Deutsche Akkreditierungsstelle GmbH

Annex to the Accreditation Certificate D-RM-19883-01-00 according to DIN EN ISO 17034:2017

Valid from: 05.08.2020

Date of issue: **19.08.2020**

Holder of certificate:

LGC Labor GmbH
Bürgermeister-Schlosser-Straße 6A, 86199 Augsburg

Reference material production in the fields:

reference materials and certified reference materials in the form of organic pure substances; reference materials and certified reference materials in the form of single and multi-component solutions of organic pure substances

The reference material producer maintains an up-to-date list of certified reference materials in the accredited area.

This document is a translation. The definitive version is the original German annex to the accreditation certificate.

Abbreviations used: see last page

The certificate together with its annex reflects the status at the time of the date of issue. The current status of the scope of accreditation can be found in the database of accredited bodies of Deutsche Akkreditierungsstelle GmbH. https://www.dakks.de/en/content/accredited-bodies-dakks

1 Reference materials of organic substances

Product	Characteristic	Range	Relative uncertainty in % (m/m)*	1. Characterization strategy/ 2. procedure
Pure organic substances	Identity	-	-	1. Characterization of a non-operationally defined measurand using two or more methods of demonstrable accuracy in one or more competent laboratories according ISO 17034 paragraph 7.12.3 Note 1b) Or value transfer from an RM to a closely matched candidate RM performed by one laboratory using a single not-primary measurement procedure according ISO 17034 paragraph 7.12.3 Note 1d) 2. At least 2 of the following methods: GC/MS, LC/MS, IR-, UV-, NMR-Spectroscopy, melting point Mutually plausible results with at least two methods: GC, HPLC, quantitative NMR, Karl-Fischer-Titration, Titrations, CS2-determination, Elementary analysis
	Content	≥ 65 % (m/m)	0,3 - 7,0	

* Expanded combined uncertainty (k = 2 for a confidence interval of 95%)

2 Certified reference materials of organic pure substances

Product	Characteristic	Range	Relative uncertainty in % (m/m)*	1. Characterization strategy/ 2. procedure
Pure organic substances	Identity	-	-	1. Characterization of a non-operationally defined measurand using two or more methods of demonstrable accuracy in one or more competent laboratories according ISO 17034 paragraph 7.12.3 Note 1b) Or value transfer from an RM to a closely matched candidate RM performed by one laboratory using a single not-primary measurement procedure according ISO 17034 paragraph 7.12.3 Note 1d) 2. At least 2 of the following methods: GC/MS, LC/MS, IR-, UV-, NMR- Spectroscopy, melting point Mutually plausible results with at least two methods: GC, HPLC, quantitative NMR, Karl-Fischer-Titration, Titrations, CS2-determination, Elementary analysis
	Content	≥ 95 % (m/m)	0,3 – 2,0	

* Expanded combined uncertainty (k = 2 for a confidence interval of 95%)

3 Reference materials and certified reference materials of single and multi-component solutions of organic pure substances

Product	Characteristic	Range	Relative uncertainty in % (m/m)*	1. Characterization strategy/ 2. procedure
Single and multi-component solutions of pure organic substances	Concentration	0,1 – 100000 µg/mL	2 - 10	1. Caracterization based on volume of ingridients used in the preparation of the RM according ISO 17034 paragraph. 7.12.3 Note 1e) Or value transfer from an RM to a closely matched candidate RM performed by one laboratory using a single not-primary measurement procedure according ISO 17034 paragraph 7.12.3 Note 1d) 2. Gravimetric production with high precision weighing, outgoing from characterized starting materials (Test instruction LGC-PA-01), verified by determination of the concentration

* Expanded combined uncertainty (k = 2 for a confidence interval of 95%)

Abbreviations used:

ISO	International Organization for Standardization
EN	European Standard
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LGC-PA	House method of LGC Labor GmbH