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NMISA-PT-65

Proficiency Testing Scheme Description

Aflatoxin M1 in milk

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1 FOREWORD

This is the call for participation in the NMISA proficiency testing (PT) scheme for the determination of aflatoxin M1 in milk. A confidential report will be issued to all participants after completion of the PT scheme. Information on expected concentration range, dates for distribution and reporting are listed in Table 1.
This forms part of a range of ISO 17043 accredited PT services offered by NMISA. Please consult our website www.nmisa.org for further information on our PT schemes. NMISA can also assist with the preparation of traceable gravimetrically prepared spike solutions for benchmarking *ad-hoc* analyses for which commercial PT schemes are not available.

2 SCHEME AIMS

This scheme will assist laboratories that routinely analyse aflatoxin M1 in milk, to monitor their laboratory performance. The PTS allows laboratories to evaluate their accuracy and comparability of measurement results produced; the continued competency of analytical staff; and the maintenance and effectiveness of the current quality assurance systems within the laboratory. In addition, this information may also be used to provide accreditation bodies or clients with objective evidence of laboratory performance.

3 PARTICIPATION FEES AND ADDITIONAL CHARGES

The cost of participation in the PT scheme is R 3 000. These rates exclude costs associated with delivery (0% VAT, please note that we are not a VAT registered company). This fee includes the material and a confidential report upon completion.

Since many of the South African participants are located within close proximity to NMISA, the option of collecting the PT scheme samples from NMISA premises is permitted.

International laboratories will have test samples sent by courier and appropriately packaged to maintain sample integrity. International participants must provide NMISA with any import or quarantine permits that might be required to complete sample delivery well in advance of the shipment date and are liable for any customs or import duties charged.

Upon registration for participation an official quotation will be provided. Participation is confirmed following receipt of a purchase order and/or proof of payment.

4 PT SCHEME DESCRIPTIONS

The timeline for the PTS is presented in Table 1. This study is designed to support laboratories routinely performing aflatoxin M1 in milk analysis. The maximum tolerable level of the analyte is very low and detection at these concentrations requires careful consideration of the detection system limits. Instructions for proper handling and storage of the samples prior to sample preparation will accompany the PT scheme samples. Participants should adhere to these instructions to ensure sample integrity and comparability of the final measurement results received.

Table 1: PTS details for NMISA-PT-65 Aflatoxin M1 in milk.

NMISA-PT-65 Aflatoxin M1 in Milk		Sample format	Distribution/ Dispatch	Result reporting
Parameters	Aflatoxin M1 (0.025 - 5 µg/kg in the dried milk powder)	2 x 20 g milk powder (10 g made up with water to a volume of 100 mL)	Oct 2021	Nov 2021
Result Reporting	Participants will be required to perform the analysis using their normal laboratory procedures and are required to report **two results for aflatoxin M1 in the sample provided.** Results will be reported in µg/kg in the dried milk sample. Instructions for reconstitution will be provided together with the samples. Participants are encouraged to include an uncertainty estimate for each result obtained. The result reporting form will be distributed to participants and will request additional information on the measurement technique and instrument parameters, any recovery correction application, calibration standards used etc.			
PT conduct	**Assigned value** • The assigned value for the aflatoxin M1 will be the values obtained through immunoaffinity column clean-up (IAC) LC-FLD and/or LC-IDMS analysis at the NMISA Organic Analysis Laboratory. **Laboratory performance** • Laboratory performance will be evaluated using the z-score **Standard deviation of proficiency assessment** • The Horwitz model will be used to estimate a standard deviation of proficiency assessment. The standard deviation of participant results will also be included in the final PT report for reference and comparison to the Horwitz prediction. **PT report** • The PTS report will be distributed within 1 week following the result submission deadline. Reports will be provided in electronic format only (Adobe Acrobat- pdf) files. • The scheme is fully confidential. Each participant will be issued with a unique identification number. For multiple participants within the same laboratory the participating laboratory is required to identify its analysts by a code known only to the laboratory.			