

Certificate of Analysis

ISO 17034 Reference Material

Product Identification

Article Code: DRE-C10630010
Article Name: Biphenyl D10
Formula: C₁₂D₁₀
Mol. Weight: 164.27
CAS No.: 1486-01-7

Lot Number: G986876
Expiry Date: 11.10.2024
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.

Combined Purity:	96.54% (g/g)	Isotopic Value:	99.60% (g/g)	Chemical Purity:	96.93% (g/g)
Expanded Uncertainty U=	1.32% (g/g)	Expanded Uncertainty U=	0.30% (g/g)	Expanded Uncertainty U=	1.29% (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	Injector:	280°C
Detection:	FID	Initial Temp:	60°C for 5 min
Column:	Optima-SMS, 0.25 µm, 0.25 mm	End Temp:	280°C for 1 min
Inj.-Vol.:	2 µl	Gradient:	15°C/min
Flow:	1.0 ml/min		
Ret.Time:	13.08 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.

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

Identity: EA, NMR, RT, IR, UV

Attachment: Exemplary chromatogram of given method

Certificate Revision 1 - 11.10.2018 - M. Beck

Certified on: 11.10.2018
 Certified by: M. Beck
 RM Release

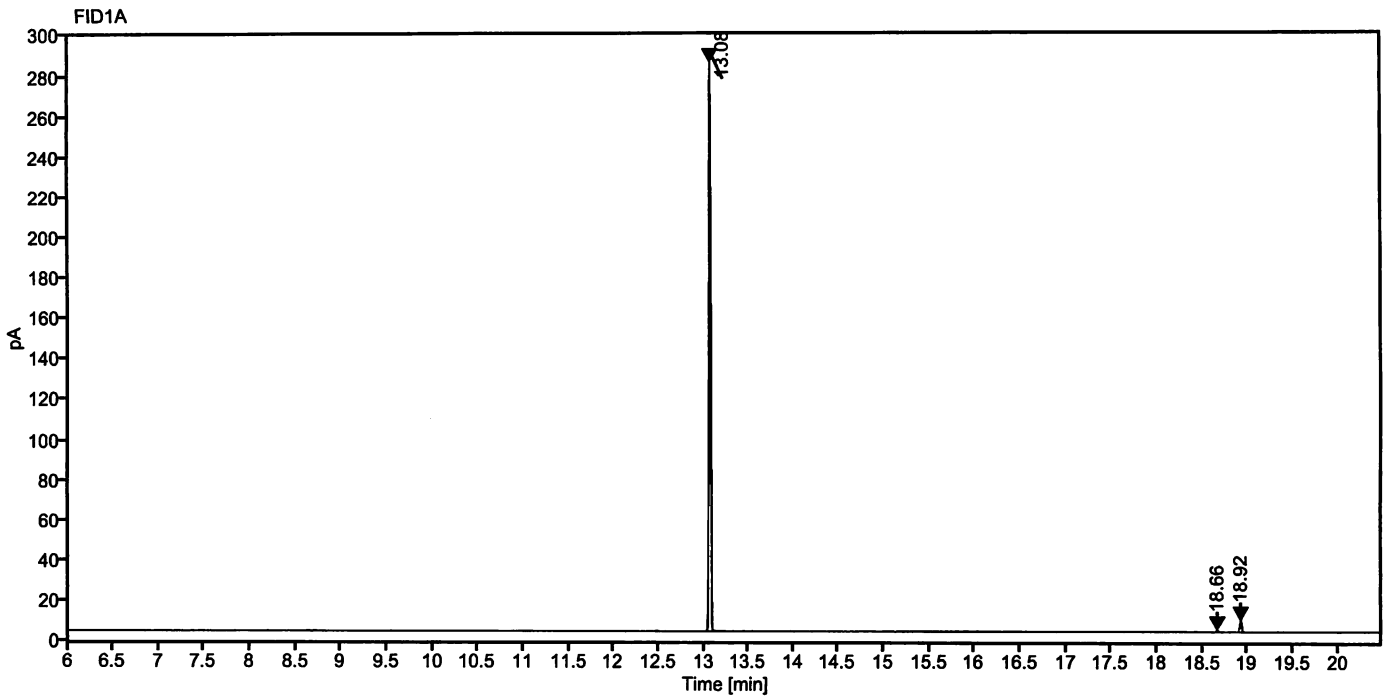


The LGC Labor GmbH, accredited by DAkkS as indicated by the accreditation number D-RM-19883-01 & D-PL-19883-01, has shown competence based on ISO 17034:2017 with relevant parts of DIN EN ISO/IEC 17025:2018 for production of certified reference materials in form of organic pure substances and in form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

11.10.18
SSg

Data file: 10630010-02.dx Instrument: FID 3
Sample name: 81009AC G986876 Sequence Name: 2018KW41-1010a
Inj. volume [µl]: 2.0 Injection date: 10/10/2018 2:20:06 PM
Acq. method: PESK_2.amx Location: 101
Sample Description Biphenyl D10



Signal: FID1A

Nr.	RT [min]	Area [pA*s]	Height [pA]	Area%	Width [min]
1	13.08	361.97589	281.19	97.53	0.020
2	18.66	1.29638	0.89	0.35	0.024
3	18.92	7.85831	5.61	2.12	0.022
	Sum	371.13			

M. Beal