Certified Reference Material

Certificate of Analysis

Accreditation:

Hach Lange GmbH is accredited by the German accreditation authority DAkkS as registered reference material producer D-RM-15184-01-00 according to **DIN EN ISO 17034:2017** and registered calibration laboratory D-K-15184-01-00 according to **DIN EN ISO/IEC 17025:2018**

Manufacturer:

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Deutsche Akkreditierungsstelle D-RM-15184-01-00

Object:	**Certified secondary Conductivity Standard**
Type:	**KCL 0.1D 12.85 mS/cm ± 0.35 % (25°C)**
Intended use:	**Standard conductivity solution for calibration of measuring set ups for conductivity.**
Order number:	**S51M002**
Serial number:	**C03023**
Certified value:	**κ= (12.857 ± 0.039) mS/cm (25°C)**
Number of pages:	**2**
Date of release:	**December 13, 2022**
Shelf life unopened bag:	**December 13, 2024**
Shelf life open bag:	**3 month**
Recommended use:	First use: write the opening date on the bottle using an indelible pen. Cap bottle as soon as aliquot is taken for calibration. Tick a box on the bottle after each opening. Never pour the used aliquot back into the bottle. Always follow Good Laboratory Practice and the recommendations regarding shelf life printed on the bottle.
Method of Analysis:	The calibration of the conductivity solutions is done by using a test assembly containing a platinised 4-pole measuring cell and a LCR meter. The measurement is traceable to primary standard.
Document version:	1 issued on **December 13, 2022**

Date	Deputy head of the calibration laboratory
December 13, 2022	Bernd Seidl

Traceability:	Calibration at 25°C with Certified Reference Material from DFM[1] Certificate Nr.511 CRM2204 Lot 22042801JA
Storage:	Before use: store in unopened aluminum bag.After opening: store in capped bottle in normal atmospheric conditions at a temperature between 0 and 30°C. Do not expose to light.
Preparation of standard:	Potassium chloride, reagent grade, was dissolved in low conductivity demineralised water. Until bottling, the solution was protected from evaporation and contamination. For protection against evaporation and microbiological growth, the bottles are placed in airtight aluminum bags.
Uncertainty:	The expanded uncertainty assigned to the measurement results is obtained by multiplying the standard uncertainty by the coverage factor $k = 2$. It has been determined in accordance with EA-4/02M:2013. The value of the measurand lies within the assigned range of values with a probability of 95%.
Homogeneity:	15 bottles were selected for analytical control. Results from different bottles showed no statistically significant differences, nor was there any correlation between values obtained and the bottling sequence.
Stability:	When stored in an unopened aluminum bag, the certified value is guaranteed for 2 years from the date of issue of the certificate.

1) Danish Fundamental Metrology, Hørsholm, Denmark