



NATIONAL PHYSICAL LABORATORY

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Certificate of Calibration

PRIMARY REFERENCE GAS MIXTURE



4002

ID 102034

Cylinder Number: 195524 SG

REF ID: A02034

This certificate is issued in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service. It provides traceability of measurement to recognised national standards, and to units of measurement realised at the National Physical Laboratory or other recognised national standards laboratories. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory.

CUSTOMER: Deutscher Wetterdienst

ADDRESS: Meteorologisches Observatorium, D-82383, Hohenpeissenberg, Germany.

CALIBRATION DATE: 14th October 2008

AMOUNT FRACTION:

Species	Amount Fraction $\mu\text{mol/mol}$
Nitrogen Monoxide	(9.94 $\pm$ 0.10)
Nitrogen	Balance

The reported uncertainties of the results are based on standard uncertainties multiplied by coverage factor of $k=2$, providing a level of confidence of approximately 95%.

METHODS: Preparation: Gravimetry
Analysis: Non-Dispersive Ultra-Violet detector (NDUV)
Chemiluminescence

EXPIRY: Certificate valid for 1 year from the date of issue

INTENDED USE: Calibration Standard

TRACEABILITY: The value on this certificate is traceable to NPL Primary Standards

PRESSURE: Fill pressure: 100 bar; minimum utilisation pressure: 10 bar

STORAGE: No special requirements

HANDLING: Refer to ISO 16664:2004

OUTLET: BS 341 No 14 valve

Reference: E08060143

Date of issue: 14th October 2008

Signed: M. M. Milvo (Authorised Signatory)

Name: Dr M J T Milton (for Managing Director)

Checked by: C. Bruckner

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This certificate is consistent with the capabilities that are included in Appendix C of the MRA drawn up by the CIPM. Under the MRA, all participating institutes recognize the validity of each other's calibration and measurement certificates for the quantities, ranges and measurement uncertainties specified in Appendix C (for details see <http://www.bipm.org>).