


Schedule of Accreditation

issued by

United Kingdom Accreditation Service

2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

 0423 Accredited to ISO/IEC 17025:2017	LGC Limited	
	Issue No: 041 Issue date: 30 June 2025	
	Queens Road Teddington Middlesex TW11 0LY	Contact: Natasha Heath Tel: +44 (0)20 8943 7374 E-Mail: Natasha.Heath@lgcgroup.com Website: www.LGCgroup.com
Calibration performed by the Organisation at the locations specified		

Locations covered by the organisation and their relevant activities

Laboratory locations:

Location details		Activity	Location code
Address Queens Road Teddington Middlesex TW11 0LY	Local contact Natasha Heath Tel: +44 (0)20 8943 7374 E-Mail: Natasha.Heath@lgcgroup.com	Chemical (including): Purity Volatiles/Non-volatiles Water content Peptide Mass Fraction Density	A
Address Priestley Centre 10 Priestley Road Guildford GU2 7XY	Local contact Natasha Heath Tel: +44 (0)20 8943 7374 E-Mail: Natasha.Heath@lgcgroup.com	Chemical (including): Purity	B



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Calibration and Measurement Capability (CMC)

Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty ($k = 2$)	Remarks	Location Code
CHEMICAL				
Forensic Alcohol Standards	20 mg/100 ml solution to 600 mg/100 ml solution	0.60 mg alcohol/100 ml solution	SOP FFF/B1-1025 using chemical oxidation with excess dichromate determined by titration	A
Purity of Ethanol and ethanol/water mixtures	20 mg/100 ml solution to 600 mg/100 ml solution to absolute ethanol	100% relative to total organic impurities present (typically < 0.02% wt/ wt)	SOP FFF/B1-1027 using Gas Chromatography	A
Purity of organic materials (molecular weight up to 1000)	Purity of 90% to 100% (wt/wt)	Minimum expanded uncertainty 0.20% (wt/wt)	SOP INS/B1 0416 using quantitative ^1H Nuclear Magnetic resonance (NMR) using a Bruker 600MHz spectrometer	B
Purity of organic materials (molecular weight up to 1000)	Purity of 1% to 90% (wt/wt)	Minimum expanded uncertainty 0.04 to 0.23 % (wt/wt)	SOP INS/B1 0417 using quantitative ^1H Nuclear Magnetic resonance (NMR) using a Bruker 600MHz spectrometer	B
Concentration of calibration solutions	Concentration of 0.01% to 1.0% (wt/wt)	Minimum expanded uncertainty 0.0005 to 0.03 % (wt/wt)	SOP INS/B1 0419 using quantitative ^1H Nuclear Magnetic resonance (NMR) using a Bruker 600MHz spectrometer	B
Purity of organic materials	Purity of 98.5 % to 100% (wt/wt)	0.40 % (wt/wt)	SOP INS/B1-0303 using Gas Chromatography	A
	Purity of 98.5 % to 100% (wt/wt)	0.40 % (wt/wt)	SOP INS/B1-0302 using High Performance Liquid Chromatography	A
	Purity of 98.5 % to 100% (wt/wt)	0.30 % (wt/wt)	SOP INS/B1-0405 using Differential Scanning Calorimetry	A
Volatiles and non-volatiles in organic materials	% wt/wt Volatile Organics	0.12% to 0.28% (wt/wt)	SOP INS/B1 -0415 using Thermogravimetric Analyser (TGA). Uncertainty is dependent on the mass loss and is given as an example range	A
	% wt/wt Inorganic Residue (heating to 800°C)	0.08% (wt/wt)		



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Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty ($k = 2$)	Remarks	Location Code
CHEMICAL (cont'd)				
Determination of water content	0.03 mg H ₂ O to 0.14 mg H ₂ O 0.14 mg H ₂ O to 11.0 mg H ₂ O	1.22 x water content (%m/m) 0.08 x water content (%m/m)	SOP INS/B1-0411 using coulometric Karl-Fischer titration. Uncertainty is dependent on measured water content and sample size > 150mg required if water content < 0.1%. Note that the technique is sample size dependent.	A
Peptide mass fraction	Synthetic unmodified peptide of known sequence with less than 10% peptidic impurities, containing at least three of amino acids alanine, glycine, valine, leucine, isoleucine, proline, phenylalanine, lysine, arginine	3.0 to 6.0%	SOP INS B1-0418 using microwave digestion and GC-MS	A
DENSITY				
Apparent density in air at 20 °C of alcohol/water mixtures	788.16 kg/m ³ to 997.15 kg/m ³	0.040 - 0.060 kg/m ³	SOP FFF/B1-1026, Density measurements by pycnometry	A
	Corresponding to 100 % to 0 % alcohol by volume		Relating to density in air at 20 °C to % abv using HM Customs and Excise official laboratory alcohol table RDC 80/267/04 which is based upon the OIML value of ethanol density of 789.24 kg/m ³ published in support of OIML IR22, leading to an apparent density in air of pure ethanol at 20 °C of 788.16 kg/m ³	A
END				



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Appendix - Calibration and Measurement Capabilities

Introduction

The definitive statement of the accreditation status of a calibration laboratory is the Accreditation Certificate and the associated Schedule of Accreditation. This Schedule of Accreditation is a critical document, as it defines the measurement capabilities, ranges and boundaries of the calibration activities for which the organisation holds accreditation.

Calibration and Measurement Capabilities (CMCs)

The capabilities provided by accredited calibration laboratories are described by the Calibration and Measurement Capability (CMC), which expresses the lowest measurement uncertainty that can be achieved during a calibration. If a particular device under calibration itself contributes significantly to the uncertainty (for example, if it has limited resolution or exhibits significant non-repeatability) then the uncertainty quoted on a calibration certificate will be increased to account for such factors.

The CMC is normally used to describe the uncertainty that appears in an accredited calibration laboratory's schedule of accreditation and is the uncertainty for which the laboratory has been accredited using the procedure that was the subject of assessment. The measurement uncertainty is calculated according to the procedures given in the GUM and is normally stated as an expanded uncertainty at a coverage probability of 95 %, which usually requires the use of a coverage factor of $k = 2$. An accredited laboratory is not permitted to quote an uncertainty that is smaller than the published measurement uncertainty in certificates issued under its accreditation.

Expression of CMCs - symbols and units

It should be noted that the percentage symbol (%) represents the number 0.01. In cases where the measurement uncertainty is stated as a percentage, this is to be interpreted as meaning percentage of the measurand. Thus, for example, a measurement uncertainty of 1.5 % means $1.5 \times 0.01 \times q$, where q is the quantity value.

The notation $Q[a, b]$ stands for the root-sum-square of the terms between brackets: $Q[a, b] = [a^2 + b^2]^{1/2}$