



0658

ISO 17025

Certificate of Calibration

Certificate Number: C123425

Date Issued: 01/09/2007

Page 1 of 2 pages

Description:

Copper 1000 ppm
element reference solution

Category & Code:

ROMIL PrimAg[®]-xtra

E3CU6

Specification:

Cu AW 63.55

1000 ppm as Cu

Solute: Cu metal

Matrix: HNO₃ 0.5M

Application: AA, ICP, IC and ISE calibration

Batch Number:

C123425

Date of Calibration:

September 2007

Calibration Result:

1002.1 ppm m/v @ 20°C

Expanded Uncertainty:

± 1.3 ppm

(ppm m/v = mg/L)

Impurity Information:

see following page

Approved Signatory:
Dr Robert M Lenk
CChem MRSC

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor $k=2$, providing a level of confidence of approximately 95%. The uncertainty evaluation has been carried out in accordance with UKAS requirements.

Printed from a master computer file which has been authorised by the signatory.

This certificate is issued in accordance with the laboratory accreditation requirements to ISO 17025 of the United Kingdom Accreditation Service (UKAS). It provides SI-traceability of measurement to the mole realised by a PrimAg primary silver reference material, also to recognised national standards, and to units of measurement realised at the National Physical Laboratory or other recognised national standards laboratories. UKAS is one of the signatories to the Multilateral Agreement of the European co-operation for Accreditation (EA) as well as the International Laboratory Accreditation Cooperation (ILAC) Arrangement for the mutual recognition of calibration certificates issued by accredited laboratories. This certificate may not be reproduced other than in full, except with the prior written approval of ROMIL Ltd. PrimAg is a registered trademark of ROMIL Ltd.



0658

ISO 17025

Certificate of Calibration

Certificate Number: C123425

Date Issued: 01/09/2007

Page 2 of 2 pages

Description:

Copper 1000 ppm
element reference solution

Category & Code:

ROMIL PrimAg[®]-xtra

E3CU6

Impurity Information* (ppb):

Ag	3.600	Fe	11.00	Nd	< 0.001	Sn	1.100
Al	36.00	Ga	0.150	Ni	3.100	Sr	0.130
As	< 0.001	Gd	< 0.001	Os	< 0.001	Ta	0.003
Au	0.014	Ge	0.032	P	< 0.001	Tb	< 0.001
B	370.0	Hf	< 0.001	Pb	10.00	Te	1.200
Ba	0.170	Hg	93.00	Pd	44.00	Th	0.005
Be	< 0.001	Ho	< 0.001	Pr	< 0.001	Ti	0.410
Bi	0.120	In	0.018	Pt	< 0.001	Tl	0.004
Ca	120.0	Ir	0.004	Rb	0.049	Tm	0.004
Cd	0.024	K	8.100	Re	< 0.001	U	0.008
Ce	0.042	La	0.013	Rh	25.00	V	1.500
Co	2.00	Li	0.019	Ru	0.410	W	0.034
Cr	44.00	Lu	< 0.001	S	< 0.001	Y	0.004
Cs	< 0.001	Mg	2.100	Sb	0.094	Yb	< 0.001
Cu		Mn	0.250	Sc	0.076	Zn	4.900
Dy	0.010	Mo	7.900	Se	1.400	Zr	0.051
Er	0.013	Na	21.00	Si	34.00		
Eu	< 0.001	Nb	0.009	Sm	< 0.001		

Elemental impurities were determined by ICP-MS on the solution as prepared. Values reported are raw data with no estimation made for uncertainty or spectrographic interferences. A 'less than' value (<) means 'not detected'. Impurity levels are supplied for information only and should not be used as calibration data.

*Not UKAS Accredited