


# Schedule of Accreditation

issued by

## United Kingdom Accreditation Service

21 - 47 High Street, Feltham, Middlesex, TW13 4UN, UK

 <p><b>UKAS</b> CALIBRATION</p> <p><b>0423</b></p> <p>Accredited to <b>ISO/IEC 17025:2005</b></p>	<p><b>LGC Limited</b></p> <p>Issue No: 023    Issue date: 14 April 2011</p>	
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<p><b>Calibration performed at the above address only</b></p>		

### DETAIL OF ACCREDITATION

Measured Quantity Instrument or Gauge	Range	Calibration and Measurement Capability (CMC) Expressed as an Expanded Uncertainty ( $k = 2$ )	Remarks
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  SOP FFF/B1-1027 using Gas Chromatography
Purity of organic materials	Purity of 98.5 % to 100% (wt/wt)	0.40 % (wt/wt)	SOP INS/B1-0303 using Gas Chromatography
	Purity of 98.5 % to 100% (wt/wt)	0.40 % (wt/wt)	SOP INS/B1-0302 using High Performance Liquid Chromatography
	97 % to 100 % (wt/wt)	0.30 % (wt/wt)	SOP INS/B1-0405 using differential scanning calorimetry
Water content	0.01 % to 5 % wt/wt	4.0 % wt/wt	SOP INS/B1-0402 using coulometric Karl-Fischer titration
Samples (liquid and solid) with water content in the range 0.02 mg to 11.0 mg (sample size to be selected appropriately).	0.02 mg H <sub>2</sub> O to 0.10 mg H <sub>2</sub> O 0.10 mg H <sub>2</sub> O to 5.0 mg H <sub>2</sub> O 5.0 mg H <sub>2</sub> O to 11.0 mg H <sub>2</sub> O	1.2 relative 0.80 relative 0.60 relative	SOP INS/B1-0411 using coulometric Karl-Fischer titration. Note that the technique is sample size dependent.



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Measured Quantity Instrument or Gauge	Range	Calibration and Measurement Capability (CMC) Expressed as an Expanded Uncertainty ( $k = 2$ )	Remarks
DENSITY  Apparent density in air at 20 °C of alcohol/water mixtures	788.16 kg/m <sup>3</sup> to 997.15 kg/m <sup>3</sup>  Corresponding to 100 % to 0 % alcohol by volume	0.060 kg/m <sup>3</sup>	SOP FFF/B1-1026, Density measurements by pycnometry  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 <sup>3</sup> published in support of OIML IR22, leading to an apparent density in air of pure ethanol at 20 °C of 788.16 kg/m <sup>3</sup>
PHYSICAL  Pure substance melting point	40 °C to 250 °C	0.17 °C to 0.27 °C	SOP INS/B1-0412 Determination of liquefaction temperature of pure substances
END			