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
Chlorodifluoromethane (Freon 22) Solution, 1000 mg/L

Product Code
DRE-YS09010028ME

Lot Number
2-H383126ME

CAS No.
75-45-6

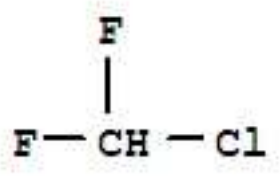
Format
Solution

Mol. Weight
86.47

Expiry
30 Jan 2022

Mol. Formula
CHClF2

Storage
≤ -10 ºC



CERTIFIED	CERTIFIED
Concentration	Expanded Uncertainty (U)
1008 mg/L	51 mg/L

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.

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		
Elizabeth Ford	26 Jul 2019	Elizabeth Ford	RM Release

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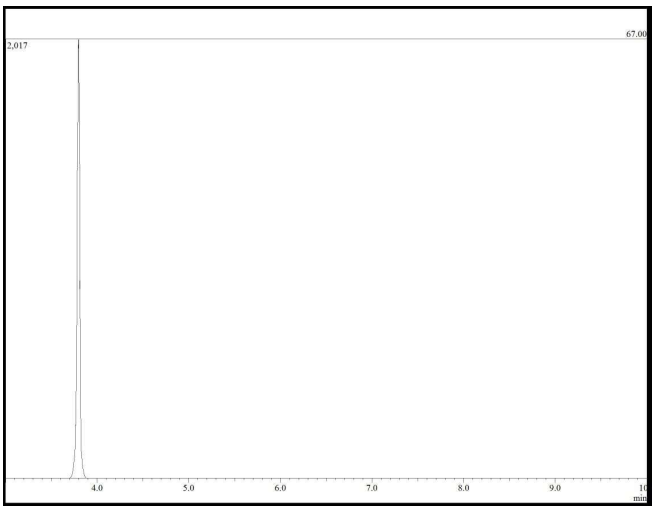
CHROMATOGRAM



Instrument
GC/MS

Detection
MS

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

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 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: P/T Methanol, Lot no. 19010891, 50 mL

Gravimetric Data

Compound Name	Lot No.	Weight (mg)	Chemical Purity
Chlorodifluoromethane (freon 22)	1127.158.1.1P	50.90	99

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.

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. Chromatographic methods are traceable to the International System of Units (SI).

Homogeneity

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

Storage

The CRM should be stored in the original sealed container 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 3109 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.

A2LA ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Cert. No. 3031.02