Shannon Free Zone, Shannon, Co. Clare, Ireland
Tel: +353 61 472622 Fax: +353 61 472642
Email:sales@reagecon.ie
www.reagecon.com

CERTIFICATE OF GRAVIMETRIC PREPARATION

PRODUCT: ICP Standard Cadmium 1000 µg/ml

PRODUCT No.: PCD2A2

MATRIX: 2-5 % HNO_3

LOT NO.: PCD2215B1

DATE OF PREPARATION: 22nd February 2015

EXPIRY DATE: 28th February 2017

DENSITY VALUE: 1.014 g/ml @ 20°C

PREPARATION OF STANDARD:

All standard components have been pre-qualified/verified before use. All analytical measuring devices and instrumentation have been pre-calibrated. The actual concentrations reported below are based on this preparation methodology and compound impurities.

Raw Material	Purity %	Nominal mg/kg	Actual mg/kg
Cadmium	99.999	986	1000 ± 0.2 %

1000 mg/kg is equivalent to 1014 µg/ml

The expanded uncertainty (k=2) due to weighing, volumetric preparation and homogeneity is calculated in compliance with EURACHEM/CITAC Guide: Quantifying Uncertainty in Analytical Measurements as ± 0.2 %. All values are verified by ICP-MS analysis using externally sourced ISO Guide 34 accredited Certified Reference Materials as calibrants/quality controls where possible.

TRACEABILITY IN THE PRODUCTION OF THIS STANDARD

This product was prepared gravimetrically on a mass/mass basis. The solute was weighed on a balance calibrated by Reagecon engineers using mass standards traceable to the National and International primary standard of mass. Reagecon holds ISO17025 accreditation for calibration of non-automatic weighing machines (265C). The resulting Balance Certificate of Calibration was issued in accordance with the requirements of ISO/IEC 17025. The balance was calibrated under monitored environmental conditions and atmospheric pressure. Tests were performed for capacity, readability, repeatability, eccentricity and linearity.

BALANCE ID No.: RRD077 **CALIBRATION DATE OF BALANCE:** 23rd October 2014

CALIBRATION AUTHORITY OF BALANCE: Reagecon Diagnostics Ltd, ISO17025 Accreditation No. 265C.

WEIGHTS No.: RRD090 **CALIBRATION DATE OF MASS SET:** 08th January 2014

CALIBRATION AUTHORITY OF MASS SET: Complete Calibrations (INAB Scope 282C).

TEST METHOD:
The mean result of this standard was verified using a calibrated ICP-MS system according to TPICP. The result reported in this certificate was determined by analysis of a sample of this lot taken at time of manufacture. The density of this standard was determined using a high performance calibrated density meter according to TPDMA5000M. This test method provides traceability to high purity ISO Guide 34 Certified Reference Materials.

This certificate relates solely to the lot number given above.

Approved By: QA Officer

Date: 22nd February 2015