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The experts in custom-made Certified Reference Materials

Certificate of Analysis

Analytical Standard Solution

This document is designed and the certified value(s) and uncertainty(ies) are determined in accordance with ISO Guide 31 [1], ISO Guide 35[2], EA 4/02 and Eurachem / CITAC Guides[3]

Lot N: XXXXXX Barcode: XXXXXXXX Certification Date: XXXXXXXXXX
Date of Stability last check: 12-02-2019

Description of the RM subject of calibration:	Potassium Chloride KCl 0.01M
Ref N:	Z14464161
Calibration method:	CRM's calibration procedure (WQP 5.15.1/12)
Result from calibration (Certified value/Uncertainty):	0.00999 +/- 0.00005 mol/l ** The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k = 2, which for a normal distribution corresponds to a coverage probability of approximately 95%. The standard uncertainty of measurement has been determined in accordance with EA 4/02.*
Metrological traceability:	NIST RefN 999b *The metrological traceability is assured through calibration by classical volumetric analysis, using standard solutions prepared from a certified reference material traceable to SI of NIST (SRM) and of accredited according to ISO/IEC 17025 [6] and/or ISO Guide 34 [7] laboratories/producers. All contributions in relation to the preparation of standard solutions are considered when evaluating the uncertainty.* *This certified reference material is produced in deionized water with conductivty no more than 5 µS/cm* *The measurement results are traceable to SI.* *All analytical balances used for the preparation of the solution are calibrated yearly under an in-house procedure WQP 5.15.1.3 with class E1 and class E2 analytical weights, traceable to DKD and are daily checked.* *Class A laboratory glassware is used.* *The results from temperature measurement are traceable to SI. The thermometers used for solution's calibration are calibrated from an ISO 17025 accredited laboratory. The ambient conditions are controlled with a hygrometer calibrated from an ISO 17025 accredited laboratory..*
Expiry date:	XXXXXX

Intended use:

For Laboratory Use Only

This CRM is intended for:

I. Calibration by classical volumetric analysis.
II. Validation of analytical methods
III. Preparation of “working reference samples”
IV. Detection limit and linearity studies

This statement is not intended to restrict the use for other purposes.

Instructions for the correct use of this reference material:
This certified reference material can be used directly. Do not pipette from container.
The conductivity solution bottle should be open for the minimum time required to dispense the solution. After use, the bottle should be tightly recapped and stored under normal laboratory conditions.

Stability and storage:

This CRM is with a guaranteed stability until ±0.5% of the certified value within its shelf-life. Stability is guaranteed provided that the solution is kept in its original packaging, tightly closed under normal laboratory conditions. According to an in-house procedure the producer will monitor this CRM at appropriate intervals and the purchasers will be notified of any significant changes resulting in recertification or with withdrawal of the CRM during the state period of the validity of the certificate.

Hazardous situation:

The normal laboratory safety precautions should be observed when working with this RM. Further details for the handling of this RM are available as safety data sheet.

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Level of homogeneity:
This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous.
To ensure sufficient homogeneity of the sample prior to use thoroughly mix by inversion.

This Certified reference Material was produced under ISO 9001:2008 Quality Control System.
The instructions of the ISO Guide 34-2009 "General Requirements for the Competence of Reference Material Producers" were considered for the preparation of this solution.
Certificate of analysis was prepared according to ISO Guide 31:2000 „Reference materials - Contents of certificates and labels".

Names of certifying officers:
Laboratory: Ognyan Todorov

Manager: Krassimira Taralova

[1] ISO Guide 31: Reference materials - Contents of certificates and labels
[2] ISO Guide 35: Reference materials - General and statistical principles for certification
[3] EURACHEM/CITAC Guide: Quantifying Uncertainty in Analytical Measurement
[4] EA 4/02: Expression of the Uncertainty of Measurement in Calibration
[5] ISO/IEC Guide 99: International Vocabulary of Metrology-Basic and general concepts and associated terms (VIM)
[6] ISO/IEC 17025: General requirements for the competence of testing and calibration laboratories
[7] ISO Guide 34: General Requirements for the Competence of Reference Material Producers

This certificate relates solely to the lot number given above.
All processes (including generating of this certificate) are completely controlled by the specialized Computer-Aided-Manufacturing (CAM) software.

Signed by: Taralova, Chemical Production Manager