

REFERENCE MATERIAL CERTIFICATE

ISO 17034

Reference Material

This certificate is designed in accordance with ISO 17034 and ISO Guide 31. This reference material (RM) was designed, produced and verified in accordance with ISO/IEC 17025, ISO 17034 and a registered quality management system ISO 9001.

Product Name
PAH Mix 63 1000 µg/mL in Toluene

Product Code
DRE-YA06100300TO

Lot Number
G1017391TO

Format
Multicomponent Solution

Expiry Date
09 Aug 2024

Storage Temp
20°C + 4°C

Compound Name	CERTIFIED			Lot Number	Purity (%)	Amount (mg)	RT (min)
	Concentration (µg/mL)	Expanded Uncertainty U (µg/mL)	CAS				
Naphthalene	1000.02	21.60	91-20-3	R986921	99.4	150.908	6.43
Acenaphthylene	1000.03	20.31	208-96-8	977695	99.1	151.367	15.00
Acenaphthene	999.02	22.03	83-32-9	G172168	99.5	150.606	16.50
Fluorene	1000.01	20.31	86-73-7	129961	99.0	151.516	20.88
Phenanthrene	999.99	20.31	85-01-8	G156210	99.0	151.514	30.04
Anthracene	1000.01	21.59	120-12-7	129951	99.5	150.755	30.53
Fluoranthene	1000.02	20.31	206-44-0	169969	98.6	152.133	42.79
Pyrene	1000.01	20.31	129-00-0	130640	98.5	152.286	45.02
Benz[a]anthracene	1000.04	20.31	56-55-3	169612	98.2	152.756	58.72
Chrysene	1000.02	30.97	218-01-9	1020808	97.7	153.534	59.16
Benzo[b]fluoranthene	1000.00	30.61	205-99-2	149408	99.7	150.452	70.14
Benzo[k]fluoranthene	1000.02	30.91	207-08-9	987073	98.0	153.064	70.47
Benzo[a]pyrene	1000.04	20.54	50-32-8	738373	99.0	151.521	73.07
Indeno[1,2,3-c,d]pyrene	1000.03	30.68	193-39-5	995277	99.3	151.062	83.11
Dibenz[a,h]anthracene	1000.00	20.31	53-70-3	987074	99.4	150.906	83.56
Benzo[g,h,i]perylene	1000.01	31.64	191-24-2	984427	94.2	159.237	85.08

The producer certifies that this reference material meets the specification stated in this certificate until the expiry date, provided it is stored unopened at the recommended temperature herein. Product warranties for this reference material are set out in the terms and conditions of purchase.

CERTIFIED BY

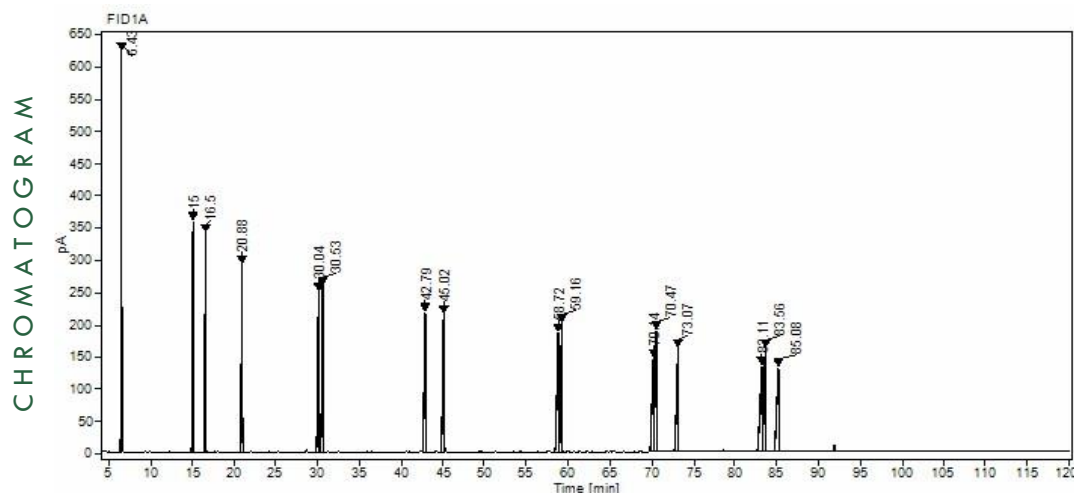
N. Müller

CERTIFIED ON

09 Aug 2019

MLL

RM	Release
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Instrument
GC/FID

Detection
FID

Column
Optima-5MS, 0.25 µm,
0.25 mm

Method Details
Temp: 120°C / 4 min → 320°C /
16 min, Gradient: 2°C/min

Inj.-Vol.
1.0 µL

Flow
1 mL/min

Method of Preparation

The certified value is based on gravimetric and volumetric preparation of this RM. This RM has been confirmed by the appropriate analytical techniques.

Batch Information

Solvent: Toluene, Lot No. 17078404, 150.00 mL.

Intended Use

This RM is intended for use in a laboratory as a calibration and quality control standard or in method development for analytical techniques.

Safety

Proper precautions should be observed while handling. See Safety Data Sheet.

Uncertainty

The certified value(s) and uncertainty(ies) are determined in accordance with ISO 17034 with an 95% confidence level ($k=2$). Uncertainty is based on the Total Combined Uncertainty, including uncertainties of preparation, purity of neat materials, homogeneity and stability testing. Stability values are based on real evidence opposed to simulation.

Traceability

The balances used for gravimetric measurements are calibrated with weights traceable to the national standards (DKD). The calibration of the balances is verified daily internally and annually by an external accredited calibration service. Only Class A glassware is used for volumetric measurements.

Homogeneity

Random replicate samples of the final packaged RM have been analysed to prove homogeneity consistent with ISO 17034.

Storage

The RM should be stored in the original sealed bottle at the indicated temperature.

Instructions for Use

The RM should be used shortly after opening to avoid concentration changes due to evaporation. It is recommended to use 1 mL as the minimum sample size and if less material is used, to increase the certified uncertainty by a factor of two for half sample and four for a quarter of sample. If the RM was in a sealed ampoule and storage after opening is necessary, it should be transferred to an amber vial with minimum head space and a Teflon-lined silicon septum. Visit the support section of our website lgcstandards.com for a series of Dr. Ehrenstorfer Tech Tip videos and frequently asked questions.

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LGC Labor GmbH is accredited by
DAkkS accreditation numbers
D-RM-19883-01-00 & D-PL-19883-01-00
on ISO 17034:2017 & ISO/IEC 17025:2018

