

CERTIFICATE OF GRAVIMETRIC PREPARATION

PRODUCT: IC Multi-Element Standard (5 elements)
PRODUCT No.: ICAS501
MATRIX: H₂O
LOT NO.: AS50123H1
DATE OF PREPARATION: 25th August 2023
EXPIRY DATE: 28th August 2025
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. 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.

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:A handwritten signature in black ink, appearing to read 'A. Thon'.**Date:** 4th September 2023

This certificate must not be reproduced except in full.