# Certificate of Analysis

## CLP ICP Spike Standard #1

**Catalog Number: ICM-451**
**Lot Number: 0006538111**
**Lot Issue Date: 05/14/2020**
**Expiration Date: 06/30/2023**

This Reference Material (RM) was manufactured and verified in accordance with Agilent's ISO 9001 registered quality system. The analyte concentration(s) were prepared and verified by an ISO 17034 / ISO 17025 accredited laboratory, and compared to calibration standards independently prepared using NIST SRM(s). The certified value and uncertainty value at the 95% confidence level for each analyte is determined gravimetrically.

| Analyte | True Value | | | | Analytical Method | NIST SRM |
|---|---|---|---|---|---|---|
| aluminum | 2003 | ± | 10 | µg/mL | ICP / ICP-OES | 3101a |
| barium | 2001 | ± | 10 | µg/mL | ICP / ICP-OES | 3104a |
| beryllium | 50.0 | ± | 0.3 | µg/mL | ICP / ICP-OES | 3105a |
| chromium | 200.1 | ± | 1.0 | µg/mL | ICP / ICP-OES | 3112a |
| cobalt | 500.4 | ± | 2.5 | µg/mL | ICP / ICP-OES | 3113 |
| copper | 250.0 | ± | 1.3 | µg/mL | ICP / ICP-OES | 3114 |
| iron | 1001 | ± | 5 | µg/mL | ICP / ICP-OES | 3126a |
| manganese | 500.8 | ± | 2.5 | µg/mL | ICP / ICP-OES | 3132 |
| nickel | 500.9 | ± | 2.5 | µg/mL | ICP / ICP-OES | 3136 |
| * silver | 50.0 | ± | 0.3 | µg/mL | ICP / ICP-OES | 3151 |
| * vanadium | 500.5 | ± | 2.5 | µg/mL | ICP / ICP-OES | 3165 |
| zinc | 500.4 | ± | 2.5 | µg/mL | ICP / ICP-OES | 3168a |

**Matrix:** 5% nitric acid, with trace hydrofluoric acid in low TOC water (< 50 ppb)

* light sensitive

Agilent uses purified acids, 18 megaohm double deionized water, calibrated Class A glassware, and meticulously cleaned bottles in the manufacturing of these standards. Balances used in the manufacturing of this standard are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001.

Monica Bourgeois
QMS Representative

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER
ISO 17034 Cert No. AR-1936

Produced in accordance with TUV USA Inc 56 100 18560026
registered ISO 9001 Quality Management System

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY
ISO 17025 Cert No. AT-1937