

Certificate of Analysis



ISO 17034 Reference Material

Product Identification

Article Code: DRE-C14995000

Article Name: Methanol

Formula: CH₄O

Mol. Weight: 32.04

CAS No.: 67-56-1

Lot Number: G991541

Expiry Date: 07.12.2024

Storage Temperature: 20°C ± 4°C

Storage and handling: The RM should be stored in the original sealed bottle at the temperature given above. After use the bottle should be tightly closed and protected from moisture.

Purity: 99.85% (g/g)

Expanded Uncertainty U= 0.30% (g/g)

The uncertainty of this standard is calculated in accordance with the ISO 17034 and EURACHEM/CITAC Guide - Quantifying Uncertainty in Analytical Measurement, Second Edition. The expanded uncertainty is $U(\text{exp}) = u(\text{RM}) \times k$, where k is the coverage factor at the 95% confidence level ($k=2$). Uncertainty $u(\text{RM})$ is based on the combination of the uncertainties associated with each individual operation involved in the analysis of the product: $u(\text{RM}) = \sqrt{u(\text{char})^2 + u(\text{bb})^2 + u(\text{its})^2 + u(\text{sts})^2}$; $u(\text{char})$ is the uncertainty of characterisation; $u(\text{bb})$ uncertainty of homogeneity test; $u(\text{its})$ uncertainty of stability test long-term; $u(\text{sts})$ uncertainty of stability test short-term. $u(\text{its})$ and $u(\text{sts})$ are not included in the calculation as the stability statement is based on real evidence opposed to simulation.

Minimum sample: 1 mg is recommended as the minimal sample amount. If less material is used, it is recommended to increase the certified uncertainty by a factor of two for half sample and a factor of four for a quarter of sample.

Intended use: Use this RM as calibrant for chromatography or any other analytical technique.

Analytical Data

Traceability of chromatography: To the International System of Units (SI).

Instrument: GC/FID

Detection: FID

Column: Optima-SMS, 0.25 µm, 0.25 mm

Inj.-Vol.: 1 µl

Flow: 1.0 ml/min

Ret.Time: 2.38 min

Injector: 100°C

Initial Temp: 40°C for 5 min

End Temp: 100°C for 2 min

Gradient: 15°C/min

Comment

Traceability: The balances used are calibrated with weights traceable to the national standards (DKD).

Calibrated class A glassware is used for volumetric measurements.

Water Content: 0.10% (g/g) by Karl-Fischer-Titration ($U(\text{exp}) = 0.07\%$ (g/g)).

Purity was determined by chromatographic assay, corrected by water content and/or residue solvents.

Identity: NMR, RT, IR, MS

Attachment: Exemplary chromatogram of given method

Certificate Revision 1 - 07.12.2018 - N. Müller

Certified on: 07.12.2018

Certified by: N. Müller

RM Release

The LGC Labor GmbH, accredited by DAkkS as indicated by the accreditation number D-RM-19883-01 & D-PL-19883-01, has shown competence based on ISO 17034:2017 with relevant parts of DIN EN ISO/IEC 17025:2018 for production of certified reference materials in form of organic pure substances and in form of single and multi-component solutions of organic pure substances.

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The warranty for this product is limited to the purchasing price of this product.

QS
4.12.18

Data file: 14995000-02.dx

Instrument: FID 3

Sample name: G991541

Sequence Name: 2018KW49-1203a

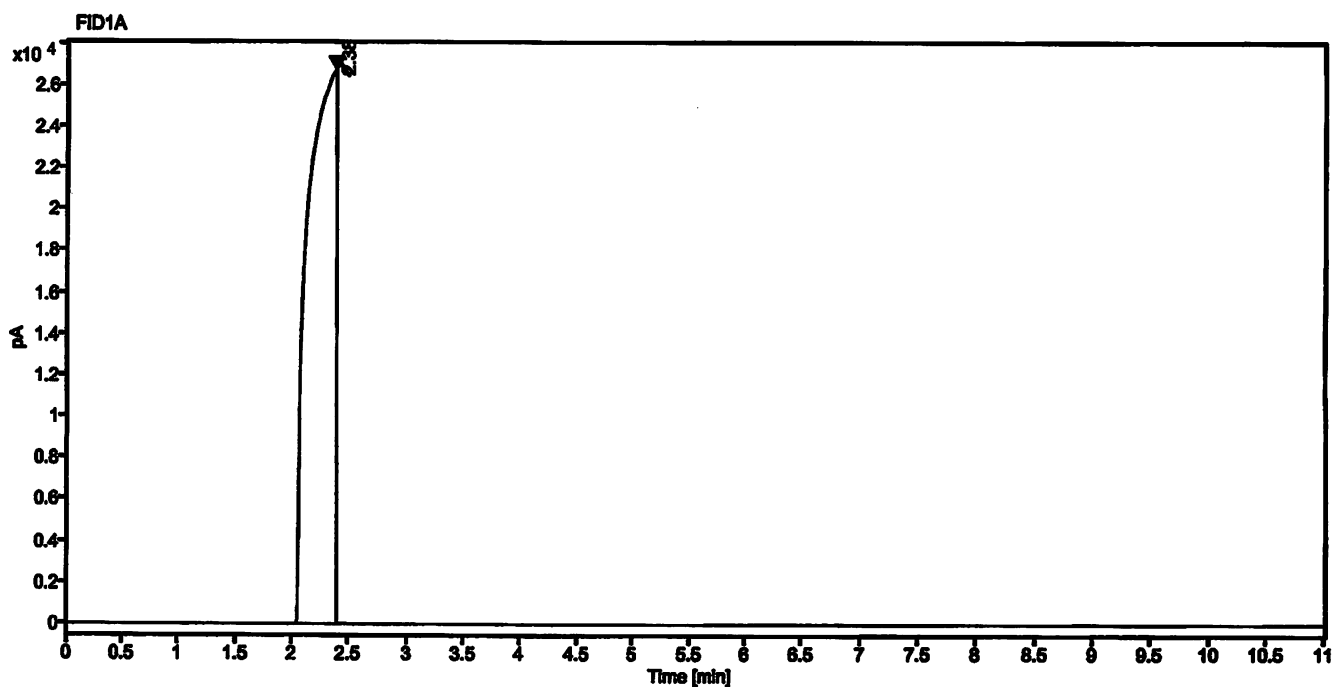
Inj. volume [μ l]: 1.0

Injection date: 12/3/2018 2:50:00 PM

Acq. method: 100.amx

Location: 101

Sample Description Methanol



Signal: FID1A

Nr.	RT [min]	Area [pA*s]	Height [pA]	Area%	Width [min]
1	2.38	451110.05558	26741.84	100.00	0.414
Sum		451110.06			

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