CERTIFICATE OF ACCREDITATION

In terms of section 22(2) (b) of the Accreditation for Conformity Assessment, Calibration and Good Laboratory Practice Act, 2006 (Act 19 of 2006), read with sections 23(1), (2) and (3) of the said Act, I hereby certify that:-

NATIONAL METROLOGY INSTITUTE OF SOUTH AFRICA

GAS ANALYSIS SECTION

Accreditation Number: **RMP002**

is a South African National Accreditation System Accredited Producer of Reference Materials provided that all SANAS conditions and requirements are complied with

This certificate is valid as per the scope as stated in the accompanying scope of accreditation Annexure "A", bearing the above accreditation number for

PRODUCER OF REFERENCE MATERIALS

The facility is accredited in accordance with the recognised International Standard

ISO 17034:2016

The accreditation demonstrates technical competency for a defined scope and the operation of a quality management system

While this certificate remains valid, the Accredited Facility named above is authorised to use the relevant SANAS accreditation symbol to issue facility reports and/or certificates

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Mr T Baleni
Acting Chief Executive Officer

Effective Date: 06 September 2021
Certificate Expires: 30 May 2024

ANNEXURE A

SCOPE OF ACCREDITATION

Accreditation Number: RMP002

Permanent Address of Laboratory:
National Metrology Institute of SA
Gas Analysis Section
Producer of Reference Materials
Building 6, CSIR Campus
Meiring Naude Road
Brummeria
0001

Postal Address:
Private Bag X34
Lynnwood Ridge
Pretoria
0040

Tel: (012) 841-2633
Fax: (012) 841-2131
E-mail: lntatamala@nmisa.org

Technical Signatories: Ms N Leshabane (all items)
Ms MI Jozela (all Items)
Ms G Mphaphuli (all Items)
Ms P Seemane (all Items)
Ms T Mphamo (all items excl. 3.1)
Mr M Mogale (all items excl. 3.1)
Ms P Marebane (all items excl. 3.1)

Nominated Representative: Ms LN Ntatamala

Issue No.: 08
Date of Issue: 14 February 2022
Expiry Date: 30 May 2024

ITEM	PROPERTY (IES) CHARACTERIZED	DETAIL of PROPERTY CHARACTERIZED	RANGE of PROPERTY CHARACTERIZED	RELATIVE UNCERTAINTY (±) INDICATIVE VALUE K = 2	METHOD USED TO ASSIGN PROPERTY VALUE
2	**CERTIFIED REFERENCE MATERIAL (CRM)**				
2.1	**Reference Gases: Permanent Gases**				
2.1.1	Chemical Elements	Carbon Monoxide (CO) in N_2 /Air	1 to 100 µmol/mol 100 to 1 000 µmol/mol 1 to 100 mmol/mol	1,0 % 0,5 % 0,5 %	Combination of Ingredients using the Gravimetric method as per ISO 1642
2.1.2		Carbon Dioxide (CO_2) in N_2 /Air	100 to 1 000 µmol/mol 1 to 200 mmol/mol	0,5 % 0,5 %	
2.1.3		Nitric Oxide (NO) in N_2	10 to 100 µmol/mol 100 to 1 000 µmol/mol 1 to 10 mmol/mol	1,0 % 0,5 % 0,5 %	
2.1.4		Sulphur Dioxide (SO_2) in N_2 /Air	10 to 100 µmol/mol 100 to 1 000 µmol/mol 1 to 10 mmol/mol	1,0 % 0,5 % 0,5 %	
2.1.5		Nitrogen Dioxide (NO_2) in N_2	10 to 1000 µmol/mol	3.6 to 1.0 %	
2.1.6		Hydrogen Sulphide (H_2S) in N_2/Air	10 to 100 µmol/mol 0,1 to 10 mmol/mol	3.0 to 1.5 % 1.5 to 3.0 %	

Accreditation Manager

Accreditation No.: RMP002
Date of Issue: 14 February 2022
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ITEM	PROPERTY (IES) CHARACTERIZED	DETAIL of PROPERTY CHARACTERIZED	RANGE of PROPERTY CHARACTERIZED	RELATIVE UNCERTAINTY (±) INDICATIVE VALUE K = 2	METHOD USED TO ASSIGN PROPERTY VALUE
2.2	**Reference Gases: Multi Component Mixtures**				
2.2.1	Chemical Elements	Stack gas mixtures: Carbon monoxide Carbon dioxide Propane Nitric oxide Sulphur dioxide	 10 to 100 µmol/mol 10 to 16 % mol/mol 10 to 100 µmol/mol 100 to 1 000 µmol/mol 200 to 2 000 µmol/mol	 1,0 % 1,0 % 1,0 % 1,0 % 1,0 %	Combination of Ingredients using the Gravimetric method as per ISO 1642
2.2.2		Automotive exhaust gas mixtures: Carbon monoxide Carbon dioxide Propane Nitric oxide Methane	 100 to 20 000 µmol/mol 1 to 20 % mol/mol 10 to 1 000 µmol/mol 100 to 1 000 µmol/mol 1 to 20 mmol/mol	 1.0 % 1.0 % 1.0 % 1.0 % 2.0 %	
2.2.3		Medical gas (N_2 balance) Carbon monoxide Oxygen	 5 to 10 mmol/mol 20 to 25 mmol/mol	 2.0 % 2.0 %	
2.3	**Reference Gases: Condensable Gas Mixtures**				
2.3.1	Chemical Elements	Ethanol (C2H5OH in N2)	50 to 550 µmol/mol	0.5 %	Combination of Ingredients using the Gravimetric method as per ISO 1642

ISSUED BY THE SOUTH AFRICAN NATIONAL ACCREDITATION SYSTEM

Accreditation Manager