

Certificate of Analysis



ISO 17034 Reference Material

Product Identification

Article Code: DRE-CA12670200
Article Name: Dimethachlor-ethane sulfonic acid (ESA) sodium
Formula: C₁₃H₁₈NNaO₅S
Mol. Weight: 323.34
CAS No.: 1231710-75-0

Lot Number: G991435
Expiry Date: 20.11.2022
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: 97.27% (g/g)

Expanded Uncertainty U= 0.77% (g/g)

The uncertainty of this standard is calculated in accordance with the ISO 17034 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: HPLC/DAD

Detection: DAD

Column: ReproSil 100 C18 5 µm 250 x 3 mm

Inj.-Vol.: 10 µl

Flow: 1.0 ml/min

Ret.Time: 6.17 min

Method Details

Eluent A: Acetonitrile:H₂O+0.5% H₃PO₄ 1:9 for 1 min

Eluent B: Acetonitrile:100% for 5 min

Eluent A -> Eluent B: 19 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: 1.54% (g/g) by Karl-Fischer-Titration ($U(\text{exp}) = 0.03\%$ (g/g)).

Purity was determined by elemental analysis

Identity: EA, NMR, RT, IR, UV, MS

Attachment: Exemplary chromatogram of given method

Certificate Revision 1 - 20.11.2018 - M. Beck

Certified on: 20.11.2018

Certified by: M. Beck

RM Release

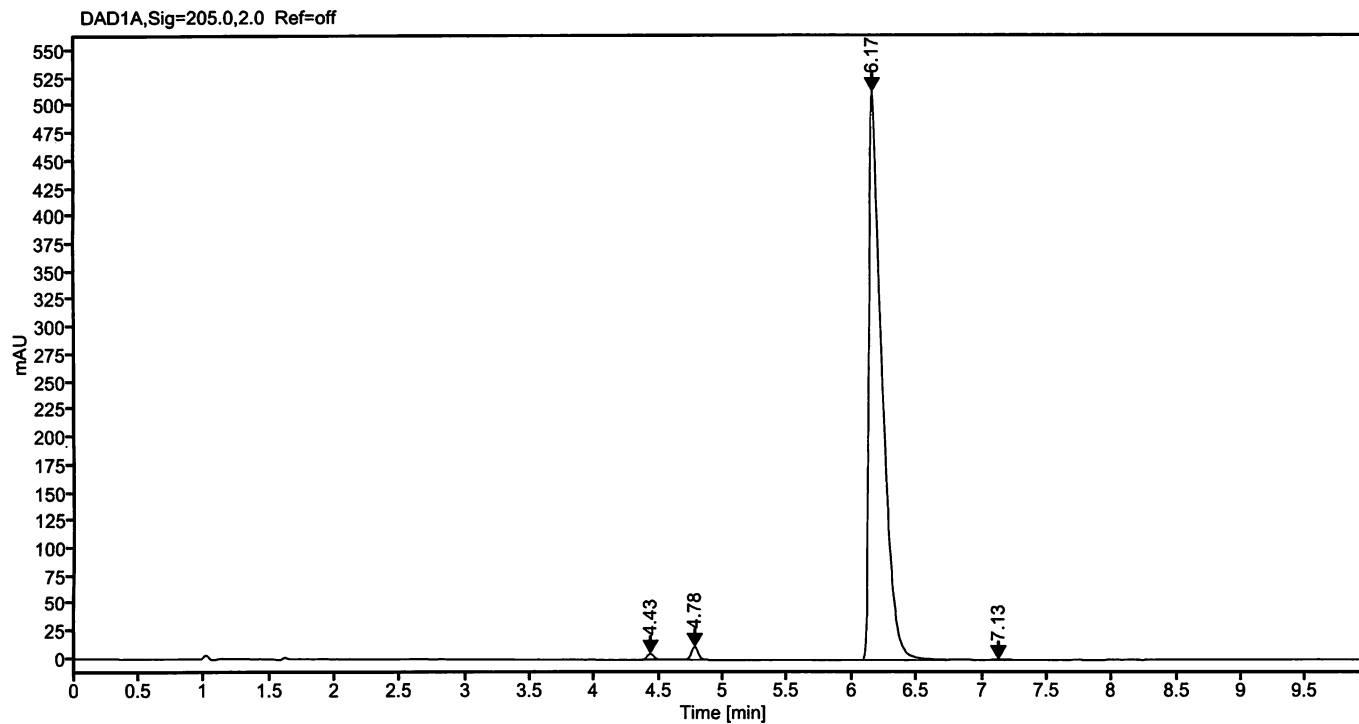
The LGC Labor GmbH, accredited by DAkks as indicated by the accreditation number D-RM-19883-01 & D-PL-19883-01, has shown competence based on ISO 17034:2017 with relevant parts of DIN EN ISO/IEC 17025:2018 for production of certified reference materials in form of organic pure substances and in form 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.

20/11/18

Data file: 12670200-04.dx Instrument: DAD4
Sample name: 81112WA G991435 Sequence Name: 19112018-3
Inj. volume [µl]: 10.0 Injection date: 11/19/2018 11:04:50 PM
Acq. method: Gradient_10-100_PK.amx Location: 88

Sample Description Dimethachlor-ethane sulfonic acid (ESA) sodium



Signal: DAD1A, Sig=205.0, 2.0 Ref=off

Nr.	RT [min]	Area	Height	Area%
1	4.43	20.42777	5.55	0.56
2	4.78	43.60266	11.67	1.20
3	6.17	3564.50999	513.73	98.14
4	7.13	3.63407	0.62	0.10
	Sum	3632.17		

M. Besh