



Certificate of Analysis

14325 60th St N · Clearwater, FL 33760

(727) 524-7732

www.exaxol.com · info@exaxol.com

Product: Buffer pH 4.01 (Red)

Issue Date: 07/25/2022

Item Number: B0470-4.01R

Lot #: 220725A

Expires: (1.5 yr) 02/2024

Product Description and Intended Use: For calibration of analytical instruments and/or validation of analytical methods.
Appearance: Red Liquid

Actual Sample Value and Associated Uncertainty:

Buffer pH 4.01 ± 0.01 (pH 4.00 - pH 4.02)*. pH values change according to temperature as follows:

°C	10	20	30	40	50
pH	4.00	4.00	4.01	4.03	4.06

*Testing performed on-site at Exaxol's QC laboratory using in-house procedures for all standardized solutions. These results were obtained in an environment of 25°C ± 1°C with an RH of 40%-60% and relate only to the item specified on this certificate.

Homogeneity: Solutions are mixed according to in-house procedures and are guaranteed to be homogeneous.

Storage and Handling: Store in an ambient environment (15°C - 30°C). Keep product capped to avoid evaporation, which could alter the certified value.

NIST Traceability and Measurement Procedure for Defined Measurands:

Traceable to NIST SRM 185i, 186g and NIST Class S weights, calibrated via Test #FL-14057, according to NIST Handbook 145: Standard Operating Procedures Number 5: 3-1 Weight Design. Environmental conditions (temperature and humidity) is monitored with a NIST traceable thermometer and hygrometer. Exaxol Reference Materials are also Traceable to NIST Certified SRM's through an unbroken chain of comparisons.

Per ASTM E288 requirements and in accordance with ASTM E542-01, Exaxol uses strictly Class A pipettes and volumetric glassware. Balances are calibrated through an ISO/IEC 17025:2017 accredited company that meets requirements of ANSI/NCSL Z540.1-1994 & ANSI/NCSL Z540.3-2006 subclause 5.3. Balances are periodically verified using Class S NIST weights confirmed by the State of Florida Metrology Laboratory. Calibration records are maintained on site. All glassware and pipettes are also pre-calibrated and operated using the guidelines set forth by ASTM E542-01.

Exaxol is an ISO 17034:2016 Reference Material (RM) Producer accredited by ANSI National Accreditation Board (ANAB certificate #: AR-2933) and an ISO/IEC 17025:2017 Testing Laboratory accredited by ANSI National Accreditation Board (ANAB certificate #: AT-2932). Exaxol solutions and standards are made in accordance with Exaxol's documented ISO/IEC 17025:2017, ISO 17034:2016, and ISO 9001:2015 Quality Management System. Production records and test results are maintained and secured in the laboratory's Manufacturing Log, according to lot number.

Joseph E Papa, Sr. Chemist