財團法人全國認證基金會
Taiwan Accreditation Foundation

Certificate of Accreditation

(Certificate No：LN2346-250814)

This is to certify that

National Measurement Laboratory, R.O.C.

National Measurement Laboratory, R.O.C.(Chemical)

No.321, Sec. 2, Kuang Fu Rd., Hsinchu City, Taiwan, R.O.C.

is accredited in respect of laboratory

Accreditation Criteria	：	ISO/IEC 17025:2017；CNS 17025:2018
Accreditation Number	：	N2346
Originally Accredited	：	December 29, 2010
Effective Period	：	December 29, 2025 to December 28, 2030
Accredited Scope	：	Calibration Field, see described in the Appendix
Specific Accreditation Program	：	Accreditation Program for National Metrology Institutes

Scan to verify

Yi-Ling Chen

Yi-Ling Chen
President, Taiwan Accreditation Foundation
August 14, 2025

The Appendix forms an integral part of this Certificate, which shall be invalid when use without the Appendix

Accreditation Number ：N2346
Laboratory Head ：LAN, Yu-Ping

Chemical

calibration items	working standard	calibration method	measurand level or range				measurement conditions /independent variable	smallest uncertainty	
	brand /model	document name /no.	minimum value	units	maximum value	units	explanation	value	units
KI4000 C_2H_5OH (Cylinder Gas)	Standard Gas: NMIs/C_2H_5OH	In house method: Instrument Calibration Technique for the Component Concentration of Cylinder Gas (Document No.: 07-3-91-0035)	130	µmol/mol	550	µmol/mol	C_2H_5OH/N_2, C_2H_5OH/air	0.8	%
Approval Signatory: FENG, Yun; LIU, Hsin-Wang									
KI4000 CO, CO_2, CH_4, C_3H_8 (Cylinder Gas)	Standard Gas: NMIs/CO, CO_2, CH_4, C_3H_8	In house method: Instrument Calibration Technique for the Component Concentration of Cylinder Gas (Document No.: 07-3-91-0035)	10	µmol/mol	1000	µmol/mol	CO/N_2	0.5	%
			100	µmol/mol	1000	µmol/mol	CO_2/N_2	0.4	%
			100	µmol/mol	1000	µmol/mol	CH_4/N_2, CH_4/air	0.5	%
			100	µmol/mol	1000	µmol/mol	C_3H_8/N_2	1.0	%
Approval Signatory: FENG, Yun; LIU, Hsin-Wang									

calibration items	working standard	calibration method	measurand level or range				measurement conditions /independent variable	smallest uncertainty	
	brand /model	document name /no.	minimum value	units	maximum value	units	explanation	value	units
KI4000 CO, CO_2, CH_4, C_3H_8, CF_4, SF_6, NO, SO_2, O_2 (Cylinder Gas)	Standard Gas: NMIs/CO, CO_2, CH_4, C_3H_8, CF_4, SF_6, NO, SO_2, O_2	In house method: Instrument Certification Technique for Filling Mass Cylinder Gases and Concentration of Gas Mixtures-Gravimetric Method (Document No.: 07-3-A3-0179)	1	μmol/mol	100	μmol/mol	CO/N_2	1.0	%
			>0.1	mmol/mol	100	mmol/mol	CO/N_2	0.2	%
			100	μmol/mol	1000	μmol/mol	CO_2/N_2	0.2	%
			>1	mmol/mol	160	mmol/mol	CO_2/N_2	0.1	%
			100	μmol/mol	1000	μmol/mol	CH_4/N_2	0.8	%
			>1	mmol/mol	100	mmol/mol	CH_4/N_2	0.1	%
			0.1	mmol/mol	50	mmol/mol	C_3H_8/N_2	0.5	%
			100	μmol/mol	3000	μmol/mol	CF_4/N_2	0.3	%
			10	μmol/mol	1000	μmol/mol	SF_6/N_2	0.5	%
			50	μmol/mol	2000	μmol/mol	NO/N_2	0.8	%
			50	μmol/mol	2000	μmol/mol	SO_2/N_2	0.5	%
			1	μmol/mol	10	μmol/mol	O_2/N_2	1.5	%
			1	mmol/mol	10	mmol/mol	O_2/N_2	0.5	%
			>10	mmol/mol	250	mmol/mol	O_2/N_2	0.3	%
			1	mmol/mol	20	mmol/mol	CH_4/air	0.3	%
Approval Signatory: FENG, Yun; LIU, Hsin-Wang									
KI4000 CO, CO_2, CH_4, C_3H_8, O_2 (Cylinder Gas)	Standard Gas: NMIs / CO, CO_2, CH_4, C_3H_8, O_2	In house method: Instrument Calibration Technique for the Component Concentration of Cylinder Gas (Document No.: 07-3-91-0035)	1000	μmol/mol	10000	μmol/mol	CO/N_2	0.3	%
			>10000	μmol/mol	200000	μmol/mol	CO/N_2	0.3	%
			1000	μmol/mol	10000	μmol/mol	CO_2/N_2	0.3	%
			>10000	μmol/mol	300000	μmol/mol	CO_2/N_2	0.3	%
			1000	μmol/mol	10000	μmol/mol	CH_4/N_2, CH_4/air	0.6	%
			>10000	μmol/mol	100000	μmol/mol	CH_4/N_2, CH_4/air	0.6	%
			1000	μmol/mol	10000	μmol/mol	C_3H_8/N_2	0.5	%
			>10000	μmol/mol	50000	μmol/mol	C_3H_8/N_2	0.5	%
			1000	μmol/mol	10000	μmol/mol	O_2/N_2	0.6	%
			>10000	μmol/mol	250000	μmol/mol	O_2/N_2	0.6	%
Approval Signatory: FENG, Yun; LIU, Hsin-Wang									

calibration items	working standard	calibration method	measurand level or range				measurement conditions /independent variable	smallest uncertainty	
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KI4000 NO, SO_2 (Cylinder Gas)	Standard Gas: NMIs/NO, SO_2	In house method: Instrument Calibration Technique for the Component Concentration of Cylinder Gas (Document No.: 07-3-91-0035)	50	μmol/mol	2000	μmol/mol	NO/N_2	0.8	%
			50	μmol/mol	2000	μmol/mol	SO_2/N_2	0.6	%
Approval Signatory: FENG, Yun; LIU, Hsin-Wang									
KI4000 Synthetic Natural Gas (Cylinder Gas)	Standard Gas: NMIs/Synthetic Natural Gas	In house method: Instrument Calibration Technique for the Component Concentration of Natural Gas (Document No.: 07-3-A1-0028)	30	cmol/mol	95	cmol/mol	CH_4	0.06	%
			0.1	cmol/mol	10	cmol/mol	C_2H_6	0.33	%
			0.1	cmol/mol	10	cmol/mol	C_3H_8	0.71	%
			0.01	cmol/mol	1.0	cmol/mol	iso-C_4H_{10}	0.51	%
			0.01	cmol/mol	1.0	cmol/mol	n-C_4H_{10}	0.51	%
			0.01	cmol/mol	1.0	cmol/mol	neo-C_5H_{12}	0.94	%
			0.01	cmol/mol	1.0	cmol/mol	iso-C_5H_{12}	0.60	%
			0.01	cmol/mol	1.0	cmol/mol	n-C_5H_{12}	0.60	%
			0.01	cmol/mol	1.0	cmol/mol	n-C_6H_{14}	0.60	%
			0.01	cmol/mol	50	cmol/mol	N_2	0.32	%
			0.01	cmol/mol	50	cmol/mol	CO_2	0.24	%
			0.01	cmol/mol	2.0	cmol/mol	O_2	1.3	%
Approval Signatory: FENG, Yun; LIU, Hsin-Wang									

calibration items	working standard	calibration method	measurand level or range				measurement conditions /independent variable	smallest uncertainty	
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KI6000 Gas Monitor, Gas Alarm, Gas Detector	Standard Gas: NMIs/CO, CO_2, CH_4, C_3H_8	In house method: Instrument Calibration Technique for Gas Measurement System-Gas Monitor (Document No.: 07-3-91-0072)	0.0	mol/mol	0.1	mol/mol	CO	2.0	µmol/mol
			0	mol/mol	1	mol/mol	CO_2	6.0	µmol/mol
			0.00 (0.0)	mol/mol (%LEL)	0.05 (100)	mol/mol (%LEL)	CH_4	59 (1.0)	µmol/mol (%LEL)
			0.00 (0.0)	mol/mol (%LEL)	0.02 (100)	mol/mol (%LEL)	C_3H_8	26 (1.0)	µmol/mol (%LEL)
Approval Signatory: FENG, Yun; LIU, Hsin-Wang									
KI7000 Formaldehyde Gas Analyzer	Standard Gas: NMIs / CH_2O	In house method: Instrument Calibration Technique for Formaldehyde Gas Analyzer and Sensor (Document No.: 07-3-A5-0122)	1	µmol/mol	10	µmol/mol	CH_2O/N_2	0.024	µmol/mol
Approval Signatory: FENG, Yun; LIU, Hsin-Wang									
KI7000 Gas Analyzer	Standard Gas: NMIs/CO, CO_2, CH_4, C_3H_8	In house method: Instrument Calibration Technique for Gas Measurement System-Gas Monitor (Document No.: 07-3-91-0072)	0.0	mol/mol	0.1	mol/mol	CO	2.0	µmol/mol
			0	mol/mol	1	mol/mol	CO_2	6.0	µmol/mol
			0.00 (0.0)	mol/mol (%LEL)	0.05 (100)	mol/mol (%LEL)	CH_4	59 (1.0)	µmol/mol (%LEL)
			0.00 (0.0)	mol/mol (%LEL)	0.02 (100)	mol/mol (%LEL)	C_3H_8	26 (1.0)	µmol/mol (%LEL)
Approval Signatory: FENG, Yun; LIU, Hsin-Wang									

calibration items	working standard	calibration method	measurand level or range				measurement conditions /independent variable	smallest uncertainty	
	brand /model	document name /no.	minimum value	units	maximum value	units	explanation	value	units
KI7000 Gas Concentration Dilution Device (CO, CO_2, CH_4)	Standard Gas: NMIs/CO, CO_2, CH_4	In house method: Instrument Calibration Technique for the Concentration Calibration of Gas Dilutor-Gas Chromatography (Document No.: 07-3-A3-0185)	0	%	100	%	CO_2/N_2 @ (50 to 5000) μmol/mol	0.03	%
			0	%	100	%	CO/N_2 @ (1 to 100) μmol/mol	0.02	%
			0	%	100	%	CH_4/air @ (1000 to 20000) μmol/mol	0.15	%
Approval Signatory: FENG, Yun; LIU, Hsin-Wang									

Note：Smallest uncertainty represents an expanded uncertainty using a coverage factor approximately 95 % level of confidence.
(Null Below)