

Certificate of Analysis

**EHRENSTORFER™**

ISO Guide 34 Reference Material

Product Identification

Article Code: DRE-C16986115**Article Name:** Sudan Orange G**Formula:** C₁₂H₁₀N₂O₂**Mol. Weight:** 214.22**CAS No.:** 2051-85-6**Lot Number:** G979492**Expiry Date:** 11.09.2024**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: 97.56% (g/g)**Expanded Uncertainty U=** 0.45% (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: HPLC/DAD**Detection:** DAD**Column:** ReproSil 100 C18 5 µm 250 x 3 mm**Inj.-Vol.:** 5 µl**Flow:** 1.0 ml/min**Ret.Time:** 1.89 min**Method Details**Acetonitrile:Water+0.5% H₃PO₄ 4:1

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: <0.10% (g/g) by Karl-Fischer-Titration ($U(\text{exp}) = 0.03\%$ (g/g)).

Purity was determined by chromatographic assay, corrected by water content and/or residue solvents.

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

Attachment: Exemplary chromatogram of given method

Certificate Revision 1 - 11.09.2018 - M. Beck

Certified on: 11.09.2018**Certified by:** M. Beck

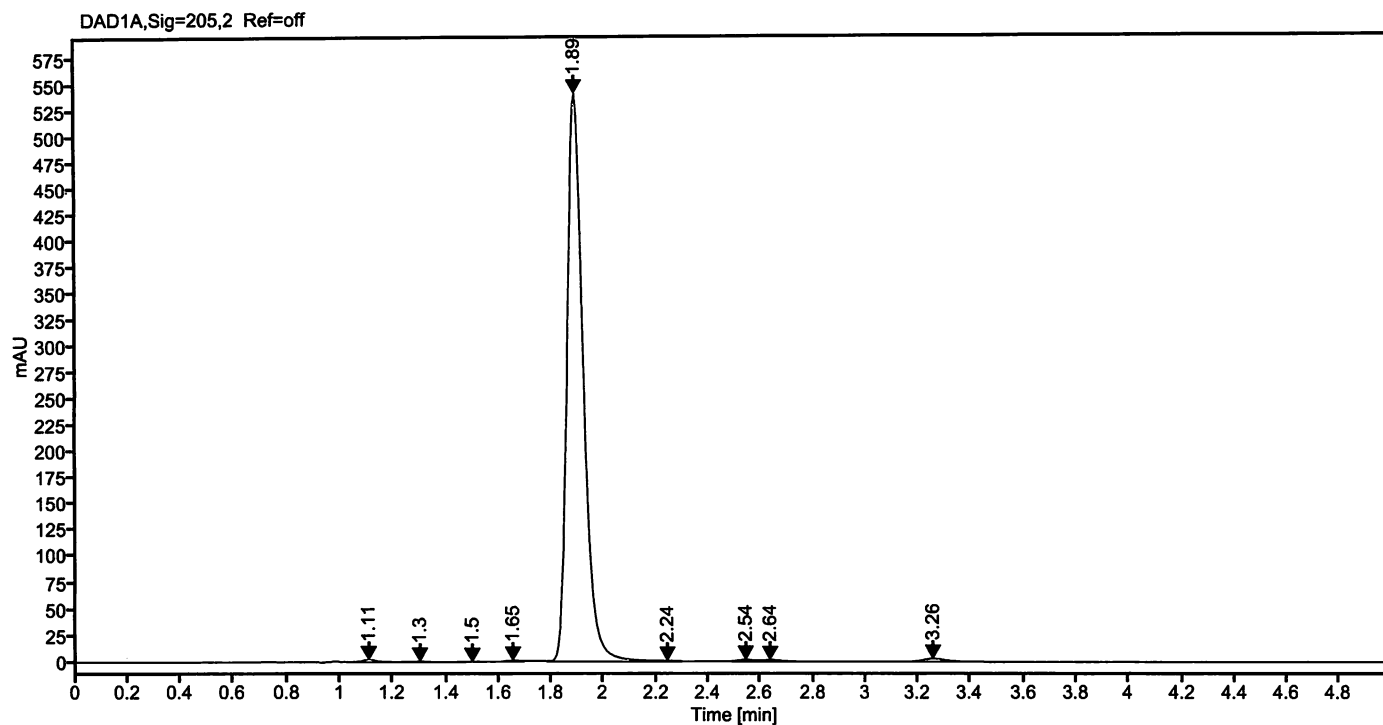
RM Release

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 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.

LGC Labor GmbH - Bgm.-Schlosser-Straße 6A - 86199 Augsburg - Germany
Phone +49 821 906080 - Fax +49 821 9060888 - augsburg.inquiry@lgcgroup.com
The warranty for this product is limited to the purchasing price of this product.

Data file: 16986115-28.dx
Sample name: 80906AL G979492
Inj. volume [µl]: 5.0
Acq. method: S1_41PK.amx
Sample Description Sudan Orange G

Instrument: DAD5
Sequence Name: 06092018-1
Injection date: 9/6/2018 10:24:25 PM
Location: P2-E4



Signal: DAD1A,Sig=205,2 Ref=off

Nr.	RT [min]	Area	Height	Area%
1	1.11	7.51393	2.12	0.31
2	1.30	1.92756	0.48	0.08
3	1.50	1.19231	0.22	0.05
4	1.65	5.57449	1.36	0.23
5	1.89	2334.60068	540.85	97.69
6	2.24	3.77043	0.76	0.16
7	2.54	8.16967	1.74	0.34
8	2.64	9.31006	1.70	0.39
9	3.26	17.73650	2.90	0.74
Sum		2389.80		

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