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: Concentrate to make Iron Standard in 0.05M H_2SO_4

PRODUCT No.: 5001600C

LOT NO.: 516C25E1

DATE OF PREPARATION: 12th May 2025

EXPIRY DATE: 28th May 2026

DENSITY VALUE: 1.002 g/mL @ 20 °C

PREPARATION OF CONCENTRATE:

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.

Analyte	Raw Material	Nominal mg/L	Actual mg/kg
Iron, as Fe	Ammonium Iron III Sulphate	200.0	199.6 ± 0.2 %

199.6 mg/kg is equivalent to 200.0 mg/L @ 20 °C

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 17034 accredited Certified Reference Materials as calibrants/quality controls where possible.

DILUTION INSTRUCTIONS FOR PREPARATION OF Ph. Eur. 5001600 (20 mg/L Iron aq.)

1. To prepare Ph. Eur. 5001600 (Iron 20 mg/L) dilute this solution to 10 times it's volume with purified water.
2. Prepare the dilute solutions immediately before use.

TRACEABILITY IN THE PRODUCTION OF THIS STANDARD:

This product was prepared gravimetrically on a mass/mass basis, using balances calibrated by Reagecon engineers with 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 ICP-MS 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: QC Supervisor

Date: 17th May 2025