

NATIONAL PHYSICAL LABORATORY

Teddington Middlesex UK TW11 0LW Switchboard 020 8977 3222



Certificate of Calibration

SECONDARY GAS STANDARD

CUSTOMER DETAILS:

Deutscher Wetterdienst
Meteorologisches Observatorium Hohenpeissenberg
Abin Schwaiger Weg 10
D - 82383
Germany

IDENTIFICATION:

Cylinder no: APE 358162

DESCRIPTION:

Secondary Gas Standard
Mixture of 30 hydrocarbons at trace concentrations in nitrogen

DATE OF CALIBRATION:

August 2005

COMPONENT	AMOUNT FRACTION [nmol/mol]	UNCERTAINTY [nmol/mol]	COMPONENT	AMOUNT FRACTION [nmol/mol]	UNCERTAINTY [nmol/mol]
ethane	9.81	± 0.25	trans-2-pentene	6.68	± 0.17
ethene	5.12	± 0.13	cis-2-pentene	3.44	± 0.09
ethyne	10.90	± 0.27	isoprene	4.19	± 0.10
propane	4.36	± 0.11	2-methylpentane	2.56	± 0.06
propene	4.92	± 0.12	3-methylpentane	3.96	± 0.10
propyne	3.03	± 0.08	cyclo hexane	6.81	± 0.17
n-butane	2.27	± 0.06	n-hexane	4.50	± 0.11
iso-butane	1.45	± 0.04	benzene	7.71	± 0.23
iso-butene	4.85	± 0.12	n-heptane	3.45	± 0.09
but-1-ene	4.82	± 0.12	toluene	5.95	± 0.15
trans-2-butene	1.63	± 0.04	ethylbenzene	2.44	± 0.06
cis-2-butene	3.23	± 0.08	o-xylene	1.99	± 0.05
1,3-butadiene	6.38	± 0.22	m-xylene	3.02	± 0.08
n-pentane	1.59	± 0.04	1,2,4-trimethyl benzene	1.49	± 0.05
i-pentane	1.99	± 0.05	1,3,5-trimethyl benzene	1.75	± 0.06

The reported uncertainty of the hydrocarbon concentrations is based on a standard uncertainty multiplied by a coverage factor $k = 2$ that provides a level of confidence of approximately 95%

Reference: E05050085

Date of issue: August 2005

Signed:

(Authorised Signatory)

Checked by:

Name: Dr P T Woods

for Managing Director

Checked by:

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