

Certificate of Analysis



EHRENSTORFER™

ISO Guide 34 Reference Material

Product Identification

Article Code: DRE-C12727000

Article Name: N,N-Dimethylformamide

Formula: C₃H₇NO

Mol. Weight: 73.10

CAS No.: 68-12-2

Lot Number:

G687190

Expiry Date:

04.05.2024

Storage Temperature:

20°C ± 4°C

Storage and handling: The RM should be stored in the original sealed bottle at the temperature given above. After use the bottle should be tightly closed and protected from moisture

Purity: 99.15% (g/g)

Expanded Uncertainty U= 0.91% (g/g)

The uncertainty of this standard is calculated in accordance with the ISO Guide 34 and EURACHEM/CITAC Guide - Quantifying Uncertainty in Analytical Measurement, Second Edition. The expanded uncertainty is $U(\text{exp}) = u(\text{RM}) \times k$, where k is the coverage factor at the 95% confidence level ($k=2$). Uncertainty $u(\text{RM})$ is based on the combination of the uncertainties associated with each individual operation involved in the analysis of the product: $u(\text{RM}) = \sqrt{u(\text{char})^2 + u(\text{bb})^2 + u(\text{Its})^2 + u(\text{sts})^2}$; $u(\text{char})$ is the uncertainty of characterisation; $u(\text{bb})$ uncertainty of homogeneity test; $u(\text{Its})$ uncertainty of stability test long-term; $u(\text{sts})$ uncertainty of stability test short-term. $u(\text{Its})$ and $u(\text{sts})$ are not included in the calculation as the stability statement is based on real evidence opposed to simulation.

Minimum sample: 1 mg is recommended as the minimal sample amount. If less material is used, it is recommended to increase the certified uncertainty by a factor of two for half sample and a factor of four for a quarter of sample.

Intended use: Use this RM as calibrant for chromatography or any other analytical technique.

Analytical Data

Traceability of chromatography: To the International System of Units (SI).

Instrument:	GC/FID	Injector:	200°C
Detection:	FID	Initial Temp:	40°C for 5 min
Column:	Optima-SMS, 0.25 µm, 0.25 mm	End Temp:	200°C for 16 min
Inj.-Vol.:	1 µl	Gradient:	15°C/min
Flow:	1.0 ml/min		
Ret.Time:	9.37 min		

Comment

Traceability: The balances used are calibrated with weights traceable to the national standards (DKD).

Calibrated class A glassware is used for volumetric measurements.

Water Content: 0.18% (g/g) by Karl-Fischer-Titration ($U(\text{exp}) = 0.03\%$ (g/g)).

Identity: EA, NMR, RT, IR, MS

Certificate Revision 1 - 04.05.2018 - N. Müller

Certified on: 04.05.2018

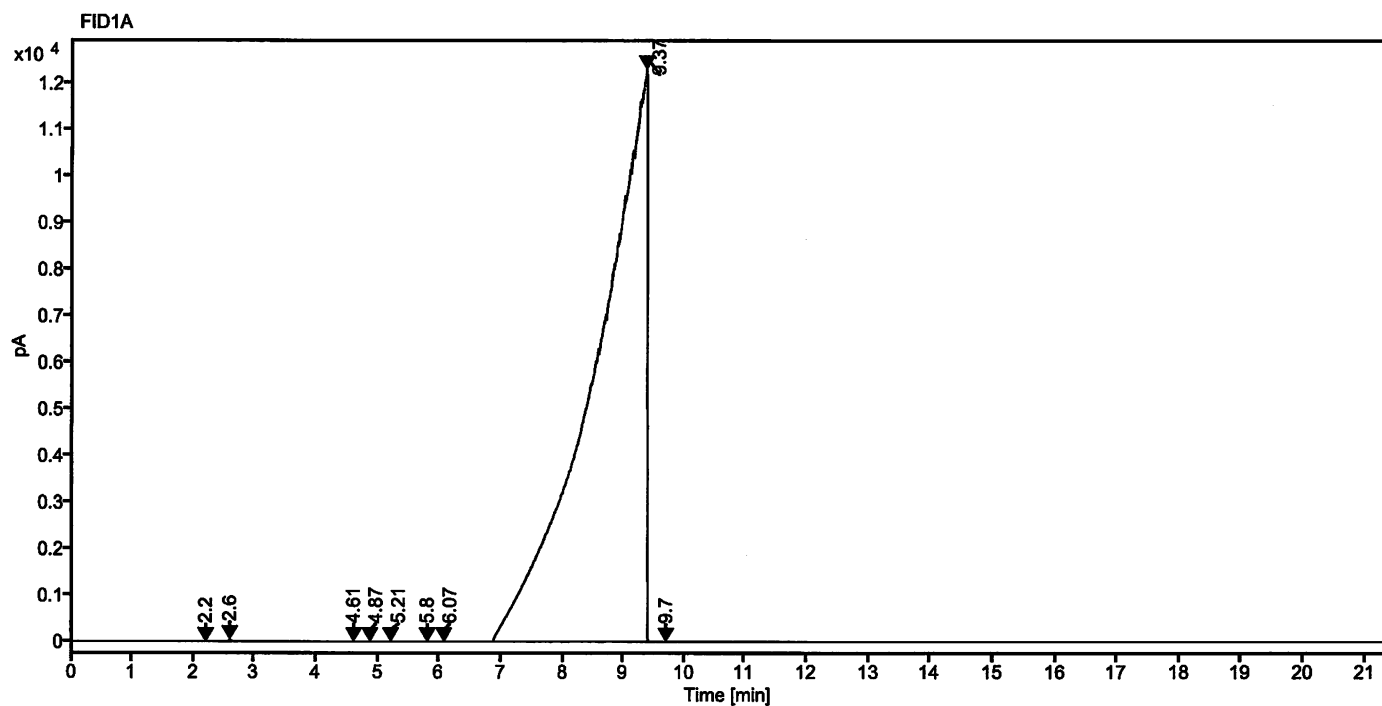
Certified by: N. Müller

RM Release

The LGC Labor GmbH, accredited by DAkkS as indicated by the accreditation number D-RM-19883-01 & D-PL-19883-01, has shown competence based on ISO Guide 34:2009 with relevant parts of DIN EN ISO/IEC 17025:2005 for production of certified reference materials in form of organic pure substances and in form of single and multi-component solutions of organic pure substances.

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The warranty for this product is limited to the purchasing price of this product.

Data file: 12727000-02.dx **Instrument:** FID 2
Sample name: G687190 **Sequence Name:** 2018KW14-3b
Inj. volume [µl]: 1.0 **Injection date:** 4/5/2018 3:21:04 PM
Acq. method: 200.amx **Location:** 43
Sample Description N,N-Dimethylformamide



Signal: FID1A

Nr.	RT [min]	Area [pA*s]	Height [pA]	Area%	Width [min]	S/N
1	2.20	1.19589	0.29	0.00	0.057	
2	2.60	111.88154	43.80	0.02	0.039	
3	4.61	21.84945	3.72	0.00	0.079	
4	4.87	2.51452	0.35	0.00	0.084	
5	5.21	8.90886	3.61	0.00	0.039	
6	5.80	0.66343	0.21	0.00	0.041	
7	6.07	0.60686	0.15	0.00	0.048	
8	9.37	704407.53431	12297.67	99.98	0.671	
9	9.70	2.91973	1.94	0.00	0.021	
	Sum	704558.07				

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