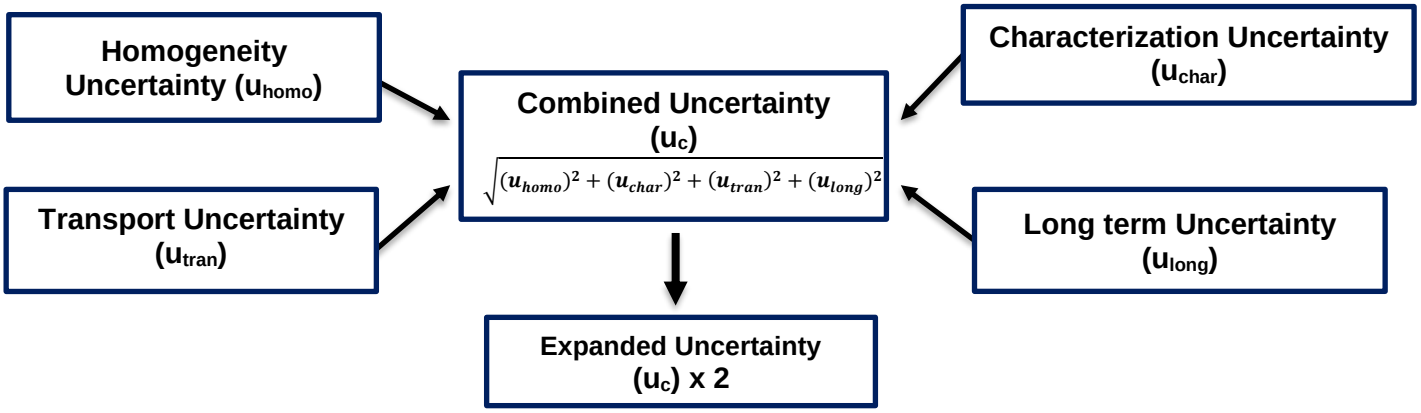
BS EN 15791:2009, Technology: LC-MS/MS

LC-MS/MS using stable isotope labeled internal standards, Technology: LC-MS/MS

In-house method Li, Wei; Herrman, Tim J.; Dai, Susie Y. Determination of Aflatoxins in Animal Feeds by Liquid Chromatography/Tandem Mass Spectrometry with isotope dilution, Rapid Communications in Mass Spectrometry, 2011, 25, 1222-30. Li, Wei; Herrman, Tim J.; Dai, Susie Y. Rapid Determination of Fumonisins in Corn-based Products by Liquid Chromatography-Tandem Mass Spectrometry, The Journal of AOAC International, 2010, 93(5): 1472-81., Technology: LC-MS/MS

Measurement of uncertainty

All calculations of expanded uncertainty (k = 2) are based on the criteria outlined in the ISO Guide to the Expression of Uncertainty in Measurement (GUM). Expanded combined uncertainty, which is calculated and presented for all Naturally Contaminated Certified Reference Materials, represents an estimated range of confidence equal to the root sum squared of all total inherent variance of pertinent components expanded with a coverage factor providing 95% confidence (k = 2).



*****Uncertainty from transport stability and long-term stability have been evaluated and are considered negligible.

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General information

This material represents a food/feed agricultural product commonly contaminated with mycotoxins. It has been ground to a fine consistency (30 mesh; 0.595 mm) and thoroughly homogenized to ensure uniform distribution of the analyte(s). Samples are analyzed numerous times by multiple methods over the course of several analytical runs utilizing the reference methods listed above. The assigned value(s) come from the robust statistical means of the technically evaluated results. This data is corrected for recovery loss which represents the best estimate of the true value.

Intended use of the Naturally Contaminated Certified Reference Materials (CRM)

Naturally contaminated Certified Reference Materials can be used for laboratory quality control, training tools, method comparisons, method validations, intra laboratory comparisons, inter laboratory comparisons, method bias indicators, verification of laboratory performance and method troubleshooting by HPLC, GC, MS, MSMS, or TLC.

Instructions for use

Allow material to come to room temperature before use to prevent moisture condensation in packet. Samples should be sealed promptly and returned to recommended storage conditions after use.

Homogeneity and stability

Homogeneity and stability are verified through extensive studies performed at Trilogy Analytical Laboratory. Homogeneity was verified using a sample size of 5g. A recommended minimum sample for use is ≥ 5g for extraction to ensure a representative sample. All variability of assigned values attributed from heterogeneity is included in the measurement of uncertainty. Naturally contaminated Certified Reference Material stabilities, stored under proper conditions, are verified through short term (transportation) stability studies, long term stability studies and stability monitoring.

Safety precautions

Good laboratory practices should be observed while handling all Trilogy Reference Materials. Follow the recommended precautionary measures (OSHSA 29 CFR 1910.1450) for handling chemicals and powders. Avoid contact with eyes, skin, and clothing. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits. This product is for laboratory use only and is not intended for animal or human consumption. For specific product Safety Data Sheets contact Trilogy Analytical Laboratory.

Further information

Trilogy naturally contaminated Certified Reference Materials are for laboratory use only. Trilogy does not make any warranties, expressed or implied, in connection to reference materials, other than that the product meets the quality control specifications at Trilogy Analytical Laboratory. Trilogy naturally contaminated Certified Reference Materials are to be used at the purchaser's discretion. In no way does Trilogy accept responsibility for the use or work performed by the purchaser.

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