


# Certificate of Analysis

## Certified Reference Material

### Turbidity 0.5 NTU Calibration Standard



Number TURB05-100ML  
Lot LRAA5953  
Solvent (Matrix) Water  
Hazard Irritant  
Storage & Handling Store at 4°C.  
Expiration Date December 31, 2016  
Certification Date 8/12/2014  
Certified By: 

Christopher Rucinski - QA Director

Analyte	Certified Value <sup>1,2</sup>	Units	K <sup>3</sup>
Turbidity 2055	0.500 ± 0.00765	NTU	2.00

## Additional Information

### Preparation Instructions

Calibrate instrument using manufacturer's guidelines.

Ensure that the solution is thoroughly mixed immediately prior to analysis. To mix invert bottle gently several times, do not shake. Shaking adds air to the sample and may cause erroneous results.

1. Certified value - based on a prepared to value and analytically verified by RTC with associated uncertainties from the preparation and analytical procedures.
2. Expanded Uncertainty - Uncertainty values in this document are expressed as Expanded Uncertainty (U<sub>crn</sub>) corresponding to the 95% confidence interval. U<sub>crn</sub> is derived from the combined standard uncertainty multiplied by the coverage factor k, which is obtained from a t-distribution and degrees of freedom. The components of combined standard uncertainty include the uncertainties due to characterization, homogeneity, long term stability, and short term stability (transport). The components due to stability are generally considered to be negligible unless otherwise indicated by stability studies.
3. k: Coverage factor derived from a t-distribution table, based on the degrees of freedom of the data set. **Confidence interval = 95%**

Traceability: The standard was manufactured under an ISO/IEC 17025:2005 certified quality system. The balance used to weigh raw materials is accurate to +/- 0.0001g and calibrated regularly using mass standards traceable to NIST. All dilutions were performed gravimetrically. Additionally, individual analytes are traceable to NIST SRMs where available or other certified reference material as specified by each analyte.

Homogeneity: Homogeneity was assessed in accordance with ISO Guide 35. Completed units were sampled using a random stratified sampling protocol. The results of chemical analysis were then compared using a one-way analysis of variance approach as described by TNI EL-V3-2009 Appendix A.2. See Instructions for minimum sub-sample size.

THIS PRODUCT WAS DESIGNED, PRODUCED AND VERIFIED FOR ACCURACY AND STABILITY IN ACCORDANCE WITH ISO/IEC 17025:2005 (A-Class Cert AT-1467) and ISO GUIDE 34:2009 (A-Class Cert AR-1470).



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