Certificate of Analysis

ISO 17034 Reference Material

Product Identification

Article Code: DRE-C20635000
Article Name: Benzo[a]pyrene
Formula: C20H12
Mol. Weight: 252.31
CAS No.: 50-32-8

Lot Number: G986913
Expiry Date: 31.08.2024
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:	99.03% (g/g)
Expanded Uncertainty U=	0.35% (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(exp) = u(RM) x k, where k is the coverage factor at the 95% confidence level (k=2). Uncertainty u(RM) is based on the combination of the uncertainties associated with each individual operation involved in the analysis of the product: $u(RM) = \sqrt{u(char)^2 + u(bb)^2 + u(lts)^2 + u(sts)^2}$; u(char) is the uncertainty of characterisation; u(bb) uncertainty of homogeneity test; u(lts) uncertainty of stability test long-term; u(sts) uncertainty of stability test short-term. u(lts) and u(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:	320°C
Detection:	FID	Initial Temp:	120°C for 4 min
Column:	Optima-5MS, 0.25 µm, 0.25 mm	End Temp:	320°C for 3 min
Inj.-Vol.:	1 µl	Gradient:	15°C/min
Flow:	1.0 ml/min		
Ret.Time:	18.16 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: 0.16% (g/g) by Karl-Fischer-Titration (U(exp) = 0.05% (g/g)).
Purity was determined by chromatographic assay, corrected by water content and/or residue solvents.
Identity: EA, NMR, RT, IR, UV, MS
Attachment: Exemplary chromatogram of given method

Certificate Revision 1 - 17.10.2018 - M. Beck

Certified on: 17.10.2018
Certified by: M. Beck
RM Release

The LGC Labor GmbH, accreditated 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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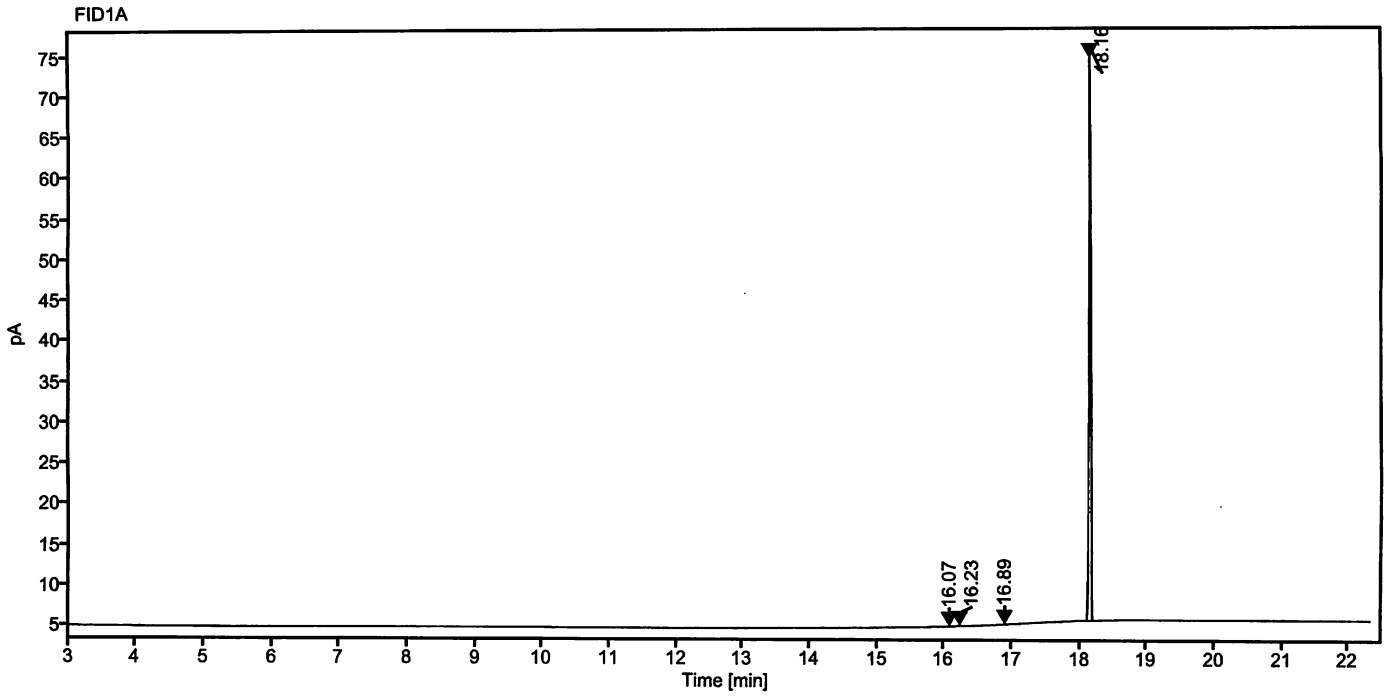
17.10.2018 LJ

Data file:	20635000-07-r001.dx	**Instrument:**	FID 4
Sample name:	81015AL G986913	**Sequence Name:**	2018KW42-1016a
Inj. volume [µl]:	1.0	**Injection date:**	10/16/2018 5:55:13 PM
Acq. method:	pahk.amx	**Location:**	101

Sample Description Benzo[a]pyrene



Signal: FID1A

Nr.	RT [min]	Area [pA*s]	Height [pA]	Area%	Width [min]
1	16.07	0.13076	0.09	0.11	0.023
2	16.23	0.26305	0.17	0.21	0.022
3	16.89	0.15563	0.11	0.13	0.020
4	18.16	122.50370	68.73	99.55	0.028
	Sum	123.05			