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.

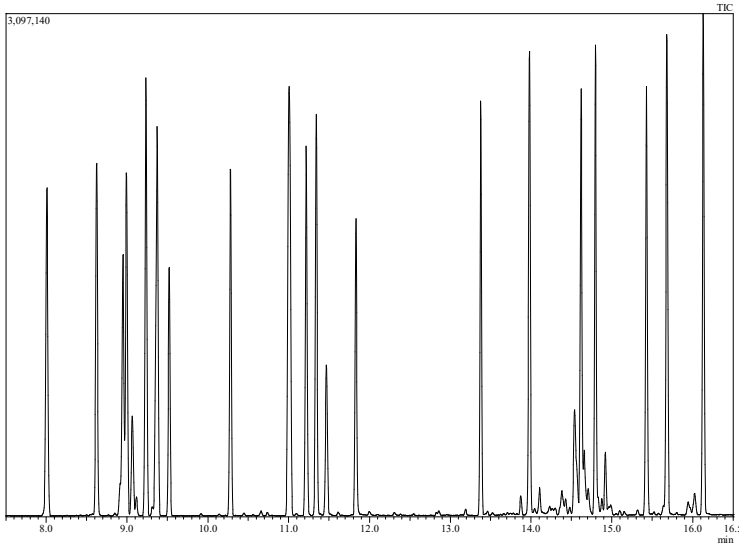
Product Name	Product Code	Lot Number	Format	Expiry Date	Storage Temp
Terpene Mixture 1 2500 µg/mL in Hexane	DRE-S50000473HE	2-H454144HE	Multicomponent Solution	1 Jul 2026	≤ -10 ºC

Compound Name	CERTIFIED Concentration (ug/mL)	Expanded Uncertainty U (ug/mL)	CAS	Lot Number	Purity (%)	Amount (mg)	RT (min)
Camphene	2508	130	79-92-5	950.450.1P	99.8	15.08	8.00
Myrcene	2470	120	123-35-3	3912.1.2P	93.6	15.83	8.62
A-phellandrene	2457	130	99-83-2	3549.1.1P	100	14.74	8.94
(+)-3-carene	2480	130	498-15-7	5300.1.1P	99.3	14.98	8.99
4-isopropyltoluene	2477	130	99-87-6	177.9.2P	99.7	14.91	9.23
Linalool	2459	130	78-70-6	3936.29.1P	98.4	15.00	9.35
Cineole	2467	120	470-82-6	3243.1.2P	99.9	14.81	9.37
3,7-dimethyl-1,3,6-octatriene	2463	130	13877-91-3	3578.18.2P	90	16.42	9.52
(–)-isopulegol	2473	130	89-79-2	3560.18.1P	100	14.84	11.00
Camphor	2499	130	76-22-2	940.7.2P	98.7	15.19	11.01
Isoborneol	2479	130	124-76-5	3176.450.1P	99	15.02	11.21
Dl-menthol	2459	130	89-78-1	3181.1.2P	98.9	14.92	11.34
Nerol	2509	130	106-25-2	6007.7.1P	99	15.21	11.83
Geranyl Acetate	2480	130	105-87-3	6755.1.1P	98.3	15.14	13.37
(–)-trans-caryophyllene	2479	130	87-44-5	5307.18.3P	99.2	15.00	13.98
Valencene	2489	130	4630-07-3	3582.450.2P	88.3	16.91	14.61
Farnesene, Mixture Of Isomers	2467	120	502-61-4	7055.1.1P	100	14.80	14.61
Cis-nerolidol	2472	130	3790-78-1	5308.1.1P	96.2	15.42	14.79
(–)-caryophyllene Oxide	2469	130	1139-30-6	5310.286.1.1P	97	15.27	15.42
Cedrol	2495	130	77-53-2	7053.7.1P	99.4	15.06	15.68
(-)-@-bisabolol (technical Grade)	2485	130	23089-26-1	5821.1.3P	93	16.03	16.13

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		
Susan Mathews	24 Aug 2021	Susan Mathews	RM Release

CHROMATOGRAM



Instrument
GC/MS

Detection
MS

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

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

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. 202188, 6 mL

3,7-dimethyl-1,3,6-octatriene : *GC1: 25.6%, GC2: 74.3%

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 245 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 56 100 19560019 by TUV USA and accredited to ISO 17025:2017 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