DAkkS
Deutsche
Akkreditierungsstelle

Accreditation

The Deutsche Akkreditierungsstelle attests with this **Accreditation Certificate** that the reference material producer

Bundesanstalt für Materialforschung und -prüfung (BAM)
Unter den Eichen 87, 12205 Berlin

meets the requirements according to DIN EN ISO 17034:2017 for the conformity assessment activities listed in the annex to this certificate. This includes additional existing legal and normative requirements for the reference material producer, including those in relevant sectoral schemes, provided they are explicitly confirmed in the annex to this certificate.

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.

This accreditation was issued in accordance with Art. 5 Para. 1 Sentence 2 of Regulation (EC) 765/2008, after an accreditation procedure was carried out in compliance with the minimum requirements of DIN EN ISO/IEC 17011 and on the basis of a review and decision of the appointed accreditation committees.

This accreditation certificate only applies in connection with the notices of 18.03.2025 with accreditation number D-RM-11075-01.
It consists of this cover sheet, the reverse side of the cover sheet and the following annex with a total of 5 pages.

Registration number of the accreditation certificate: **D-RM-11075-01-00**

Berlin, 18.03.2025 Dr. rer. nat. Olga Lettau
Head of Technical Unit

Translation issued:
26.06.2025 Dr. rer. nat. Olga Lettau
Head of Technical Unit

The certificate together with the annex 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 (www.dakks.de).

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

See notes overleaf

Deutsche Akkreditierungsstelle GmbH

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60327 Frankfurt am Main

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The Deutsche Akkreditierungsstelle GmbH (DAkkS) is the entrusted national accreditation body of the Federal Republic of Germany according to § 8 section 1 AkkStelleG in conjunction with § 1 section 1 AkkStelleGBV. DAkkS is designated as the national accreditation authority by Germany according to Art. 4 Para. 4 of Regulation (EC) 765/2008 and clause 4.7 of DIN EN ISO/IEC 17000.

Pursuant to Art. 11 section 2 of Regulation (EC) 765/2008, the accreditation certificate shall be recognised as equivalent by the national authorities within the scope of this Regulation as well as by the WTO member states that have committed themselves in bilateral or multilateral mutual agreements to recognise the certificates of accreditation bodies that are members of ILAC or IAF as equivalent.

DAkkS is a signatory to the multilateral agreements for mutual recognition of the European co-operation for Accreditation (EA), International Accreditation Forum (IAF) and International Laboratory Accreditation Co-operation (ILAC).

The up-to-date state of membership can be retrieved from the following websites:
EA: www.european-accreditation.org
ILAC: www.ilac.org
IAF: www.iaf.nu

This accreditation certificate is the property of the German Accreditation Body.

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Annex to the Accreditation Certificate D-RM-11075-01-00 according to DIN EN ISO 17034:2017

Valid from: **18.03.2025**

Date of issue: 18.03.2025

Holder of accreditation certificate:

Bundesanstalt für Materialforschung und -prüfung (BAM)
Unter den Eichen 87, 12205 Berlin

with the locations

Bundesanstalt für Materialforschung und -prüfung (BAM)
Unter den Eichen 87, 12205 Berlin

Bundesanstalt für Materialforschung und -prüfung (BAM)
Richard-Willstätter-Straße 11, 12489 Berlin

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:

certified reference materials in the form of ferrous and non-ferrous metals and alloys, ceramics and glass, soils, sludge, wood and sediments, food, consumer products, energy and automotive gas mixtures, ethanol/water solutions, aqueous solutions of stable isotopes, lubricants and fuels as well as porous materials

For cells marked with *, the reference material manufacturer is permitted to include certified reference materials within the specified product groups/characteristics within the scope of accreditation without prior notification and approval from DAkkS. The reference material manufacturer maintains an up-to-date list of certified reference materials within the accredited scope.

Product	Characteristic	Range	Characterization strategy/ methods
Non-ferrous metals and alloys CMC,*	Element contents*	0.1 mg/kg – 997 g/kg	b and c)
Steels CMC, Irons and Ferro Alloys*	Element contents*	0.1 mg/kg – 997 g/kg	b and c)
Ceramics and glass*	Element contents*	0.05 mg/kg – 800 g/kg	b and c)

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Product	Characteristic	Range	Characterization strategy/ methods
Soils, sludge, and sediments*	Environmentally relevant element contents*	(1 – 1000) mg/kg	b and c)
	Total cyanide contents*	(1 – 100) mg/kg	c)
	PAH contents CMC,*	(0.1 – 200) mg/kg	b)
	PCB contents CMC,*	(0.2 – 5) mg/kg	b)
	AOX content	(30 – 500) mg/kg	c)
	Mineral oil contents (sum parameter according to ISO 16703)*	(900 – 9000) mg/kg	c)
Food CMC,*	Contents of organic contaminants and residues*	(0.5 – 1000) µg/kg	b and c)
Consumer products*	Contents of organic contaminants and residues*	0,4 µg/kg - 140 g/kg	b and c)
Wood*	PCP contents	(0.5 – 20) mg/kg	b and c)
Ethanol/ water solutions CMC	Ethanol contents	(0.0 - 3.5) g/L	e)

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Product	Characteristic	Range	Characterization strategy/ methods
Gas mixture for energy gases [CMC,*]	Contents of energy gas components*	(0.0050 – 100) cmol/mol	a)
Gas mixtures for automotive gases [CMC,*]	Contents of automotive gas components*	(0.0050 – 100) cmol/mol	a)
Aqueous solutions of stable isotopes [CMC,*]	Isotope amount ratios of stable isotopes*	(0.2 - 0.99) mol/mol	a, b, c)
Lubricants and fuels*	Mass ratios and mass fractions*	(0.01 – 1) g/g	e)
Porous materials [CMC,*]	Specific surface area using BET method	(0.01 – 3000) m^2/g	c)
	Specific pore volumes	(0.1 – 3.0) cm^3/g	c)
	Pore diameter	(0.1 - 100 000) nm	c)

[CMC] Entries present in CMC database

a) The characterization of the reference values is carried out using a single reference measurement procedure (as defined in ISO/IEC Guide 99) in a single laboratory in accordance with ISO 17034, paragraph 7.12.3, note 1a).
b) The characterisation of a non-method-related measurand is carried out using two or more methods with demonstrable accuracy in one or more competent laboratories in accordance with ISO 17034, paragraph 7.12.3, note 1b).
c) The characterization of a process-related measurand is carried out using a network of competent laboratories in accordance with ISO 17034, paragraph 7.12.3, note 1c).
e) The characterization of the reference values is based on the mass or volume of the components used in the preparation of the RM (ISO 17034, paragraph 7.12.3, note 1e).

Abbreviations used:

AOX	Adsorbed organically bound halogens
BET	Surface determination (according to Brunauer, Emmett and Teller)
CMC	Calibration and measurement capability (entry in annex C of CIPM-MRA)
DIN	Deutsches Institut für Normung e.V. – German institute for standardization
EPA	Environmental Protection Agency
ISO	International Organization for Standardization
PAH	Polycyclic aromatic hydrocarbons
PCB	Polychlorinated biphenyls
PCP	Pentachlorophenol
EN	Europäische Norm – European Standard
IEC	International Electrotechnical Commission