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# **Forensic alcohol analysis Proficiency testing schemes**

**2025-26**

**NMISA-PT-128**

## **Determination of ethanol in air by alcohol breath analyser using the waterbath (wet gas) method**

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## 1 FORWARD

Proficiency testing schemes are used by laboratory accreditation bodies as part of the assessment process to assess the ability of laboratories to competently perform the test for which the accreditation is held. Proficiency tests complement the traditional technique of on-site review by technical specialists.

This scheme is operated by the National Metrology Institute of South Africa (NMISA) in accordance with ISO/IEC 17043 Conformity assessment – general requirements for proficiency testing.

## 2 THE SCHEME

The scheme will consist of three different concentrations of aqueous ethanol (1500 ml per concentration level for each participant). The ethanol in air concentrations at 34°C can range from 0.04 mg/ L to 3.0 mg/ L.

Participants will be expected to measure the ethanol in air at 34°C for each of the proficiency testing samples in the usual working mode of the alcohol breath analyser. Duplicate results per participant must be provided.

The expected performance of the participants is evaluated based on the maximum permissible errors (mpe's) of SANS 1793: 2013 for Evidential alcohol breath analysers.

The mpe, positive or negative, shall be:

0,02 mg/L for measured concentration less than 0,4 mg/L;

5% of the measured concentration greater or equal to 0,4 mg/L and less than or equal to 2,0 mg/L;

20% of the measured concentration for all mass concentration greater to 2,0 mg/L.

## 3 PARTICIPATION FEES AND ADDITIONAL CHARGES

The cost of participation in the PTS is 7 500.00 ZAR (0% VAT). This fee includes three 1500ml of three different ethanol concentrations. The materials are certified ethanol reference solutions. The fee also includes one full electronic confidential PT report. Only one result may be submitted per participant registration.

For delivery within the Republic of South Africa (RSA) the fee includes delivery.

***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.***

Participants are required to register on the NMISA customer portal, where a quotation will be provided. Registration is confirmed upon receipt of a Purchase Order or proof of payment.

Please contact Ms Sherona Reddy, for assistance with the portal and logistics, at [sreddy@nmisa.org](mailto:sreddy@nmisa.org).

#### 4 PROPOSED SCHEME DATES

<b>Preliminary sample distribution date</b>	<b>Preliminary deadline for result submission</b>	<b>Report date (approximately 2 weeks after results submission)</b>
01 <sup>st</sup> October 2025	30 October 2025	14 <sup>th</sup> November 2025

Please note! The planned sample distribution dates and subsequent submission and report dates may vary and is subject to receipt of purchase orders from the majority of participants.

#### 5 OTHER IMPORTANT INFORMATION

A report will be issued to each participating laboratory. Reports will be provided in electronically format only as Adobe Acrobat (pdf) files.

The scheme is fully confidential. Each participating laboratory will be issued with a unique laboratory identification number, which will change for every round. Each laboratory is required to identify its analysts by a code known only to the laboratory. The participating laboratory will be required to put in place its own documentation pertaining to its numbering system and handling of the proficiency testing scheme.