

Deutsche Akkreditierungsstelle

Annex to the Accreditation Certificate D-RM-15185-01-00 according to DIN EN ISO 17034:2017

Valid from: 21.03.2024

Date of issue: 21.03.2024

Holder of accreditation certificate:

**MERCK Kommanditgesellschaft auf Aktien
Frankfurter Straße 250, 64293 Darmstadt**

with the location

**MERCK Kommanditgesellschaft auf Aktien
Life Science Operations Darmstadt LS-SC-PCD
Frankfurter Straße 250, 64293 Darmstadt**

The reference material producer meets the requirements of DIN EN ISO 17034:2017 to carry out the conformity assessment activities listed in this annex. The reference material producer meets additional legal and normative requirements, if applicable, including those in relevant sectoral schemes, provided that these are explicitly confirmed below.

The management system requirements of DIN EN ISO 17034 are written in the language relevant to the operations of reference material producers and they conform to the principles of DIN EN ISO 9001.

Reference material production in the fields:

production of certified reference materials in the fields conductivity standard solutions, single element standard solutions, multi element standard solutions, pH-reference solids and pH-reference solutions, water standards, standard solutions for ion chromatography and titrimetric standards

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

This certificate annex is only valid together with the written accreditation certificate and reflects the status as indicated by the date of issue. The current status of any given scope of accreditation can be found in the directory of accredited bodies maintained by Deutsche Akkreditierungsstelle GmbH at <https://www.dakks.de>.

Abbreviations used: see last page

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

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Certified reference materials in the fields conductivity standard solutions, element standard solutions, pH-reference solids and pH-reference solutions, water standards and titrimetric standards

Product	Measured quantity	Measuring range	Characterization strategy
Conductivity standard solutions	Electrolytic conductivity	0.5 $\mu\text{S cm}^{-1}$ to < 12000 mS m^{-1}	d)
Element standard solutions	Mass fraction of an element	1 mg/kg to 20000 mg/kg	d)
Element standard solutions	Concentration of an element	1 mg/L bis 20000 mg/L	d)
Multi element standard solutions	Mass fraction of an element	9 $\mu\text{g/kg}$ to 10500 mg/kg	d)
Multi element standard solutions	Concentration of an element	9 $\mu\text{g/L}$ to 10500 mg/L	d)
pH-reference solids	pH-value	1 to 13	d)
pH-reference solutions	pH-value	1 to 13	d)
titrimetric standards	Mass fraction of titrimetric standards	95,00 – 101,00 %	d)
water standards/ titrimetric standards	Water mass fraction of Water standards/ titrimetric standards	15 mg/kg - 52 g/kg 1,0 g/kg - 160 g/kg 5 % - 16 mass-%	a) a) a)
Standard solutions for ion chromatography	Mass fraction of cation/anion	900 mg/kg to 1100 mg/kg	d)
Standard solutions for ion chromatography	Concentration of cation/anion	900 mg/L to 1100 mg/L	d)

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a) The use of a single reference measurement method (as defined in ISO/IEC Guide 99) in a single laboratory in accordance with DIN EN ISO 17034:2017 Par. 7.12.3 Note 1a).

d) The transfer of values from an RM to a closely matched candidate RM using a single measurement procedure performed by one laboratory in accordance with DIN EN ISO 17034:2017 Par. 7.12.3 Note 1d).

Abbreviations used:

DIN	Deutsches Institut für Normung e.V. – German institute for standardization
EN	Europäische Norm – European Standard
IEC	International Electrotechnical Commission
ISO	International Organization for Standardisation

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