LGC | DR EHRENSTORFER™

Certified Reference Material

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.

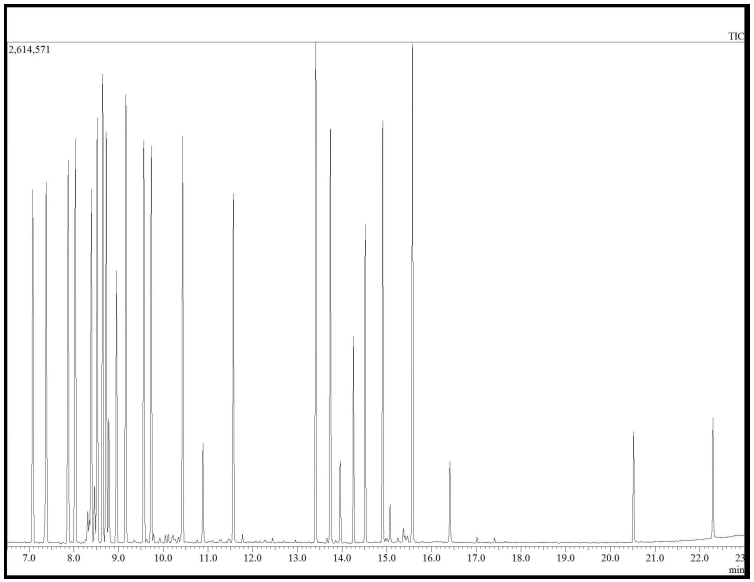
Product Name	Product Code	Lot Number	Format	Expiry Date	Storage Temp
Canada Terpene Mixture 1 2500 µg/mL in Hexane	DRE-GA09001086HE	2-H409727HE	Multicomponent Solution	7 Aug 2023	≤ -10 ºC

Compound Name	CERTIFIED Concentration (mg/L)	Expanded Uncertainty U (mg/L)	CAS	Lot Number	Combined Purity (%)	Amount (mg)	RT (min)
A-pinene	2514	53	80-56-8	434.1.1P	96.4	15.08	7.08
Camphene	2500	53	79-92-5	950.1.1P	98.7	15.00	7.38
(–)-β-pinene	2502	130	18172-67-3	435.3.1.1P	99	15.01	7.85
Myrcene	2520	18	123-35-3	3912.9.2P	92.4	15.12	8.01
3-carene	2504	130	13466-78-9	3574.3.1P	95.4	15.02	8.37
Alpha-terpinene	2506	2600	99-86-5	3550.7.1P	90.7	15.04	8.50
4-isopropyltoluene	2461	52	99-87-6	177.9.2P	99.7	14.76	8.63
D-limonene	2503	140	5989-27-5	1357.1.1P	98.1	15.02	8.70
3,7-dimethyl-1,3,6-octatriene	2506	53	13877-91-3	3578.18.1P	94.8	15.04	8.94
G-terpinene	2501	730	99-85-4	3577.7.1P	97.7	15.01	9.16
A-terpinolene	2508	1300	586-62-9	3556.1.1P	92.1	15.05	9.55
Linalool	2513	53	78-70-6	3936.29.1P	98.4	15.08	9.71
(–)-isopulegol	2512	53	89-79-2	3560.18.1P	100	15.07	10.42
Geraniol	2506	53	106-24-1	3933.1.1P	99	15.03	11.55
(–)-trans-caryophyllene	2494	17	87-44-5	5307.431.1.1P	98.63	14.96	13.41
A-humulene	2486	330	6753-98-6	5311.18.2P	97	14.92	13.72
Nerolidol (cis- And Trans- Mixture)	2535	130	7212-44-4	3568.1.1P	98.9	15.21	14.50
(-)-guaiol	2505	860	489-86-1	5822.450.2P	99	15.03	14.89
(-)-@-bisabolol (technical Grade)	2510	18	23089-26-1	5821.1.2P	93.7	15.06	15.56

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.	24 Apr 2020		

CHROMATOGRAM



Instrument
GC/MS

Detection
MS

Column
Phenomenex ZB-Semivolatile 30m x 0.25 mm, ID 0.25 um

Method Details

Rate	Temp.(C)	Hold time (min)
	40.0	2.0
10.0	100.0	0.0
15.0	250.0	0.0
20.0	345.0	3.25

Inj.-Vol
1 µl

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: Hexane, Lot no. 182487, 6 mL

nerolidol (cis- and trans- mixture) : Cis: 38.7%, Trans: 61.2% 3,7-dimethyl-1,3,6-octatriene : GC1: 27.7%, GC2: 67.9%

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 80 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.

LGC Group
7290-B Investment Drive
North Charleston, SC 29418
United States
T | +1 843 763 4884
F | +1 866 509 5146
E | dr.ehrenstorfer@lgcgroup.com

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