LGC | DR EHRENSTORFER™

REFERENCE MATERIAL CERTIFICATE ISO 17034

Certified Reference Material

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

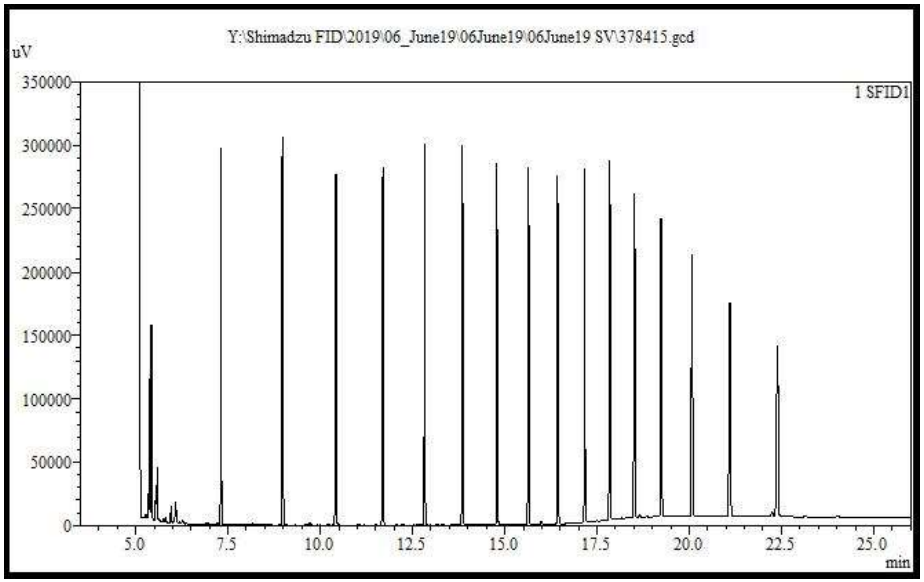
Product Name	Product Code	Lot Number	Format	Expiry Date	Storage Temp
EN 14039/ISO 16703/ISO 9377 N-ALKANES SYSTEM PERFORMANCE STANDARD 50 µg/mL IN N-HEPTANE	DRE-GA09000971HP	2-H417013HP	Multicomponent Solution	1 Jun 2024	≤ -10 ºC

Compound Name	CERTIFIED Concentration (mg/L)	Expanded Uncertainty U (mg/L)	CAS	Lot Number	Purity (%)	Amount (mg)	RT (min)
Decane (c10)	49.57	1.8	124-18-5	415.7.1P	99.5	0.12	7.31
Dodecane (c12)	50.98	1.8	112-40-3	416.7.1P	99.2	0.12	8.98
N-tetradecane (c14)	49.64	2	629-59-4	417.29.4P	99	0.12	10.42
N-hexadecane (c16)	49.04	1.7	544-76-3	368.271.1P	99.45	0.12	11.69
N-octadecane (c18)	49.75	1.8	593-45-3	418.29.1P	99.5	0.12	12.83
Eicosane (c20)	49.84	1.8	112-95-8	419.29.1P	98.9	0.12	13.85
Docosane (c22)	49.99	2	629-97-0	420.1.1P	99.7	0.12	14.78
Tetracosane (c24)	49.54	2	646-31-1	421.1.1P	99.7	0.12	15.64
Hexacosane (c26)	49.67	1.8	630-01-3	422.7.1.1P	99.5	0.12	16.43
Octacosane (c28)	49.37	2	630-02-4	423.400.1P	98.7	0.12	17.16
Triacontane (c30)	50.2	1.6	638-68-6	424.7.1.1P	99.5	0.12	17.85
Dotriacontane (c32)	50.09	1.8	544-85-4	425.29.1.1P	98.4	0.12	18.52
Tetratriacontane (c34)	50.11	1.8	14167-59-0	426.7.1.1P	98	0.12	19.24
Hexatriacontane (c36)	50.18	1.9	630-06-8	427.1.1P	97.7	0.12	20.08
Octatriacontane (c38)	50.03	1.6	7194-85-6	428.7.1.1P	97.4	0.12	21.10
Tetracontane (c40)	50	1.8	4181-95-7	429.7.1P	100	0.12	22.39

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	CERTIFIED ON		
HuiChen Stavros, Ph.D.	10 Jul 2020		RM Release

CHROMATOGRAM



Instrument
GC/FID

Detection
FID

Column/Flow
Phenomenex ZB-1HT 30m x 0.25 mm, ID 0.25 um / 1 mL/min

Method Details

Rate	Temp.(C)	Hold time (min)
	45.0	2.0
10.0	150.0	0.0
25.0	345.0	2.0

Inj.-Vol
1 µL

Method of Preparation

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

Batch Information

Solvent: Heptane, Lot no. 192119, 2.4 mL

Intended Use

This CRM 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, long-term stability testing, and transportation stability.

Traceability

The balances used for gravimetric measurements are calibrated with weights traceable to the national standards (NIST). 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 CRM have been analysed to prove homogeneity consistent with ISO 17034.

Storage

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

Instructions for Use

The CRM should be used shortly after opening to avoid concentration changes due to evaporation. It is recommended to use 1 µL as the minimum sample size. If storage after opening is necessary, it should be transferred to an amber vial with minimum head space and a Teflon lined silicon septum. If handled as recommended, use period after opening is a maximum of 1825 days for an estimated 5% drift in concentration as a result of analyte and/or solvent transpiration. 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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The producer of this reference material is registered to ISO 9001:2015 under IZ391-IS4 by NSF-ISR and accredited to ISO 17025:2005 and ISO 17034:2016 by A2LA with the accreditation numbers 3031.01 and 3031.02.

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Cert. No. 3031.02