

Certified Reference Material

Product Name
ASTM Method D7096 Qualitative Calibration Mixture

Product Code
DRE-GS09000835

Lot Number
2-H383109NA

Format
Multicomponent Solution

Expiry Date
8 Aug 2021


Storage Temp
≤ -10 °C

REFERENCE MATERIAL CERTIFICATE

ISO 17034

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.

Compound Name	CERTIFIED		CAS	Lot Number	Combined Purity (%)	Amount (mg)	RT (min)
	Concentration (mg/Kg)	Expanded Uncertainty U (mg/Kg)					
N-propane	4167	210	74-98-6	4643.13P	99.97	105.10	4.88
Isobutane	4245	220	75-28-5	1072.158.1P	99	108.10	5.46
Butane (c4)	4202	210	106-97-8	1009.1.3P	99	107.00	5.93
2-methylbutane	21030	1100	78-78-4	1420.1.2.1P	99.4	533.50	7.25
N-pentane (c5)	31650	1600	109-66-0	976.9.4P	99.6	801.10	7.78
2-methylpentane	41960	2100	107-83-5	384.158.1.1P	99	1068.60	9.34
N-hexane (c6)	31310	1600	110-54-3	620.24.1P	98	805.50	10.06
2,4-dimethylpentane	52510	2600	108-08-7	2009.7.2P	99.9	1325.10	10.74
Heptane (c7)	67990	3400	142-82-5	546.271.1P	99	1731.40	12.26
Octane (c8)	73250	3700	111-65-9	385.9.1P	99.5	1856.10	14.20
Toluene	156500	7800	108-88-3	184.24.4P	100	3945.20	14.35
P-xylene	161600	8100	106-42-3	194.7.1P	99.9	4079.50	16.27
Decane (c10)	41840	2100	124-18-5	415.7.2P	99.7	1058.00	17.67
N-propylbenzene	57330	2900	103-65-1	179.7.1P	99.5	1452.70	17.74
N-butylbenzene	57530	2900	104-51-8	151.7.3.2P	99.2	1462.20	19.36
Dodecane (c12)	36500	1800	112-40-3	416.29.1P	99.34	926.30	20.70
N-tridecane (c13)	41780	2100	629-50-5	965.7.2.1P	99.2	1061.80	22.22
N-tetradecane (c14)	31370	1600	629-59-4	417.29.4P	99	798.90	23.85
N-pentadecane (c15)	46940	2300	629-62-9	904.7.2P	99.8	1185.80	25.75
N-hexadecane (c16)	31560	1600	544-76-3	368.271.1P	99.45	800.20	28.01

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		RM Release
	HuiChen Stavros, Ph.D.	13 Aug 2019		



Instrument
GC/VUV

Detection
VUV

Column
Phenomenex ZB-624 60m x 0.25
mm, ID 1.4 μ m

Method Details
Rate Temp.(C) Hold time (min)
35.0 1.0
10.0 70.0 0.0
20.0 120.0 0.0
10.0 200.0 0.0
20.0 240.0 5.0

Inj.-Vol
1 μ l

Flow
1 ml/min

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: None, Neat Mixture 2, Lot no. 8092019, 25.2121 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 μ L 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 4920 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.



ISO 17034 Accredited
Reference Material Producer
Cert. No. 3031.02