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CERTIFICATE OF GRAVIMETRIC PREPARATION

PRODUCT: IC Multi-Element Standard (5 elements)

PRODUCT No.: ICAS501

MATRIX: H_2O

LOT NO.: AS50122B1

DATE OF PREPARATION: 16th February 2022

EXPIRY DATE: 28th February 2024

DENSITY VALUE: 0.999 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.

Elements	Nominal mg/kg	Actual mg/kg	Actual mg/L @ 20°C
Chloride (as Cl^-)	100.1	100.4	100.3
Fluoride (as F^-)	100.1	100.2	100.1
Nitrate (as NO_3^-)	200.2	200.4	200.2
Phosphate (as PO_4^{3-})	200.2	200.5	200.3
Sulphate (as SO_4^{2-})	200.2	200.4	200.2

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 IC analysis using externally sourced ISO 17034 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 ISO 17025 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.

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

TEST METHOD:

The mean result of this standard was verified using a calibrated IC system according to an in-house test method. The result reported in this certificate was confirmed 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.

This certificate relates solely to the lot number given above.

Approved By: Paul O'Sullivan

Date: 24th February 2022