

Deutsche Akkreditierungsstelle GmbH

Annex to the Accreditation Certificate D-PL-14165-01-00 according to DIN EN ISO/IEC 17025:2018

Valid from: 03.04.2023

Date of issue: 03.04.2023

Holder of certificate:

LUFA Nord-West, Zentrale
Jägerstraße 23 – 27, 26121 Oldenburg, Germany

The testing laboratory fulfills the requirements according to DIN EN ISO/IEC 17025:2018 to perform the conformity assessment activities listed in this annex. The testing laboratory shall comply with additional legal and normative requirements, where applicable, including those in relevant sectoral programs, provided that these are expressly confirmed below.

The requirements for the management system in DIN EN ISO/IEC 17025 are written in a language that is relevant for testing laboratories and are overall in accordance with the principles of DIN EN ISO 9001.

Tests in the fields:

sampling of untreated water and drinking water; chemical tests in accordance with the Drinking Water Ordinance, sampling of water, waste water, water from standing waters, running waters, cooling water, sludge and sediments; Sampling of industrial water according to §3 (8) 42nd BImSchV, physical, physico-chemical, chemical and microbiological investigations of water, waste water, surface water, water from swimming pools and bathing facilities, bathing waters, rainwater, seepage water, livestock water, irrigation water, sludge and sediments; sampling of agricultural soils; physical, physico-chemical, chemical and microbiological tests of agricultural soils, horticultural growing media, soils, grounds and peats;

The management system requirements of DIN EN ISO/IEC 17025 are written in the language relevant to the operations of testing laboratories. Laboratories that conform to the requirements of this standard, operate generally in accordance with the principles of DIN EN ISO 9001.

*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 at <https://www.dakks.de/en/content/accredited-bodies-dakks>.*

sampling of sewage sludge and soils in accordance with the Sewage Sludge Ordinance; sampling of biowaste in accordance with Biowaste Ordinance (BioAbfV); physical, physico-chemical and chemical tests of soils, sewage sludge, compost, dust, waste materials and recyclable materials, biowaste, biogas and fertilisers; sampling-planning in accordance with Federal Soil Conservation Ordinance (BBodSchV); Sampling and analysis of contaminated sites and contaminated sites suspected; sampling, sample preparation and analysis of waste in accordance with German Landfill Ordinance Annex 4; physical, physico-chemical, chemical, sensory, molecular-biological, microbiological and immunological tests of milk, dairy products, selected foods and fats together with hygienic status controls; detection of mastitis pathogens in milk samples; physical, physico-chemical, chemical, sensory and microbiological investigations of animal feedstuffs, harvested crops and plants; molecularbiological tests of plants, foods and animal feedstuffs; diagnosis of varieties; determination of organic and inorganic gaseous and particulate airborne constituents in emissions; determination (sampling and analysis) of selected organic and inorganic gaseous and particulate airborne constituents in immissions; sampling and measurement of odor in emissions and immissions; Technical modules water, soil and contaminated sites and waste; Technical module immission control

Veterinary medicine

Testing areas: Microbiology, Virology, Parasitology, Immunology

with its institutes

**LUFA Nord-West, Institut für Futtermittel, Institut für Boden und Umwelt
Jägerstraße 23 – 27, 26121 Oldenburg**

**LUFA Nord-West, Institut für Tiergesundheit
Ammerländer Heerstraße 123, 26129 Oldenburg**

**LUFA Nord-West, Institut für Lebensmittelqualität
Ammerländer Heerstraße 115-117, 26129 Oldenburg**

**LUFA Nord-West, Institut für Boden und Umwelt, Institut für Düngemittel
und Saatgut
Finkenborner Weg 1a, 31787 Hameln**

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Within the given testing field marked with *, the testing laboratory is permitted, without being required to inform and obtain prior approval from DAkkS, the free choice of standard or equivalent testing methods. The listed testing methods are exemplary.

Within the given testing field marked with **, the testing laboratory is permitted, without being required to inform and obtain prior approval from DAkkS, the modification, development and refinement of testing methods. The listed testing methods are exemplary.

The testing laboratory is permitted, without being required to inform and obtain prior approval from DAkkS, to use standards or equivalent testing methods listed here with different issue dates. This does not apply for the technical modules.

The testing laboratory maintains a current list of all testing methods within the flexible scope of accreditation.

The test and sampling procedures are identified with the following symbols for the locations of the testing institutes where these are performed:

- 1 Oldenburg site, Jägerstraße 23-27**
Institut für Futtermittel (IfF)
Institut für Boden und Umwelt (IfB)
- 2 Oldenburg site, Ammerländer Heerstraße 123**
Institut für Tiergesundheit (IfT)
- 3 Oldenburg site, Ammerländer Heerstraße 115-117**
Institut für Lebensmittelqualität (IfL)
- 4 Hameln site, Finkenborner Weg 1a**
Institut für Boden und Umwelt (IfB)
Institut für Düngemittel und Saatgut (IfD)

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1 Tests at Site 1 – Institut für Boden um Umwelt (IfB OL), Institut für Futtermittel (IfF OL)

1.1 Test of horticultural growing media, horticultural soils, horticultural grounds and peats and biowaste (compost, fermentation rests etc.)

1.1.1 Sample preparation of horticultural growing media, horticultural soils, horticultural grounds and peats and biowaste (e. g. compost)

DIN EN 13040 2008-01	Soil improvers and growing media – Sample preparation for chemical and physical tests, determination of dry matter content, moisture content and laboratory compacted bulk density (here: <i>only sample preparation</i>)	IfB/OL
VDLUFA VII, 2.1.3 2011	Microwave-heated pressure digestion (Remark: identical with VDLUFA III, 10.8.1.2, 8th supplementary update 2012)	IfF OL

1.1.2 Gravimetric methods of horticultural growing media, horticultural soils, horticultural grounds and peats and biowaste (e. g. compost)

DIN EN 12580 2014-02	Soil improvers and growing media - Determination of a quantity (Modification: <i>also as on-site parameter</i>)	IfB OL
DIN EN 13039 2012-01	Soil improvers and growing media - Determination of organic matter content and ash	IfB OL
DIN EN 13040 2008-01	Soil improvers and growing media - Sample preparation for chemical and physical tests, determination of dry matter content, moisture content and laboratory compacted bulk density (here: <i>only determination of dry matter content and moisture content</i>)	IfB OL
VDLUFA I, A 2.1.1 2001	Determination of water content by dehumidification in the drying closet	IfB OL
VDLUFA I, A 15.2 1991	Determination of ash content and organic matter in peaty soils	IfB OL
BGK Methods Manual Chapter II. C. 1.1 2020-04	Content of impurities in solid samples	IfB OL

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BGK Methods Manual Chapter II. C. 1.2 2020-04	Content of impurities in liquid samples	IfB OL
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BGK Methods Manual Chapter II C 2 2013-05	Content of stones	IfB OL
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1.1.3 Volumetric, titrimetric and potentiometric methods of horticultural growing media, horticultural soils, horticultural grounds and peats and biowaste (e. g. compost)

DIN EN 13037 2012-01	Soil improvers and growing media - Determination of pH	IfB OL
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DIN EN 13038 2012-01	Soil improvers and growing media - Determination of electrical conductivity	IfB OL
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DIN EN 13040 2008-01	Soil improvers and growing media - Sample preparation for chemical and physical tests, determination of dry matter content, moisture content and laboratory compacted bulk density <i>(here: only laboratory compacted bulk density; modification: single determination)</i>	IfB OL
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DIN EN 13041 2012-01	Soil improvers and growing media - Determination of physical properties - Dry bulk density, air volume, water volume, shrinkage value and total pore space	IfB OL
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VDLUFA I, A 5.1.1 2016	Determination of pH	IfB OL
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VDLUFA I, A 5.3.1 1991	Gas volumetric determination of carbonate	IfF OL
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VDLUFA I, A 13.2.1 1991	Bulk density (volume weight) without bulky components <i>(modified sample preparation)</i>	IfB OL
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VDLUFA I, A 13.2.2 1991	Bulk density (volume weight) with bulky components <i>(modified sample preparation)</i>	IfB OL
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VDLUFA I, A 13.4.1 2012	Determination of salinity in horticultural soils, grounds and substrates in water extract (identical with: VDLUFA I, A 10.1.1, 1991 - Determination of salinity in soils, horticultural grounds and substrates)	IfB OL
VDLUFA I, A 13.4.3 2012	Determination of water-soluble sodium and chloride in substrates and composts	IfB OL

1.1.4 Spectroscopic methods (UV, VIS, AAS, ICP, IR) methods of horticultural growing media, horticultural soils, horticultural grounds and peats and biowaste (e. g. compost)

DIN EN 13651 2002-01	Soil improvers and growing media - Extraction of calcium chloride/DTPA (CAT) soluble nutrients	IfB OL
VDLUFA I, A 6.1.1.1 2002	Determination of nitrogen as nitrate by UV absorption (Modification: <i>photometric</i>)	IfB OL
VDLUFA I, A 6.1.2.1 2002	Determination of ammonia nitrogen	IfB OL
VDLUFA I, A 6.1.4.1 2002	Determination of mineral nitrogen (nitrate and ammonia) in soil profiles (N_{min} laboratory method)	IfF OL
VDLUFA I, A 6.2.1.1 2012	Determination of phosphorus and potassium in Calcium acetate lactate (CAL) extract	IfB OL IfF OL
VDLUFA I, A 6.2.4.1 1991	Determination of magnesium accessible to plants in calcium chloride extract	IfB OL
VDLUFA I, A 6.4.1 2002	Magnesium, sodium and trace nutrients copper, manganese, zinc and Boron with calcium chloride/DTPA extraction (here: <i>only Mg, Na and Mn</i>)	IfF OL IfB OL
VDLUFA I, A 13.1.1 2004	Determination of primary and trace nutrients in culture substrates with calcium chloride/DTPA extraction (CAT method)	IfB OL IfF OL

1.1.5 Other methods of horticultural growing media, horticultural soils, horticultural grounds and peats and biowaste (e. g. compost)

DIN EN 15936 2012-11	Sludge, treated biowaste, soil and waste - Determination of total organic carbon (TOC) by dry combustion	IfB OL
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DIN EN 16168 2012-11	Sludge, treated biowaste and soil - Determination of total nitrogen using dry combustion method (Modification: <i>Determination in fermentation substrates, input materials for biogas plants, fermentation residues and agricultural fertilisers</i>)	IfB OL
DIN 11540 2019-03	Peats for horticulture and landscape gardening - Properties, test methods, specifications (here only: <i>Determination of the particle size distribution by sieve analysis</i>)	IfB OL
DIN 19539 2016-12	Determinantion of solids - temperature-dependent differentiation of the total carbon (TOC ₄₀₀ , ROC, TIC ₉₀₀)	IfF OL
Analysereeks PPO 22.06.1999	Gravimetrisch vochtgehalte en organische stoff fractie (Remark: available in German as LUFA Nord-West 1/1-617 Determination of water content and dry substance and determination of organic matter content and residue on ignition)	IfB OL
Analysereeks PPO 22.06.1999	Aangepast beberkt fysisch onderzoek potgrond (Remark: available in German as LUFA Nord-West AA 1/1-604 Peat raw material testing and determination of physical properties of substrates and substrate source materials after PBG Naaldwijk)	IfB OL
BGK Methods Manual Chapter IV A3 2006	Plant tolerance in the microgreen test with summer barley	IfB OL
BGK Methods Manual Chapter IV B1 2006-09	Content of germinable seed material and plant parts capable of producing shoots	IfB OL
VDLUFA I, A 4.1.3.2 2016	Direct determination of organic carbon with combustion at 550 °C and gas analysis	IfB OL
VDLUFA I A, 10.2.1 2016	Seedling test for Detection of substances harmful to plants in horticultural substrates and and substrate source materials	IfB OL
VDLUFA I, A 13.5.2 2004	Detection of germinable seed material and plants capable of producing shoots in horticultural substrates and substrate source materials	IfB OL

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1.2 Tests of harvested crops, input stuffs/input materials for biogas plants, fermenter contents, digested animal manure, fermentation substrates, fermentation residues and agricultural fertilisers

1.2.1 Sampling and sample preparation in harvested crops, input stuffs/input materials for biogas plants, fermenter contents, digested animal manure, fermentation substrates, fermentation residues/fermentation rests and agricultural fertilisers

BioAbfV Annex 3 Number 1.1 1998	Tests of untreated and treated biowastes, Sampling	IfB OL
BioAbfV Annex 3 Number 1.2 1998	Tests of untreated and treated biowastes, Sample preparation	IfB OL
VDLUFA VII 2.1.1 2011	Wet digestion under pressure (Remark: identical with VDLUFA III, 10.8.1., 8th supplementary update 2012)	IfF OL
VDLUFA VII, 2.1.3 2011	Microwave-heated pressure digestion (Remark: identical with VDLUFA III, 10.8.1.2, 8th supplementary update 2012)	IfF OL

1.2.2 Volumetric, titrimetric and potentiometric methods in harvested crops and input stuffs/input materials for biogas plants, fermenter contents, digested animal manure, fermentation substrates, fermentation residues/fermentation rests and agricultural fertilisers

DIN EN ISO 10523 (C 5) 2012-04	Water quality - Determination of pH (<i>no specification of measurement temperature in test report/findings</i>)	IfB OL
DIN 38409-7 (H 7) 2005-12	Determination of acid and base-neutralizing capacities	IfB OL
VDLUFA I, A 5.1.1. 2016	Determination of pH (Deviating matrix - Measurement in original substance) (Remark: in conformity with old VDLUFA II, 9.29)	IfB OL
VDLUFA II, 3.5.1.1 2004	Determination of total nitrogen, KJELDAHL-method In the absence of nitrate-nitrogen	IfF OL
VDLUFA II, 11.14 1995	Determination of salinity from electrical conductivity and determination of pH in water weight method	IfB OL

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1.2.3 Gravimetric methods in harvested crops, input stuffs/input materials for biogas plants, fermenter contents, digested animal manure, fermentation substrates, fermentation residues/fermentation rests and agricultural fertilisers

VDLUFA I, A 2.1.1 1991	Determination of water content (and dry matter) by dehumidification in the drying closet	IfB OL
VDLUFA II, 9.28.1 1976	Determination of total moisture: Determination as weight loss at 105 °C	IfB OL
VDLUFA II, 10.1 2014	Determination and evaluation of organic matter, determination of residue on ignition	IfB OL

1.2.4 Chromatographic methods in harvested crops, input stuffs/input materials for biogas plants, fermenter contents, digested animal manure, fermentation substrates, fermentation residues/fermentation rests and agricultural fertilisers

LUFA Nord-West AA 1/3A-046 2016-10	Determination of organic acids in silage and distillates by ion chromatography	IfF OL
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1.2.5 Spectroscopic methods (AAS, ICP, UV, VIS, flame photometer, IR) in harvested crops, input stuffs/input materials for biogas plants, fermenter contents, digested animal manure, fermentation substrates, fermentation residues/fermentation rests and agricultural fertilisers

DIN EN ISO 11885 (E 22) 2009-09	Water quality - Determination of selected elements by inductively coupled plasma atomic emission spectroscopy (ICP-OES)	IfB OL IfF OL
DIN EN ISO 17294-2 2017-01	Water quality - Application of inductively coupled plasma mass spectrometry (ICP-MS) - Part 2: Determination of selected elements including uranium isotopes (<i>trace elements in digested animal manure</i>)	IfB OL IfF OL
DIN EN 15936 2012-11	Sludge, treated biowaste, soil and waste - Determination of total organic carbon (TOC) by dry combustion	IfF OL
DIN EN 16168 2012-11	Sludge, treated biowaste and soil - Determination of total nitrogen using dry combustion method	IfF OL
DIN 19539 2016-12	Determination of solids - temperature-dependent differentiation of the total carbon (TOC ₄₀₀ , ROC, TIC ₉₀₀)	IfF OL

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1.2.6 Other methods in harvested crops, input stuffs/input materials for biogas plants, fermenter contents, digested animal manure, fermentation substrates, fermentation residues/fermentation rests and agricultural fertilisers

BGK Methods Manual C3 2006-09	Total content of organic acids	IfB OL
VDI Guideline 4630 2016-11	Fermentation of organic materials Characterisation of the substrate, sampling, collection of material data, fermentation tests (here Section 7: <i>Fermentation tests – Batch process</i>)	IfB OL
VDLUFA II, 3.2.6 1995	Determination of ammonia nitrogen - Electrometric method with the gas-sensitive NH ₃ electrode	IfB OL

1.3 Chemical, physico-chemical and sensory tests of animal feedstuffs, harvested crops, plants and foodstuffs

1.3.1 Sample preparation of animal feedstuffs, harvested crops, plants and foodstuffs

VDLUFA III, 2 1983	Processing of submitted samples and preparation of samples for analysis (includes 2.1.1 to 2.2.4)	IfF OL
VDLUFA VII 2.1.1 2011	Wet digestion under pressure (Remark: identical with VDLUFA III, 10.8.1.1, 8th supplementary update 2012)	IfF OL
VDLUFA VII, 2.1.3 2011	Microwave-heated pressure digestion (Remark: identical with VDLUFA III, 10.8.1.2, 8th supplementary update 2012)	IfF OL

1.3.2 Gravimetric determination of ingredients in animal feedstuffs, harvested crops and plants *

ASU F 0084 2011-06	Tests of feedstuffs - Determination of acidic detergent fibre (ADF) and acidic detergent fibre following incineration (ADFom) in animal feedstuffs (abbreviated version VDLUFA Method 6.5.2 "Determination of acidic detergent fibre (ADF) and acidic detergent fibre following incineration (ADFom)")	IfF OL
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VO (EG) 152/2009 Annex III, A 2009	Commission Regulation (EC) No 152/2009 of 27 January 2009 laying down the methods of sampling and analysis for the official control of feed - Methods of analysis to control the composition of feed materials and compound feed - Determination of moisture (Note: Same content as VDLUFA III, 3.1; 1976 and ASU F 0001(EG):2010-07)	Iff OL
VO (EG) 152/2009 Annex III, H 2009	Commission Regulation (EC) No 152/2009 of 27 January 2009 laying down the methods of sampling and analysis for the official control of feed - Methods of analysis to control the composition of feed materials and compound feed - Determination of the crude oil and fats (Note: Same content as VDLUFA III, 5.1.1; 1988 and ASU F 0009(EG):2010-07)	Iff OL
VO (EG) 152/2009 Annex III, I 2009	Commission Regulation (EC) No 152/2009 of 27 January 2009 laying down the methods of sampling and analysis for the official control of feed - Methods of analysis to control the composition of feed materials and compound feed - Determination of crude fibre (Note: Same content as VDLUFA III, 6.1.1; 1993 and ASU F 0010(EG):2010-07)	Iff OL
VO (EG) 152/2009 Annex III, M 2009	Commission Regulation (EC) No 152/2009 of 27 January 2009 laying down the methods of sampling and analysis for the official control of feed - Methods of analysis to control the composition of feed materials and compound feed - Determination of crude ash (Note: Same content as VDLUFA III, 8.1; 1976 and ASU F 0014(EG):2010-07)	Iff OL
VO (EG) 152/2009 Annex III, N 2009	Commission Regulation (EC) No 152/2009 of 27 January 2009 laying down the methods of sampling and analysis for the official control of feed - Methods of analysis to control the composition of feed materials and compound feed - Determination of ash which is insoluble in hydrochloric acid (Note: Same content as VDLUFA III, 8.2; 1976 and ASU F 0015(EG):2010-07)	Iff OL
VDLUFA III, 5.4.8 1976	Determination of unsaponifiable components in fats	Iff OL
VDLUFA III, 5.5.1 1983	Determination of contaminants insoluble in petroleum ether in fats and oils of animal feedstuffs	Iff OL

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VDLUFA III, 6.5.1 2012	Determination of neutral detergent fibre following amylase treatment (aNDF) and following amaylase treatment and incineration (aNDFom)	Iff OL
VDLUFA III, 6.5.3 2012	Determination of acidic detergent lignin (ADL)	Iff OL
VDLUFA III, 8.4 1988	Determination of raw ash in mineral animal feedstuffs	Iff OL

1.3.3 Titrimetric determination of ingredients and quality parameters in animal feedstuffs, harvested crops and plants *

VO (EG) 152/2009 Annex III, C 2009	Commission Regulation (EC) No 152/2009 of 27 January 2009 laying down the methods of sampling and analysis for the official control of feed - Methods of analysis to control the composition of feed materials and compound feed - Determination of the content of crude protein (Note: Same content as VDLUFA III, 4.1.1; 1993 and ASU F 0003(EG):2010-07)	Iff OL
VO (EG) 152/2009 Annex III, J 2009	Commission Regulation (EC) No 152/2009 of 27 January 2009 laying down the methods of sampling and analysis for the official control of feed - Methods of analysis to control the composition of feed materials and compound feed - Determination of sugar (Note: Same content as VDLUFA III, 7.1.1; 1976 and ASU F 0011(EG):2010-07)	Iff OL
VO (EG) 152/2009 Annex III, K 2009	Commission Regulation (EC) No 152/2009 of 27 January 2009 laying down the methods of sampling and analysis for the official control of feed - Methods of analysis to control the composition of feed materials and compound feed - Determination of lactose (Note: Same content as VDLUFA III, 7.1.4; 1976 and ASU F 0012(EG):2010-07)	Iff OL
VDLUFA III, 4.2.1 1976	Determination of raw protein soluble in fermentation	Iff OL
VDLUFA III, 4.4.1 1976	Determination of pure albumen - Method according to Barnstein	Iff OL
VDLUFA III, 5.2.1 1976	Determination of free fatty acids	Iff OL

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VDLUFA III, 5.4.3 1983	Determination of peroxide number by the method of Wheeler (Modification: <i>isooctane in place of chloroform</i>)	IfF OL
VDLUFA III, 10.5.2 1976	Determination of chlorides	IfF OL
VDLUFA III, 20.2 1976	Solubility of albumen in soya extract grist	IfF OL
VDLUFA III, 20.1 1976	Determination of urease activity in soya products	IfF OL

1.3.4 Determination of ingredients with GC/FID-methods in animal feedstuffs, harvested crops, plants and foodstuffs **

ISO 5504 1983	Oilseeds and oilseed residues - Determination of isothiocyanates and vinyl thiooxazolidone (Modification: <i>here only ITC</i>)	IfF OL
ASU F 0063 2011-06	Tests of feedstuffs - Determination of 1,2-propanediol (propylene glycol) in animal feedstuffs - Gas chromatographic method (abbreviated version of VDLUFA method 14.24.1 "Determination of 1,2-propanediol (propylene glycol)")	IfF OL
ASU F 0100 2013-04	Tests of feedstuffs - Determination of free glycerine in animal feedstuffs and crude glycerine (abbreviated version of VDLUFA method 14.25.1 - "Determination of free glycerine and crude glycerine")	IfF OL
ASU L 01.00-87 2012-01	Tests of foodstuffs - Determination of milk fat purity by gas chromatographic analysis of triglycerides (Reference method) (Takeover of the standard of the same name DIN EN ISO 17678, version June 2010)	IfF OL
ASU L 13.00-26 2008-06	Tests of foodstuffs - Analysis by gas chromatography of methyl esters in animal and vegetable fats and oils (Takeover of the standard of the same name DIN EN ISO 5508, version July 1995)	IfF OL

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ASU L 13.00-27/2 2012-01	Gas chromatography of fatty acid methyl esters - Part 2: Preparation of methyl esters of fatty acids in animal and vegetable fats and oils (Takeover of the standard of the same name DIN EN ISO 12966- 2, version May 2011)	IfF OL
LUFA Nord-West AA 1/3A-038 2012-11	Determination of methanol in glycerine by GC (<i>modification of VDLUFA III, 14.24.1 procedure</i>)	IfF OL

1.3.5 Determination of pesticides/-residues with GC/MS-methods in animal feedstuffs, harvested crops, plants and foodstuffs

ASU L 00.00-115 2018-10	Tests of foodstuffs - Determination of pesticide residues in vegetable foodstuffs- GC-MS(/MS) and/or LC-MS/MS following acetonitrile extraction/apportionment and purification with dispersive SPE (QuEChERS)	IfF OL
ASU F 0057 2019-06	Analysis of foodstuffs - Multi method for the determination of pesticide residues with GC and LC after acetonitrile extraction/distribution and purification with disperse SPE in plant foods - Modular QuEChERS method (Acceptance of the official method L 00.00-115, October 2018, Volume I (Foodstuffs) of the Official Collection)	IfF OL

1.3.6 Determination of pesticides/-residues with LC-MS/MS-methods in animal feedstuffs, harvested crops, plants and foodstuffs **

DIN EN 17194 2020-02	Feedingstuffs: Sampling and testing methods - Determination of deoxynivalenol, aflatoxin B1, fumonisin B1 and B2, T-2- and HT-2-toxins, zearalenone and ochratoxin A in single animal feedstuffs and compound animal feedstuffs by means of LC-MS/MS	IfF OL
ASU F 0057 2019-06	Analysis of foodstuffs - Multi method for the determination of pesticide residues with GC and LC after acetonitrile extraction/distribution and purification with disperse SPE in plant foods - Modular QuEChERS method (Acceptance of the official method L 00.00-115, October 2018, Volume I (Foodstuffs) of the Official Collection)	IfL OL

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ASU L 00.00-115 2018-10	Tests of foodstuffs - Determination of pesticide residues in vegetable foodstuffs- GC-MS(/MS) or LC-MS/MS following acetonitrile extraction/apportionment and purification with dispersive SPE (QuEChERS)	Iff OL
LUFA Nord-West AA1/3A-054 2014-08	Determination of residues from highly polar pesticides in foodstuffs of vegetable origin	Iff OL
LUFA Nord-West AA 1/3-055 2022-08	Determination of mycotoxins in animal feedstuffs, cereals and cereal-based foodstuffs by LC-MS/MS Multi-method	Iff OL
1.3.7 HPLC methods in animal feedstuffs, harvested crops, plants and foodstuffs		
VO (EG) No. 152/2009 Annex III, G 2009	Commission Regulation (EC) No 152/2009 of 27 January 2009 laying down methods of sampling and analysis for the official control of feed - Methods of analysis to control the composition of feed materials and compound feed - Determination of tryptophan	Iff OL
DIN EN 15791 2009-12	Animal feeding stuffs - Determination of deoxynivalenol in animal feed - High performance liquid chromatographic- (HPLC)method with UV detection and immunoaffinity column clean-up	Iff OL
DIN EN 15792 2009-12	Animal feeding stuffs - Determination of zearalenone in animal feed - High performance liquid chromatographic method with fluorescence detection and immunoaffinity column clean-up	Iff OL
ASU L 26.00-1 2018-10	Test of foodstuffs - Determination of nitrate content in vegetable products - HPLC/IC method	Iff OL
VDLUFA III, 4.11.4 1993	Determination of DL-2-hydroxy-4-methylmercaptobutyric acid following hydrolysis (total MHA®)	Iff OL
VDLUFA III, 16.1.4 1997	Determination of aflatoxin B ₁ : clean-up of extract by immunoaffinity chromatography	Iff OL
LUFA Nord-West AA 1/3-027 2017-11	Determination of vitamin D ₃ by the HPLC method (modification of VDLUFA III, 13.8.1)	Iff OL

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LUFA Nord-West AA 1/3-029 2019-11	Determination of vitamin A and vitamin E from a digestion by the HPLC method (modification of the procedure (EC) 152/2009, Annex IV, A, B / VDLUFA III, 13.1.2 and 13.5.4)	Iff OL
LUFA Nord-West AA 1/3-032 2019-11	Determination of ochratoxin A following immunoaffinity column clean-up - HPLC method (modification of DIN EN 16007:2011-10)	Iff OL

1.3.8 Determination of amino acids and organic acids by ion chromatographic methods in animal feedstuffs, harvested crops, plants and foodstuffs

VO (EC) 152/2009 Annex III, F 2009	Commission Regulation (EC) No 152/2009 of 27 January 2009 laying down methods of sampling and analysis for the official control of feed - Methods of analysis to control the composition of feed materials and compound feed - Determination of amino acids (except tryptophan) (modified procedure VDLUFA III, 4.11.1, 4.11.5 and 4.11.6 also applies here to commercial products; limited to lysine, methionine, cystine, valine and threonine)	Iff OL
LUFA Nord-West AA 1/3A-046 2016-10	Determination of organic acids in silages and distillates by ion chromatography	Iff OL
LUFA Nord-West AA 1/3A-047 2016-10	Determination of organic acids in feedingstuffs by ion chromatography	Iff OL

1.3.9 Photometric methods and infrared spectroscopy in animal feedstuffs, harvested crops, plants and foodstuffs (UV, VIS, IR)

ASU F 0041 2010-09	Tests of feedstuffs - Determination of phytase activity (Takeover of the standard of the same name DIN EN ISO 30024, version November 2009)	Iff OL
ASU F 0065 2011-06	Tests of feedstuffs - Determination of phytase activity in animal feedstuff mixtures - Photometric method (abbreviated version of VDLUFA method 27.1.2 "Determination of phytase activity in animal feedstuffs and pre-mixtures")	Iff OL
ASU L 00.00-49-1 1999-11	Tests of foodstuffs - Low-fat foodstuffs - Determination of dithiocarbamate and thiouramdisulphide residues - Part 1: Spectrophotometric method	Iff OL

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VDLUFA III, 31.2 2004	Test of silage (grass, maize) by near-infrared spectroscopy in the VDLUFA network. (Modification: <i>also for other animal feedstuffs, e.g. grain, corn cob mix, grain maize, GPS, hay, fresh grass, soya and silage mixtures, also with own calibrations</i>)	Iff OL
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1.3.10 Determination of inorganic parameters by atomic absorption spectrometry (AAS) in animal feedstuffs, harvested crops, plants and foodstuffs *

ASU F 0060 2013-04	Tests of feedstuffs - Determination of selenium by hydride generation atomic absorption spectrometry (HG-AAS) after microwave digestion (digestion with 65 % nitric acid and 30 % hydrogen peroxide); (Takeover of the standard of the same name DIN EN 16159, version April 2012)	Iff OL
ASU F 0088 2013-04	Tests of feedstuffs - Determination of cadmium and lead in animal feedstuffs by atomic absorption spectrometry with graphite furnace (GF-AAS) following pressure digestion (Takeover of the standard of the same name DIN EN 15550, version December 2007)	Iff OL
ASU F 0089 2013-04	Tests of feedstuffs - Determination of mercury by cold-vapour atomic absorption spectrometry (CVAAS) after microwave pressure digestion (extraction with 65 % nitric acid and 30 % hydrogen peroxide) (Takeover of the standard of the same name DIN EN 16277, version September 2012)	Iff OL
VDLUFA III, 11.6.2 2006	Determination of selenium in animal feedstuffs - Flow injection - hydride technique - AAS method	Iff OL
US EPA method 7473 2007-02	Mercury in solids and solutions by thermal decomposition, amalgamation and atomic absorption spectrophotometry (direct determination of mercury in animal feedstuffs)	Iff OL

1.3.11 Determination of inorganic parameters by inductively coupled plasma atomic emission spectroscopy (ICP-OES) in animal feedstuffs, harvested crops, plants and foodstuffs *

DIN EN ISO 11885 (E 22) 2009-09	Water quality - Determination of selected elements by inductively coupled plasma atomic emission spectroscopy (ICP-OES)	Iff OL
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ASU F 0042 2010-09	Tests of feedstuffs - Determination of calcium, sodium, phosphorus, magnesium, potassium, iron, zinc, copper, manganese, cobalt, molybdenum, arsenic, lead and cadmium in animal feedstuffs by ICP-AES (Takeover of the standard of the same name DIN EN 15510, version October 2007)	Iff OL
ASU F 0096 2019-06	Tests of feedstuffs - Determination of calcium, sodium, phosphorus, magnesium, potassium, sulphur, iron, zinc, copper, manganese and cobalt in feedstuffs after pressure digestion by ICP-AES (Takeover of the standard of the same name DIN EN 15621, version October 2017)	Iff OL

1.3.12 Determination of inorganic parameters by inductively coupled plasma mass spectrometry (ICP-MS) in animal feedstuffs, harvested crops, plants and foodstuffs *

DIN EN ISO 17294-2 2017-01	Water quality - Application of inductively coupled plasma mass spectrometry (ICP-MS) - Part 2: Determination of selected elements including uranium isotopes	Iff OL
DIN EN 15763 2010-04	Foodstuffs – Determination of trace elements - Determination of arsenic, cadmium, mercury and lead in foodstuffs by inductively coupled plasma mass spectrometry (ICP-MS) after pressure digestion (<i>Exception: no mercury</i>)	Iff OL

1.3.13 Determination of ingredients and digestibility parameters with enzymatic methods in animal feedstuffs *

ASU F 0064 2011-06	Tests of feedstuffs - Determination of gasification in animal feedstuffs according to the Hohenheim gas test (abbreviated version of VDLUFA method 25.1 "Determination of gasification according to the Hohenheim gas test")	Iff OL
VDLUFA III, 6.6.1 1997	Determination of organic substances soluble in enzymes (cellulase method)	Iff OL
VDLUFA III, 7.2.6 2012	Determination of the starch breakdown degree	Iff OL

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1.3.14 Microscopic and macroscopic methods in animal feedstuffs

VO (EG) No. 152/2009 Annex VI 2009	Commission Regulation (EC) No 152/2009 of 27 January 2009 laying down methods of sampling and analysis for the official control of feed - Methods of analysis to control the composition of feed materials and compound feed - Methods of analysis for the determination of constituents of animal origin for the official control of feed	IfF OL
VO (EG) No. 152/2009 Annex VI 2009	Commission Regulation (EC) No 152/2009 of 27 January 2009 laying down methods of sampling and analysis for the official control of feed - Methods of analysis to control the composition of feed materials and compound feed - Methods of analysis for the determination of constituents of animal origin for the official control of feed (Modification: <i>Alternative sample preparation without sedimentation step or with chloral hydrate</i>)	IfF OL
ASU F 0073 2011-06	Tests of feedstuffs - Sample preparation for the macroscopic and microscopic testing of animal feedstuffs (abbreviated version of VDLUFA method 30.1 " Sample preparation for macroscopic and microscopic tests")	IfF OL
ASU F 0074 2011-06	Tests of feedstuffs - Determination of ergot content in animal feedstuffs - macroscopic and microscopic methods (abbreviated version of VDLUFA method 30.2 "Determination of ergot in animal feedstuffs")	IfF OL
ASU F 0075 2011-06	Tests of feedstuffs - Determination of Datura spp. content in animal feedstuffs - macroscopic and microscopic methods (abbreviated version of VDLUFA method 30.3 " Determination of Datura spp. in animal feedstuffs")	IfF OL
ASU F 0076 2011-06	Tests of feedstuffs - Identification and estimation of constituents in animal feedstuff mixtures - macroscopic and microscopic methods (abbreviated version of VDLUFA method 30.7 "Identification and estimation of constituents in animal feedstuffs")	IfF OL
VDLUFA III, 30.4 2007	Determination of rice husks in animal feedstuffs	IfF OL
VDLUFA III, 30.5 2012	Determination of castor oil seed coats	IfF OL

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VDLUFA III, 30.6 2007	Determination of fruit stones in animal feedstuffs	Iff OL
VDLUFA III, 30.8 2012	Determination of <i>ambrosia astemisifolia</i> L.	Iff OL
LUFA Nord-West AA 1/3-217 2016-12	Proof of packaging material in animal feedstuffs	Iff OL

1.3.15 Electrode measurement in animal feedstuffs

ASU F 0092 2013-04	Tests of feedstuffs - Determination of fluoride content after hydrochloric acid treatment by ion-sensitive electrode method (ISE) (Takeover of the standard of the same name DIN EN 16279, version September 2012)	Iff OL
VDLUFA III, 17.3.2 2006	Determination of fluorine in herbal material by the ion-sensitive electrode method	Iff OL
VDLUFA III, 18.1 1976	Determination of pH value	Iff OL
VDLUFA VII, 2.2.2.11 2017	Determination of fluorine in plants and animal feedstuffs by the ion-sensitive electrode method	Iff OL
LUFA Nord-West AA 1/3-155 2016-01	Determination of pH value in commercial feedstuff	Iff OL

1.3.16 Other tests in animal feedstuffs

VO (EG) 152/2009 Annex III, L 2009	Commission Regulation (EC) No 152/2009 of 27 January 2009 laying down methods of sampling and analysis for the official control of feeding - Methods of analysis to control the composition of feed materials and compound feed - Determination of starch (Note: Same content as VDLUFA III, 7.2.1; 1976 and ASU F 0013 (EG):2010-07)	Iff OL
r-biopharm, Vers. 2012-09 Art. No. R1401	Ridascreen® Zearalenon	Iff OL

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r-biopharm, 2016-09 Art.No. R5901 (96 wells) Art. No. R5902 (48 wells)	Ridascreen® Fast DON	Iff OL
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LUFA Nord-West AA 1/3-185 2015-02	Sensory evaluation of locally produced animal feedstuffs	Iff OL
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1.4 Microbiological and molecularbiological methods for analysis of animal feedstuffs, harvested crops, plants and foodstuffs, fertilisers, substrates, secondary raw material fertilisers and environmental samples

1.4.1 Determination of bacteria, yeasts and moulds by means of cultural microbiological analyses in feed, harvested crops, plants, food and environmental samples **

DIN ISO 21528-2 2017-09	Microbiology of food and animal feeding stuffs - Horizontal methods for the detection and enumeration of Enterobacteriaceae - Part 2: Colony-count method	Iff OL
DIN EN ISO 6579-1 2017-07	Microbiology of the food chain - Horizontal method for the detection, enumeration and serotyping of Salmonella - Part 1: Detection Salmonella spp.	Iff OL
ASU F 0070 2011-06	Tests of feedstuffs - Enumeration of bacteria, yeast, mould and black fungus in animal feedstuffs (abbreviated version of VDLUFA method 28.1.2 "Enumeration of bacteria, yeast, mould and black fungus")	Iff OL
ASU F 0071 2011-06	Tests of feedstuffs - Identification of bacteria, yeast, mould and black fungus in animal feedstuffs as product-typical or indicator signs for spoilage (abbreviated version of VDLUFA method 28.1.3 "General guidelines for the determination of bacteria, yeast, mould and black fungus as product-typical or indicator signs for spoilage")	Iff OL
ASU L 00.00-20 2018-03	Tests of foodstuff - Horizontal method for the detection, enumeration and serotyping of Salmonella - Part 1: Detection of Salmonella spp. (Takeover of the standard of the same name DIN EN ISO 6579-1, July 2017)	Iff OL

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ASU L 00.00-33 2006-09	Tests of foodstuffs - Horizontal method for the enumeration of presumptive <i>Bacillus cereus</i> - Colony-count technique at 30 °C (Takeover of the standard of the same name DIN EN ISO 7932, version March 2004)	Iff OL
ASU L 00.00-55 2004-12	Tests of foodstuffs - Method for the enumeration of coagulase-positive staphylococci (<i>Staphylococcus aureus</i> and other species) in foodstuffs - Part 1: Technique using Baird-Parker agar medium (Takeover of the standard of the same name DIN EN ISO 6888-1, version December 2003)	Iff OL
ASU L 00.00-57 2006-12	Tests of foodstuffs - Method for the enumeration of <i>Clostridium perfringens</i> in foodstuffs - Colony-count technique (Takeover of the standard of the same name DIN EN ISO 7937, version November 2004)	Iff OL
ASU L 00.00-88/1 2015-06	Tests of foodstuffs - Horizontal method for the enumeration of microorganisms - Part 1: Colony-count technique at 30 °C (Takeover of the standard of the same name DIN EN ISO 4833-1, version December 2013)	Iff OL
ASU L 00.00-88/2 2015-06	Tests of foodstuffs - Horizontal method for the enumeration of microorganisms - Part 2: Colony-count technique at 30 °C by the surface plating technique (Takeover of the standard of the same name DIN EN ISO 4833-2, version May 2014)	Iff OL
ASU L 01.00-37 1991-12	Tests of foodstuffs - Enumeration of yeast and mould in milk and milk products - Reference method	Iff OL
Guidelines for controlling laying hen flocks for <i>S. enteritidis</i> , <i>S. typhimurium</i> Version 1994	Guideline for the control of laying hen flocks for salmonella enteritidis and salmonella typhimurium, Zentralverband der Deutschen Geflügelwirtschaft e.V., Hinter Hoben 149, 53129 Bonn	Iff OL
LUFA Nord-West AA 1/3-515 2019-10	Qualitative and quantitative detection of clostridia	Iff OL

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LUFA Nord-West AA 1/3-568 2017-06	Semi-quantitative test of yeast and mould enumeration in milk and milk products in hygienic status samples	Iff OL
LUFA Nord-West AA 1/3-569 2017-06	Enterobacteriaceae testing of hygienic status samples (environmental samples, samples from the surroundings)	Iff OL
LUFA Nord-West AA 1/3-570 2017-06	Test of hygienic status controls for the detection of salmonella (environmental samples, samples from the surroundings)	Iff OL

1.4.2 Microbiological and molecular-biological test of bacteria, yeasts and molds with cultural methods in fertilisers, substrates, secondary raw material fertilisers **

DIN ISO 21528-2 2017-09	Microbiology of food and animal feeding stuffs - Horizontal methods for the detection and enumeration of Enterobacteriaceae - Part 2: Colony-count method	Iff OL
DIN 38414-13 (S 13) 1992-03	Detection of salmonellae in disinfected sewage sludge	Iff OL
BGK Methods Manual Chapter IV, C1 2006-09	Epidemiological hygiene: Testing of products for salmonella	Iff OL
BGK Methods Manual Chapter IV, C2 2006-09	Epidemiological hygiene: Total aerobic bacterial count (at 37 °C; GBZ)	Iff OL
BGK Methods Manual Chapter IV, C3 2006-09	Epidemiological hygiene: Escherichia coli (<i>E. coli</i>)	Iff OL
BGK Methods Manual Chapter IV, C4 2006-09	Epidemiological hygiene: Determination of enterococci	Iff OL
ASU L 00.00-20 2018-03	Tests of foodstuff - Horizontal method for the detection, enumeration and serotyping of Salmonella - Part 1: Detection of Salmonella spp. (Takeover of the standard of the same name DIN EN ISO 6579-1, July 2017)	Iff OL

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ASU L 00.00-57 2006-12	Tests of foodstuffs - Method for the enumeration of <i>Clostridium perfringens</i> in foodstuffs - Colony-count technique (Takeover of the standard of the same name DIN EN ISO 7937, version November 2004)	Iff OL
ASU L 01.00-37 1991-12	Tests of foodstuffs - Enumeration of yeast and mould in milk and milk products - Reference method	Iff OL
Guidelines for controlling laying hen flocks for <i>S. enteritidis</i> , <i>S. typhimurium</i> Version 1994	Guideline for the control of laying hen flocks for <i>Salmonella enteritidis</i> and <i>Salmonella typhimurium</i> , Zentralverband der Deutschen Geflügelwirtschaft e.V., Hinter Hoben 149, 53129 Bonn	Iff OL
Memorandum Extended final production testing for microbiological parameters HBPS 1998-11	Test of epidemiological harmlessness	Iff OL
LUFA Nord-West AA 1/3-515 2019-10	Qualitative and quantitative detection of clostridia	Iff OL

1.4.3 Microbiological tests of water and other microbiological methods

DIN EN ISO 6222 (K 5) 1999-07	Water quality - Enumeration of culturable micro-organisms - Colony count by inoculation in a nutrient agar culture medium (colony count at 22 °C and 36 °C)	Iff OL
DIN EN ISO 7899-2 (K 15) 2000-11	Water quality - Detection and enumeration of intestinal enterococci - Part 2: Membrane filtration method	Iff OL
DIN EN ISO 9308-1 (K12) 2017-09	Water quality - Enumeration of <i>Escherichia coli</i> and coliform bacteria - Part 1: Membrane filtration method for waters with low bacterial background flora	Iff OL
DIN EN ISO 9308-2 (K 6-1) 2014-06	Water quality - Enumeration of <i>Escherichia coli</i> and coliform bacteria - Part 2: Most probable number method	Iff OL
DIN EN ISO 9308-3 (K13) 1999-07	Water quality - Detection and enumeration of <i>Escherichia coli</i> and coliform bacteria in surface and waste water - Part 3: Miniaturized method (most probable number) by inoculation in liquid medium	Iff OL

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DIN EN ISO 11731 2019-03	Water quality - Detection and enumeration of Legionella	Iff OL
DIN EN ISO 11731-2 2008-06	Water quality - Detection and enumeration of Legionella - Part 2: Direct membrane filtration method for waters with low bacterial counts	Iff OL
DIN EN ISO 14189 (K 24) 2016-11	Water quality - Enumeration of Clostridium perfringens - Method using membrane filtration	Iff OL
DIN EN ISO 16266 (K11) 2008-05	Water quality - Detection and enumeration of Pseudomonas aeruginosa - Method by membrane filtration	Iff OL
Enterolert®- DW/Quanti-Tray® (IDEEX) 2018-07	Detection of Enterococcus spp. (Enterolert®-DW/Quanti-Tray®)	Iff OL
LUFA Nord-West AA 1/3-523 2011-09	Inhibitor test; EEC four-plate test in feed, feedstock for biogas plants, fermentation substrates and livestock water	Iff OL

1.4.4 Molecular-biological methods for the test of animal feedstuffs, foodstuffs, harvested crops and plants and derived products

1.4.4.1 Sample preparation with DNA extraction for detection of genetically modified organisms (GMO) and derived products, as well as species detection using PCR technology in animal feedstuffs, foodstuffs, harvested crops and plants *

VO (EG) 152/2009 Annex VI; last amended by regulation (EC) 51/2013 Annex VI, point 2.2.4 16.01.2013	Commission Regulation (EC) No 152/2009 of 27 January 2009 laying down the methods of sampling and analysis for the official control of feed - Methods of analysis for the determination of constituents of animal origin for the official control of feed	Iff OL
EURL-AP SOP 2014-07	DNA extraction using „Wizard® Magnetic DNA purification system for Food“ kit	Iff OL
BIOTECON foodproof® GMO Sample Preparation Kit 06-2015	Isolation and purification of DNA from raw materials and foodstuffs of vegetable origin for PCR	Iff OL

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ASU L 00.00-119 2014-02	Tests of foodstuffs - Methods of analysis for the detection of genetically modified organisms and derived products - Nucleic acid extraction (takeover of the standard DIN EN ISO 21571 with the same title, version August 2013)	Iff OL
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1.4.4.2 Detection of genetically modified organisms (GMO) and derived products, as well as species detection using PCR technology in animal feedstuffs, foodstuffs, harvested crops and plants **

VDLUFA III, 29.1 2012	Molecular-biological detection of animal parts (PCR method)	Iff OL
ASU L 00.00-31 2001-07	Tests of foodstuffs - Screening procedure for the detection of genetically modified DNA sequences in foodstuffs based on the detection of DNA sequences frequently found in genetically modified organisms	Iff OL
ASU L 00.00-118 2014-02	Tests of foodstuffs - Methods of analysis for the detection of genetically modified organisms and derived products - Qualitative nucleic acid based methods (takeover of the standard DIN EN ISO 21569 with the same title, version August 2013) (also for detection of species, e.g. maize, soya, rapeseed and potato)	Iff OL
ASU L 00.00-125 2008-12	Tests of foodstuffs - Detection of the CTP2-CP4-EPSPS genetic sequence for the screening of components from genetically modified organisms in foodstuffs - Construct-specific method	Iff OL
LUFA Nord-West AA 1/3-577 2018-03	PCR method for animal specific detection of DNA sequences (e.g. deer, duck turkey, horse, sheep, goat and salmon)	Iff OL

1.4.4.3 Detection of genetically modified organisms (GMO) and derived products, as well as species detection using real-time PCR technology in animal feedstuffs, foodstuffs, harvested crops and plants **

VO (EG) 152/2009 Annex VI last amended by regulation (EC) 51/2013 Annex VI, point 2.2 16.01.2013	Commission Regulation (EC) No 152/2009 of 27 January 2009 laying down the methods of sampling and analysis for the official control of feed - Methods of analysis for the determination of constituents of animal origin for the official control of feedingstuffs	Iff OL
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EURL-AP SOP 2017-08	Detection of ruminant DNA in feed using real-time PCR	IfF OL
EURL-AP SOP 202x-xx, Draft	Detection of pig DNA in feed using real-time PCR; <i>the method is not yet approved by the EURL-AP for the detection of DNA from domestic swine; current status: implementation phase</i>	IfF OL
hygenia BAX® Part D 14368501 2019-08	BAX® System PCR Assay for Salmonella	IfF OL
BIOTECON foodproof® GMO Screening Kit 2017-03	GMO Screening KIT (35S, NOS, bar FMV) Quik Reference Produce - 5`Nuclease Ord. No. R 302 17	IfF OL
ASU L 00.00-105 2014-02	Tests of foodstuffs - Methods of analysis for the detection of genetically modified organisms and derived products - Quantitative nucleic acid based methods (takeover of the standard DIN EN ISO 21570, version August 2013)	IfF OL
EURL GMFF CRLVL05/06VP 2012-08	Event-specific method for the quantification of Soybean Line MON89788 using real-time PCR	IfF OL
LUFA Nord-West AA 1/3-544 2019-10	Quantitative determination of genetically modified organisms with the DNA sequence (35S promotor) from cauliflower mosaic virus by real-time PCR	IfF OL
LUFA Nord-West AA 1/3-547 2019-10	Real-time PCR for the quantitative determination of genetically modified GA 21 maize	IfF OL
LUFA Nord-West AA 1/3-548 2013-06	Quantitative detection of round-up-ready soybeans	IfF OL
LUFA Nord-West AA 1/3-549 2009-10	Real-time PCR for the quantitative determination lines with the 35S/pat genetic construct	IfF OL
EURL GMFF CRLVL13/05VP 2007-05	Event-specific Method for the quantification of Soybean Line A2704-12 using Real-time PCR	IfF OL
EURL GMFF CRL VL02/04VP 2005-02	Event-specific method for the quantitation of maize line TC1507 using real-time PCR	IfF OL

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EURL GMFF CRLVL27/04VP 2005-01	Event-specific method for the quantitation of maize line NK603 using Real-time PCR	IfF OL
EURL GMFF CRLVL06/06VP 2008-10	Event-specific Method for the quantification of Maize Line MON 89034 using Real-time PCR	IfF OL
EURL GMFF CRLVL26/04VP 2007-02	Event-specific Method for the quantification of Oilseed Rape Line RT73 using Real-time PCR	IfF OL
EURL GMFF CRLVL14/04VP 2006-09	Event-specific Method for the quantification of Oilseed Rape Line T45 using Real-time PCR	IfF OL
EURL GMFF CRLVL07/04VP 2007-01	Event-specific Method for the quantification of Oilseed Rape Line Rf3 using Real-time PCR	IfF OL
EURL GMFF CRLVL06/04VP Corrected version 1; 2007-01	Event-specific Method for the quantification of Oilseed Rape Line Ms8 Using Real-time PCR	IfF OL
EURL GMFF CRLVL01/08VP; 2009-01	corrected version 1, Event-specific Method for the Quantification of Soybean Event A5547-127 Using Real-time PCR	IfF OL

1.4.4.4 Detection of genetically modified organisms (GMO) and derived products, as well as species detection using multiplex real-time PCR technology in animal feedstuffs, foodstuffs, harvested crops and plants *

ASU G 30.40-14 2017-03	Detection of CTP2-CP4-EPSPS-, pat and bar-sequences using triplex real-time PCR in plant material - Construct-specific and element specific method	IfF OL
ASU L 08.00-61 2016-03	Tests of foodstuffs - Detection of species beef, swine ,turkey and chicken in charcuterie by multiplex-real-time PCR (Modification: <i>qualitative Determination in Feedstuff</i>)	IfF OL
ASU L 08.00-62 2016-03	Tests of foodstuffs - Detection of species beef, swine, sheep and equidae in charcuterie by multiplex-real-time PCR (Modification: <i>qualitative Determination in Feedstuff</i>)	IfF OL
BIOTECON foodproof® GMO Screening 2 LyoKit 2017-03	PCR kit for qualitative detection of genetically modified plants (bar, P-35S-pat, CTP2-CP4-EPSPS and P-NOS-nptII and P-35S-nptII)	IfF OL

1.5 Tests of harmful airborne substances in fields of activity regulated by immission control law
Specifications according to module immission control and DIN 45688

Testing area/ Identification	Group I.1: Determination of emissions Task area G: gaseous inorganic compounds				
Component / Source Type	Standard / Directive / Technical Rule Title		SRM	QM document	Remarks Site
SO ₂ continuous	Stationary source emissions – Determination of mass concentration of sulphur dioxide by Instrumental method	DIN CEN/TS 17021 2017-05	☐	AA 1/1-948 AA 1/1-904	Site 1
SO ₂	Stationary source emissions – Determination of mass concentration of sulphur dioxide – Standard reference method	DIN EN 14791 2017-05	☒	AA 1/1-946 AA 4/1B-028	Sampling: Site 1 Analysis: Site 4
NO _x continuous	Stationary source emissions – Determination of mass concentration of nitrogen oxides – Standard reference method: chemiluminescence	DIN EN 14792 2017-05	☒	AA 1/1-948	Site 1
HCl	Stationary source emissions – Determination of mass concentration of gaseous chlorides expressed as HCl – Standard reference method	DIN EN 1911 2010-12	☒	AA 1/1-947 AA 4/1B-028	Sampling: Site 1 Analysis: Site 4
CO	Stationary source emissions – Determination of the mass concentration of carbon monoxide Standard reference method: Non-dispersive infrared spectrometry	DIN EN 15058 2017-05	☒	AA 1/1-948	Site 1
NH ₃	Stationary source emissions Measurement of ammonia (and gaseous ammonium compounds) Manual method	VDI 3878 2017-09	☐	AA 1/1-929	Site 1

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Testing area/ Identification	Group I.1: Determination of emissions				
	Task area G: gaseous inorganic compounds				
Component / Source Type	Standard / Directive / Technical Rule		SRM	QM document	Remarks Site
	Title	Designation			
Velocity and Volume flow rate	Stationary source emissions - Manual and automatic determination of velocity and volume flow rate in ducts - Part 1: Manual reference method	DIN EN 16911-1 2013-06	☒	AA 1/1-958	Site 1
Water vapour	Stationary source emissions – Determination of the water vapour in ducts - Standard reference method	DIN EN 14790 2017-05	☒	AA 1/1-951	Site 1
O ₂	Stationary source emissions – Determination of volume concentration of oxygen. Standard reference method: Paramagnetism	DIN EN 14789 2017-05	☒	AA 1/1-948	Site 1

Testing area/ Identification	Group I.1: Determination of emissions				
	Task area G: gaseous organic chemical compounds				
Component / Source Type	Standard / Directive / Technical Rule		SRM	QM document	Remarks Site
	Title	Designation			
Total carbon continuous	Stationary source emissions – Determination of the mass concentration of total gaseous organic carbon – Continuous flame ionisation detector method	DIN EN 12619 2013-04	☒	AA 1/1-949	Site 1
Benzene	Stationary source emissions – Determination of the mass concentration of single gaseous organic compounds – Carbon adsorption- and solvent desorption	DIN CEN/TS 13649 2015-03	☒	AA 1/1-950 AA 1/1-960	Site 1

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Testing area/ Identification	Group I.1: Determination of emissions				
	Task area G: gaseous organic chemical compounds				
Component / Source Type	Standard / Directive / Technical Rule		SRM	QM document	Remarks Site
	Title	Designation			
Tetrachlor- ethene	Stationary source emissions – Determination of the mass concentration of single gaseous organic compounds – Carbon adsorption- and solvent desorption	DIN CEN/TS 13649 2015-03	☒	AA 1/1-950 AA 1/1-960	Site 1
PAH	Stationary source emissions – Determination of polycyclic aromatic hydrocarbon (PAH) – GC/MC method	VDI 3874 2006-12	☒	AA 1/1-953 AA 4/1C-062	Sampling: site 1 Analysis: Site 4
Toluene, Xylene, Ethybenzene, Trichlorethane	Stationary source emissions – Determination of the mass concentration of single gaseous organic compounds – Carbon adsorption- and solvent desorption	DIN CEN/TS 13649 2015-03	☒	AA 1/1-950 AA 1/1-960	Site 1
Formaldehyde	Measurement of gaseous emissions – Measurement of formaldehyde in exhaust gas of combustion engines - FTIR method	VDI 3862 sheet 8 2015-06	☒	AA 1/1-904	Site 1
	AHMT method	VDI 3862-4 2001-05	☒	AA 1/1-955	Site 1

Testing area/ Identification	Group I.1: Determination of emissions				
	Task area P: particulate and of particles adsorbed chemical compounds				
Component / Source Type	Standard / Directive / Technical Rule		SRM	QM document	Remarks Site
	Title	Designation			
Dust, filter head unit	Particulate matter measurement – Dust measurement in flowing gases – Gravimetric determination of dust load	VDI 2066 Sheet 1 2006-11	☒	AA 1/1-922	Site1

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Testing area/ Identification	Group I.1: Determination of emissions Task area P: particulate and of particles adsorbed chemical compounds				
	Standard / Directive / Technical Rule		SRM	QM document	Remarks Site
Component / Source Type	Title	Designation			
Dust, plan filter head unit	Stationary source emissions – Determination of low mass concentration of dust – Part 1: Manual gravimetric method	DIN EN 13284-1 2018-02	☒	AA 1/1-922	Site 1
PAH	Stationary source emissions – Determination of polycyclic aromatic hydrocarbon (PAH) – GC/MC method	VDI 3874 2006-12	☒	AA 1/1-953 AA 4/1C-062	Sampling: site 1 Analysis: Site 4 also through HPLC
Arsen (As)	Stationary source emissions – Determination of the total emission of As, Cd, Cr, Co, Cu, Mn, Ni, Pb, Sb, Tl and V	DIN EN 14385 2004-05	☒	AA 1/1-926 AA4/2A-050	Sampling: site 1 Analysis: Site 4
Cd	Stationary source emissions – Determination of the total emission of As, Cd, Cr, Co, Cu, Mn, Ni, Pb, Sb, Tl and V	DIN EN 14385 2004-05	☒	AA 1/1-926 AA4/2A-050	Sampling: site 1 Analysis: Site 4
Ni	Stationary source emissions – Determination of the total emission of As, Cd, Cr, Co, Cu, Mn, Ni, Pb, Sb, Tl and V	DIN EN 14385 2004-05	☒	AA 1/1-926 AA4/2A-050	Sampling: site 1 Analysis: Site 4
Pb	Stationary source emissions – Determination of the total emission of As, Cd, Cr, Co, Cu, Mn, Ni, Pb, Sb, Tl and V	DIN EN 14385 2004-05	☒	AA 1/1-926 AA4/2A-050	Sampling: site 1 Analysis: Site 4
Mercury (Hg)	Air quality - Stationary source emissions - Manual method of determination of the concentration of total mercury	DIN EN 13211 2001-06 and corrigendum 2005-06	☒	AA 1/1-926 AA4/2A-051	Sampling: site 1 Analysis: Site 4

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Testing area/ Identification	Group I.1: Determination of emissions				
	Task area O: Odours				
Component / Source Type	Standard / Directive / Technical Rule		SRM	QM document	Remarks Site
	Title	Designation			
Odours / perfused area source	Air quality - Determination of odour concentration by dynamic olfactometry	DIN EN 13725 2003-07 (corrigendum 2006-04)	☒	AA 1/1-901 AA 1/1-933 AA 1/1-934	Site 1
	Olfactometry - Determination of odour concentration by dynamic olfactometry - Supplementary instructions for application of DIN EN 13725 combined with Olfactometry Static sampling	VDI 3884 Part 1 2015-02 VDI 3880 2011-10			
Odours / non-perfused area source	Air quality - Determination of odour concentration by dynamic olfactometry	DIN EN 13725 2003-07 (corrigendum 2006-04)	☒	AA 1/1-901 AA 1/1-933 AA 1/1-935	Site 1
	Olfactometry - Determination of odour concentration by dynamic olfactometry - Supplementary instructions for application of DIN EN 13725 combined with Olfactometry - Static sampling	VDI 3884 Part 1 2015-02 VDI 3880 2011-10			

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Testing area/ Identification	Group I.1: Determination of emissions				
	Task area O: Odours				
Component / Source Type	Standard / Directive / Technical Rule		SRM	QM document	Remarks Site
	Title	Designation			
Odours / industrial point source	Air quality - Determination of odour concentration by dynamic olfactometry	DIN EN 13725 2003-07 (corrigendum 2006-04)	☒	AA 1/1-901 AA 1/1-933 AA 1/1-936	Site 1
	Olfactometry - Determination of odour concentration by dynamic olfactometry	VDI 3884 Part 1 2015-02			
	Supplementary instructions for application of DIN EN 13725				
	combined with Olfactometry Static sampling	VDI 3880 2011-10			

Testing area/ Identification	Group IV: Determination of immissions				
	Task area O: Odours				
Component / Source Type	Standard / Directive / Technical Rule		SRM	QM document	Remarks Site
	Title	Designation			
Odours / grid measurements	Measurement of odour impact by field inspection -	DIN EN 16841-1 2017-03	☒	AA 1/1-903	Site 1
	Measurement of the impact frequency of recognizable odours - Grid measurement				

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1.6 Investigation of airborne pollutants in fields of activity not regulated under immision protection law

 LUFA Nord-West
 AA1/1-904
 2018-07

Measure of gases by FTIR spectrometry

IfB OL

**1.7 List of test methods for the technical module WASTE, Site: Oldenburg, Jägerstrasse 23-27
Version: LAGA of Mai 2018**
Testing area 1: Sewage sludge
 not used

Testing area 2: Soils
 not used

Testing area 3: Biowaste
 Testing area 3.1 and 3.2 not used

3.3	Physical parameter, strange	§ 4 Abs. 5 BioAbfV		
	Dry residue	DIN EN 13040 (02.07)	☒	IfF OL
		DIN EN 13040 (01.08)	☒	IfF OL
	pH-value	DIN EN 13037 (02.00)	☒	IfF OL
		DIN EN 13037 (01.12)	☒	IfF OL
	salinity	DIN EN 13038 (02.00)	☒	IfF OL
		DIN EN 13038 (01.12)	☒	IfF OL
	Organic matter as loss of igiton	DIN EN 13039 (02.00)	☒	IfF OL
	Stones and foreign substances	Method book for the analysis of organic fertilizers, soil improvers and substrates of the Bundesgütegemeinschaft Kompost e.V. (German Compost Quality Association).	☒	IfF OL

3.4. not used

3.5	Testing of hygienic biowaste*)	Paragraph 3, Section 4 BioAbfV		
	- Epidemiological hygiene Salmonella	Annex 2 BioAbfV	☒	IfF OL

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	- Phytohygiene Germinable seed material and plants capable of producing shoots	Annex 2 BioAbfV	☒	Iff OL
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*) deviating from Part III No. 1 can proof of competence for the subareas 3.4 und 3.5 be provided for each individual area

Testing area 4: Used oil, insulating fluid

not used

Testing area 5: Waste for deposition

not used

Testing area 6: Wood waste

not used

1.8 Radiological tests of fertilisers, animal feedstuffs, soil, milk and milk products and samples of all types for radiological environmental monitoring

LUFA Nord-West AA 1/3A-033 2018-05	Gamma spectrometric determination of radionuclides (guidelines for measurement of the federal government)	Iff OL
LUFA Nord-West AA 1/3A-056 2018-07	Determination of strontium 89/90 in fertilisers, soil, animal feedstuffs, harvest crops and plants, water and foodstuffs with alpha/beta LowCounter (incl. determination of chemical yield by ICP OES following microwave pressure digestion)	Iff OL

1.9 Determination of livestock water and irrigation water

DIN EN ISO 8467 (H 5) 1995-05	Water quality - Determination of permanganate index	Iff OL
DIN EN ISO 10304-1 (D20) 2009-07	Water quality - Determination of dissolved anions by liquid chromatography of ions - Part 1: Determination of bromide, chloride, fluoride, nitrate, nitrite, phosphate and sulfate	Iff OL
DIN EN ISO 10523 (C5) 2012-04	Water quality - Determination of pH	Iff OL

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 DIN EN ISO 11885 (E 22)
 2009-09

 Water quality - Determination of selected elements by
 inductively coupled plasma optical emission spectrometry (ICP
 OES)
 (Modification: *divergent sample preparation for coloured sample
 and sample with particle*)

IfF OL

**2 Tests at Site 2, Institut für Tiergesundheit (IfT OL);
 Veterinary medicine: Tests of sample materials of animal origin and hygienic status controls
 for diagnostic purposes**
2.1 Microbiology (including bacteriology, mycology, infectious serology and molecular biology)
**2.1.1 Culture tests in Milk, feces incl. faecal swabs, tissue samples incl. punctates, swabs and lavage
 fluids Microbiology (including bacteriology, mycology, infectious serology and molecular
 biology) of bacteria including biochemical differentiation ****

Analyte (measurand)	Test sample (matrix)	Testing Technology
bacteria	veterinary samples	cultural proof
bacteria	milk samples	cultural proof
fungus	milk samples	cultural proof
bacteria (anaerob)	veterinary samples	cultural proof
Rhinitis atrophicans	swab (swine)	cultural proof
Taylorella equigenitalis (CEM)	veterinary samples (horse)	cultural proof
Actinobaculum suis	veterinary samples (swine)	cultural proof
Haemophilus parasuis	veterinary samples (swine)	cultural proof
Actinobacillus pleuropneumoniae	veterinary samples (swine)	cultural proof
Testing of resistance	isolates	microdilution (MIC)
bacteria	faeces	cultural proof
bacteria	isolates	germ differentiation
bacteria	isolates	Gram's stain
Staphylococcus hyicus	isolates	germ differentiation
Mycobacterium avium ssp. paratuberculosis	faeces	cultural proof
salmonella	isolates	germ differentiation
salmonella	Veterinary samples (also primary production)	cultural proof

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2.1.2 Culture tests in hygienic status controls including biochemical differentiation **

Analyte (measurand)	Test sample (matrix)	Testing Technology
bacteria	swab of milking machine	germ differentiation
bacteria	isolates	germ differentiation
bacteria	isolates	Gram's stain
salmonella	isolates	germ differentiation

2.1.3 Agglutination tests for proteins in blood *

Analyte (measurand)	Test sample (matrix)	Testing Technology
Brucellosis antibody	blood serum/-plasma (cattle, swine, sheep, goat)	Rose-bengal-test
Brucellosis antibodyr	blood serum/-plasma (cattle, swine, sheep, goat)	Serum slow agglutination

2.1.4 Complement fixation reaction tests for proteins in blood *

Analyte (measurand)	Test sample (matrix)	Testing Technology
Brucella abortus-antibody	serum (cattle, swine, sheep, goat)	Complement binding reaction

2.1.5 ELISA (ligand assay) for the detection of proteins in blood, meat juice and milk *

Analyte (measurand)	Test sample (matrix)	Testing Technology
salmonellae-antibody	blood serum/-plasma (swine)	enzyme immunoassay
salmonellae-antibody	Meat juice samples (swine)	enzyme immunoassay
Paratuberkulose-antibody	blood serum/-plasma (cattle ,sheep, goat)	enzyme immunoassay
Paratuberkulose-antibody	milk samples (cattle)	enzyme immunoassay
Actinobacillus pleuropneumoniae antibody Type 1-12	blood serum/-plasma (swine)	enzyme immunoassay
Brucella abortus antibody	Single milk (cattle)	enzyme immunoassay
brucella melitensis antibody	Single milk (cattle)	enzyme immunoassay
Brucella abortus antibody	collecting milk (cattle)	enzyme immunoassay

Analyte (measurand)	Test sample (matrix)	Testing Technology
brucella melitensis antibody	collecting milk (cattle)	enzyme immunoassay
Brucella spp. antibody	blood serum/-plasma (cattle, sheep, goat, swine)	enzyme immunoassay
Brucella abortus antibody	Pooled bloodsamples (cattle)	enzyme immunoassay
Q-Fieber antibody	blood serum/-plasma (cattle, sheep, goat)	enzyme immunoassay
Chlamydophila abortus antibody	blood serum (cattle, sheep, goat)	enzyme immunoassay

2.1.6 Microagglutination test for the detection of proteins in the blood **

Analyte (measurand)	Test sample (matrix)	Testing Technology
Leptospira canicola	blood serum (cattle)	microagglutination
Leptospira grippotyphosa	blood serum (cattle)	microagglutination
Leptospira hardjo	blood serum (cattle)	microagglutination
Leptospira icterohaemorrhagiae	blood serum (cattle)	microagglutination
Leptospira pomona	blood serum (cattle)	microagglutination

2.1.7 Amplification methods for the detection of nucleic acid in faecal samples
2.1.7.1 Realtime PCR **

Analyte (measurand)	Test sample (matrix)	Testing Technology
Chlamydiaceae	faeces (all affected animal species)	Realtime-PCR
Mycobacterium avium subspecies paratuberculosis	faeces (cattle)	Realtime-PCR
Mycobacterium avium subspecies paratuberculosis	faeces (ruminants)	Realtime-PCR
Brachyspira hyodysenteriae	faeces/intestine (swine)	Realtime-PCR
Brachyspira pilosicoli	faeces/intestine (swine)	Realtime-PCR
Lawsonia intracellularis	faeces/intestine (swine)	Realtime-PCR

2.1.7.2 PCR **

Analyte (measurand)	Test sample (matrix)	Testing Technology
Brachyspira hyodysenteriae	faeces/Intestine (swine)	PCR
Brachyspira pilosicoli	faeces/Intestine (swine)	PCR
Lawsonia intracellularis	faeces/Intestine (swine)	PCR

2.1.8 Amplification methods for the detection of nucleic acid in tissue samples including punctates, body- and irrigation fluids and cultures
2.1.8.1 Realtime PCR **

Analyte (measurand)	Test sample (matrix)	Testing Technology
Chlamydiaceae	veterinary samples (all affected animal species)	Realtime-PCR
Mycoplasma bovis	veterinary samples (cattle)	Realtime-PCR
Coxiella burnetii	veterinary samples (cattle, sheep, goat)	Realtime-PCR
Taylorella equigenitalis	veterinary samples (horse)	Realtime-PCR
Mycobacterium avium subspezies paratuberculosis	veterinary samples (ruminants)	Realtime-PCR
pathogene Leptospiren	veterinary samples (all affected animal species)	Realtime-PCR
Histophilus somni	veterinary samples (ruminants)	Realtime-PCR

2.1.8.2 PCR **

Analyte (measurand)	Test sample (matrix)	Testing Technology
Clostridium perfringens Typisation	veterinary samples (all affected animal species)	PCR
Histophilus somni	veterinary samples (cattle)	PCR
Actinobacillus pleuropneumoniae	veterinary samples (swine)	PCR
toxinogenic Pasteurella	veterinary samples (swine)	PCR
pathogenic leptospira	veterinary samples (all affected animal species)	PCR

Analyte (measurand)	Test sample (matrix)	Testing Technology
Haemophilus parasuis	veterinary samples (swine)	PCR
Mycoplasma hyopneumoniae	veterinary samples (swine)	PCR
Mycoplasma hyorhinis	veterinary samples (swine)	PCR
pathogenic E.coli	veterinary samples (swine)	PCR

2.1.9 Foodstuffs

2.1.9.1 Amplification methods for the detection of nucleic acid in milk and milkproducts, eggs und eggproducts, meat and meatproducts *

Analyte (measurand)	Test sample (matrix)	Testing Technology
Salmonella	milk and milkproducts	Realtime-PCR
Salmonella	meat and sausage products	Realtime-PCR
Salmonella	egg and egg products	Realtime-PCR
Salmonella	chocolate, cocoa and cocoa products, coffee, tea	Realtime-PCR
Salmonella	foodstuff	Realtime-PCR

2.1.10 Mass spectrometry (MALDI-TOF-MS) *

2.1.10.1 Identification of bacteria and yeasts by MALDI-TOF mass spectrometry *

Analyte (measurand)	Test sample (matrix)	Testing Technology
Bacteria	Isolate	MALDI-TOF-MS

2.2 Virology (incl. Infectious serology, molecular biology)

2.2.1 ELISA (ligand assay) for the detection of proteins in blood, milk and tissue samples *

Analyte (measurand)	Test sample (matrix)	Testing Technology
PRRS antibody+A132+A1+A141:B164	blood serum/-plasma (swine)	enzyme immunoassay
PRRS antibody	blood serum/-plasma (swine)	enzyme immunoassay

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Analyte (measurand)	Test sample (matrix)	Testing Technology
PCV-2 IgG antibody	blood serum/-plasma (swine)	enzyme immunoassay
PCV-2 IgM antibody	blood serum/-plasma (swine)	enzyme immunoassay
CAE antibody	blood serum/-plasma (goat)	enzyme immunoassay
Maedi/Visna antibody	blood serum/-plasma (sheep)	enzyme immunoassay
BHV1-gB antibody	blood serum/-plasma (cattle)	enzyme immunoassay
BHV1-gB antibody	milk samples (cattle)	enzyme immunoassay
BHV1-gE antibody	blood serum/-plasma (cattle)	enzyme immunoassay
BHV1-Antibody	milk samples (cattle)	enzyme immunoassay
BHV1 antibody	collecting milk samples (cattle)	enzyme immunoassay
BVD antigen	blood serum/-plasma (cattle)	enzyme immunoassay
BVD antigen	ear tissue punching sample	enzyme immunoassay
BVD antibody	blood serum/-plasma (cattle)	enzyme immunoassay
BVD antibody	milk samples (cattle)	enzyme immunoassay
BVD antibody	collecting milk samples (cattle)	enzyme immunoassay
Aujeszky gB antibody	blood serum/-plasma (swine)	enzyme immunoassay
CSFV antibody	blood serum/-plasma (swine)	enzyme immunoassay
ASFV antibody	blood serum/-plasma (swine)	enzyme immunoassay
BTV antibody	blood serum/-plasma (cattle, goat, sheep, goat, bison)	enzyme immunoassay
Schmallenbergvirus antibody	blood serum/-plasma (cattle,sheep, goat)	enzyme immunoassay
Leukosis antibody	collecting milk samples (cattle)	enzyme immunoassay
Leukosis antibody	blood serum/-plasma (cattle, buffalo)	enzyme immunoassay
Leukosis antibody	Pool samole blood (cattle, buffalo)	enzyme immunoassay
BHV antibody	collecting milk samples (cattle)	enzyme immunoassay
InfluenzaA antibody	blood serum/-plasma (swine, poultry)	enzyme immunoassay
BHV1-gE antibody	blood serum/-plasma (cattle)	enzyme immunoassay
BHV1-Antibody	blood serum/-plasma (cattle)	enzyme immunoassay
Maedi/Visna antibodies	blood serum/-plasma (goat, sheep)	enzyme immunoassay
West Nile antibody IgM	blood serum/-plasma (horse)	enzyme immunoassay

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Analyte (measurand)	Test sample (matrix)	Testing Technology
West Nile antibody	blood serum/-plasma (horse, chicken, duck, goose)	enzyme immunoassay

2.2.2 ELISA (ligand assay) for the detection of proteins in faecal samples *

Analyte (measurand)	Test sample (matrix)	Testing Technology
Corona virus antigen	faeces (cattle)	enzyme immunoassay
Rota virus antigen	faeces (cattle, swine)	enzyme immunoassay

2.2.3 Amplification methods for the detection of nucleic acid in blood
2.2.3.1 Realtime PCR **

Analyte (measurand)	Test sample (matrix)	Testing Technology
Bovine virus diarrhea virus	blood serum/-plasma (cattle)	Realtime-PCR
Bluetongue virus	EDTA-Blut (cattle, sheep, goat)	Realtime-PCR
Porcine Reproductive and respiratory syndrome virus NA-Type	blood serum/-plasma (swine)	Realtime-PCR
Porcine Reproductive and respiratory syndrome virus EU-Type	blood serum/-plasma (swine)	Realtime-PCR
Porcine Reproductive and respiratory syndrome virus HP-Type	blood serum/-plasma (swine)	Realtime-PCR
Schmallenberg virus	blood serum/-plasma (cattle, sheep, goat)	Realtime-PCR
Porcine circovirus type 2	blood serum/-plasma (swine)	Realtime-PCR
Classic swine fever virus	blood serum/-plasma (swine)	Realtime-PCR
African swine fever virus	blood serum/-plasma (swine)	Realtime-PCR
Bovine virus diarrhea virus type 2	blood serum/-plasma (cattle)	Realtime-PCR
West Nile Virus	blood serum/-plasma (cattle)	Realtime-PCR

2.2.4 Amplification methods for the detection of nucleic acid in tissue samples, faecal samples, body- and lavage fluids

2.2.4.1 Realtime PCR **

Analyte (measurand)	Test sample (matrix)	Testing Technology
Bovine virus diarrhea virus	veterinary samples (cattle)	real-time-PCR
Classic swine fever virus	veterinary samples (swine)	real-time-PCR
Bluetongue virus	veterinary samples (cattle, sheep, goat)	real-time-PCR
Porcine Reproductive and respiratory syndrome virus NA type	veterinary samples	real-time-PCR
Porcine Reproductive and respiratory syndrome virus EU type	veterinary samples	real-time-PCR
Porcine Reproductive and respiratory syndrome virus HP type	veterinary samples	real-time-PCR
Schmallenberg virus	veterinary samples	real-time-PCR
Porcine circovirus type 2	veterinary samples	real-time-PCR
Influenza A virus	veterinary samples	real-time-PCR
Influenza D virus	veterinary samples	real-time-PCR
Bovine herpes virus 1	veterinary samples	real-time-PCR
African swine fever virus	veterinary samples	real-time-PCR
Bovine virus diarrhea virus type 2	veterinary samples	real-time-PCR
Porcine epizootic diarrhea virus	faeces (swine)	real-time-PCR
Transmissible gastroenteritis virus	faeces (swine)	real-time-PCR
BRSV virus	veterinary samples	real-time-PCR
Bovine parainfluenza 3-virus	veterinary samples	real-time-PCR
Bovine adenovirus 3-virus	veterinary samples	real-time-PCR
West Nile Virus	veterinary samples	real-time-PCR

Analyte (measurand)	Test sample (matrix)	Testing Technology
Bovines coronavirus	veterinary samples	real-time-PCR

2.2.5 Precipitation method for the detection of proteins in blood *

Analyte (measurand)	Test sample (matrix)	Testing Technology
Leukosis-Antibody	blood serum/-plasma (cattle)	AGIDT

2.3 Parasitology

2.3.1 ELISA (ligand assay) for the detection of proteins in blood and milk*

Analyte (measurand)	Test sample (matrix)	Testing Technology
Sarcoptes antibody	blood serum/-plasma (swine)	enzyme immunoassay
Fasciola hepatica antibody	blood serum/-plasma (cattle, sheep)	enzyme immunoassay
Fasciola hepatica antibody	pool sample blood (cattle, sheep)	enzyme immunoassay
Fasciola hepatica antibody	collecting milk (cattle)	enzyme immunoassay
Neospora caninum antibody	blood serum/-plasma (cattle)	enzyme immunoassay
Neospora caninum antibody	milk samples (cattle)	enzyme immunoassay
Ostertagia ostertagi antibody	collecting milk (cattle)	enzyme immunoassay

2.3.2 Microscopic methods for the detection of parasites in faecal samples **

Analyte (measurand)	Test sample (matrix)	Testing Technology
parasite eggs	faeces	Sedimentation-/ flotation
Lung worm larvae	faeces	Migration technique
Strongyles	faeces	Migration technique
coccidia oocysts	faeces	microscopy
Cryptosporidium	faeces	microscopy

2.3.3 Microscopic detection of parasites in tissue **

Analyte (measurand)	Test sample (matrix)	Testing Technology
ectoparasites	skin scrapings	microscopy

2.3.4 Amplification methods for the detection of nucleic acid in tissue samples

2.3.4.1 Real-time-PCR**

Analyte (measurand)	Test sample (matrix)	Testing Technology
Neospora caninum	veterinary samples (cattle)	real-time-PCR

2.4 Immunology

2.4.1 ELISA (ligand assay) for the detection of proteins in blood and milk *

Analyte (measurand)	Test sample (matrix)	Testing Technology
pregnancy-associated glycoproteins	blood serum/-plasma (cattle)	Enzyme immunoassay
pregnancy-associated glycoproteins	serum (sheep, goat)	Enzyme immunoassay
pregnancy-associated glycoproteins	EDTA-plasma (buffalo)	Enzyme immunoassay
pregnancy-associated glycoproteins	milk samples (cattle, goat, sheep, water buffalo)	Enzyme immunoassay

2.5 selected foodstuffs

2.5.1 Amplification methods for the detection of nucleic acid in milk and milkproducts, eggs and eggproducts, meat and meat products *

Analyte (measurand)	Test sample (matrix)	Testing Technology
Salmonella	milk and milkproducts	real-time-PCR
Salmonella	meat and sausage products	real-time-PCR
Salmonella	egg and egg products	real-time-PCR
Salmonella	chocolate, cocoa and cocoa products, coffee, tea	real-time-PCR

Analyte (measurand)	Test sample (matrix)	Testing Technology
Salmonella	feedstuffs	real-time-PCR

3 Tests at Site 3 – Institut für Lebensmittelqualität (IfL OL)

3.1 Sensory tests of milk, milk products and selected foodstuffs

DIN ISO 22935-3 2012-12	Milk and milk products - Sensory analysis - Part 3: Guidance on a method for evaluation of compliance with product specifications for sensory properties by scoring	IfL OL
ASU L 04.00-9 1986-05	Analysis of food products; determination of the distribution of water in butter; indicator-paper method (takeover of the German standard DIN 10311 with the same title, version August 1985)	IfL OL
LUFA Nord-West AA 3/5S-101 2020-11	Sensory tests	IfL OL

3.2 Chemical, physico-chemical and physical tests of foodstuffs

3.2.1 Gravimetric determination of constituents and additives in foodstuffs *

ASU L 00.00-24/1 2013-01	Analysis of food products - Determination of moisture, non-fat solids and fat contents of butter - Part 1: Determination of moisture content (Reference method) (takeover of the standard DIN EN ISO 3727 - Part 1 with the same title, version April 2002)	IfL OL
ASU L 00.00-24/2 2013-01	Analysis of food products - Determination of moisture, non-fat solids and fat contents of butter - Part 2: Determination of non- fat solids content (Reference method) (takeover of the standard DIN EN ISO 3727 - Part 2 with the same title, version April 2002)	IfL OL
ASU L 00.00-24/3 2013-01	Analysis of food products - Determination of moisture, non-fat solids and fat contents of butter - Part 3: Calculation of fat content (takeover of the standard DIN EN ISO 3727 - Part 3 with the same title, version April 2002) (Modification: <i>The water and FFT results of routine procedures ASU L 04.00-8 and ASU L 04.00-16 are routinely taken as the basis for calculation</i>)	IfL OL

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ASU L 01.00-9 2012-01	Analysis of food products - Determination of fat content of milk; - Gravimetric method (Reference method) (takeover of the standard DIN EN ISO 1211 with the same title, version November 2010) (Modification: <i>here also whole milk powder, skim milk powder, whey powder, butter milk powder, condensed milk, sugared condensed milk, cream, whey and buttermilk</i>)	IfL OL
ASU L 01.00-20 2013-08	Analysis of food products - Determination of fat content of milk and milk products; method according to Weibull-Berntrop (takeover of the German standard DIN 10342 with the same title, version September 1992) (Modification: <i>automated procedure with hydrotherm and soxtherm, use of petroleum benzene</i>)	IfL OL
ASU L 01.00-27 1988-12	Analysis of food products - Determination of the dry matter content of milk and cream; reference method (takeover of the German standard DIN 10348, version October 1988)	IfL OL
ASU L 02.06-E (EC) and 1 (EC) to 4 (EC) 1981-01	Analytical methods for the determination of the composition of certain dried or partially dried non-perishable milk products - Method 1: Determination of dry measure (drying closet 99°C) - Method 2: Determination of water content (drying closet 102°C) - Methods 3: Determination of fat content (Röse-Gottlieb method) - Methods 4: Determination of fat content (Röse-Gottlieb method)	IfL OL
ASU L 02.09-2 1986-05	Analysis of food products; Determination of "fixed ash" of caseins; reference method (takeover of the German standard DIN 10451 with the same title, version March 1983)	IfL OL
ASU L 03.00-8 2007-04	Analysis of food products - Determination of fat content of cheese and processed cheese - gravimetric method according to Schmid-Bondzynski-Ratzlaff (reference method) (takeover of the standard DIN EN ISO 1735 with the same title, version May 2005) (Modification: <i>here also caseins and caseinates</i>)	IfL OL
ASU L 03.00-9 2007-04	Analysis of food products - Determination of the total dry matter content of cheese and processed cheese - reference method (takeover of the standard DIN EN ISO 5534, version September 2004)	IfL OL

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ASU L 03.00-26 1997-01	Analysis of food products - Determination of fat content in dry substance from cheese and processed cheese	IfL OL
ASU L 04.00-8 1992-06	Analysis of food products; Determination of the water content of butter (takeover of the German standard DIN 10317, version August 1991)	IfL OL
ASU L 04.00-16 1990-12	Analysis of food products; Determination of non-fat solids content of butter; routine method (takeover of the German standard DIN 10463 with the same title, version November 1990)	IfL OL
ASU L 06.00-3 2014-08	Analysis of food products - Determination of water content in meat and meat products, Gravimetric method, Reference method	IfL OL
ASU L 06.00-4 2017-10	Analysis of food products - Determination of ash in meat, meat products and sausages - Gravimetric method (reference method)	IfL OL
ASU L 06.00-6 2014-08	Analysis of food products - Determination of total fat content in meat and meat products, Gravimetric method according to Weibull-Stoldt - reference method (<i>Modification: automated procedure with hydrotherm and soxtherm</i>)	IfL OL
IDF 9C 1987-11	Determination of fat content of dried milk products	IfL OL
IDF 78C 1991	Determination of water content of caseins and caseinates by the gravimetric reference method	IfL OL
IOCCC sheet 14 1972	Determination of total fat in cocoa products (<i>Modification: automated procedure with hydrotherm</i>)	IfL OL
IOCCC sheet 16 1973	Determination of ash in cocoa and chocolate products	IfL OL
IOCCC sheet 25 1988	Determination of water-insoluble, water-soluble, and acid-insoluble Ash in Cocoa and Chocolate Products	IfL OL
VDLUFA VI, C 10.2 2000	Determination of total ash	IfL OL
VDLUFA VI, C 15.2.4 1995	Determination of free fat in dried fatty milk products	IfL OL

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VDLUFA VI, C 35.3 1985-01	Determination of dry measure: sea sand method	IfL OL
VDLUFA VI, C 35.6 1985-01	Determination of water content in dried milk products	IfL OL
LUFA Nord-West AA 3/5C-005 2021-05	Determination of filling weight/filling volume/volume/ drained net weight/air impacting	IfL OL
LUFA Nord-West AA 3/5C-118 2021-01	Determination of free fat in milk and cream	IfL OL
LUFA Nord-West AA 3/5C-135 2017-03	Gravimetric determination of coatings and their enclosed food	IfL OL
LUFA Nord-West AA 3/5C-136 2021-01	Determination of dry measure/water in foodstuffs	IfL OL

3.2.2 Titrimetric determination of constituents and additives in foodstuffs *

ASU L 01.00-7 2002-05	Analysis of food products - Determination of acid degree of milk and liquid milk products (takeover of the German standard DIN 10316 with the same title, version August 2000)	IfL OL
ASU L 01.00-10/1 2016-03	Analysis of food products - Determination of nitrogen content of milk and milk products - Part 1: Kjeldahl method and calculation of the raw protein content (takeover of the German standard DIN EN ISO 8968-1 with the same title, version June 2014)	IfL OL
ASU L 01.00-10/4 2019-12	Analysis of food products - Determination of nitrogen content of milk - Part 4: Determination of the non protein-nitrogen content (takeover of the German standard DIN EN ISO 8968-4 with the same title, version September 2016)	IfL OL
ASU L 04.00-10 1981-04	Determination of the salt content of butter (takeover of the German standard DIN 10323 with the same title, version May 1971)	IfL OL
ASU L 06.00-7 2014-08	Analysis of food products - Determination of raw protein content in meat and meat products - Titrimetric method according to Kjeldahl; reference method	IfL OL

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ASU L 13.00-5 2021-03	Analysis of food products - Determination of acid value and acidity in animal and vegetable fats and oils (takeover of the standard DIN EN ISO 660, version December 2020)	IfL OL
ASU L 13.00-6 2020-02	Analysis of food products; Determination of peroxide value in fats and oils; Method according to Wheeler; Method according to Sully	IfL OL
IOCCC, sheet 26 1988	Determination of moisture (Karl Fischer method)	IfL OL
LUFA Nord-West AA 3/5C-218 2021-10	Determination of Moisture (Karl-Fischer Method)	IfL OL
VDLUFA VI C 10.6.3 2003	Determination of chloride content in cheese: potentiometric method (also other foodstuffs)	IfL OL
VDLUFA VI C 30.3 1985-01	Determination of NPN (non-protein nitrogen) content	IfL OL
ADPI Bull. 916, p. 35 1990	Determination of titratable acid (ADPI method)	IfL OL
AOAC 970.22 1970	Nitrogen (total) in cocoa products	IfL OL
IDF 6B 1989	Determination of acidity of butter fat (IDF method)	IfL OL

3.2.3 Photometric determination of secondary constituents and additives in foodstuffs *

ASU L 01.00-41 1991-12	Analysis of food products; Determination of phosphatide value in milk, milk products and cheese	IfL OL
ASU L 01.00-79 2006-12	Analysis of food products - Determination of nitrate and nitrite contents of milk - Part 2: Method using segmented flow analysis; Routine method (takeover of the standard DIN EN ISO 14673-2 with the same title, version May 2004)	IfL OL
ASU L 06.00-8 2017-10	Analysis of food products - Determination of hydroxyproline content in meat, meat products and sausages - Photometric method following acid digestion (reference method)	IfL OL

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LUFA Nord-West AA 3/5C-307 2022-05	Determination of the whey protein nitrogen index (WPNI), photometric method	IfL OL
LUFA Nord-West AA 3/5C-308 2020-11	Determination of diacetyl content in butter, photometric method	IfL OL

3.2.4 Determination of primary and secondary constituents in foodstuffs by enzymatic methods *

DIN 10484 2013-09	Milk - Determination of urea and ammonia - photometric method (Modification: also in other foodstuffs)	IfL OL
ASU L 01.00-17 2016-10	Analysis of food products - Determination of lactose and galactose content of milk and milk products - enzymatic method (takeover of the German standard DIN 10344 with the same title, version Mai 2015)	IfL OL
ASU L 01.00-26/1 2011-01	Analysis of food products - Determination of L- and D-lactic acid (L- and D-lactate) content of milk and milk products - Enzymatic method (takeover of the German standard DIN 10335 with the same title, version September 2010)	IfL OL
ASU L 01.00-31 1988-12	Analysis of food products; Determination of lactulose content of milk	IfL OL
ASU L 01.00-86 2012-01	Analysis of food products - Determination of the citric acid content of milk and milk products - Enzymatic method (takeover of the German standard DIN 10325 with the same title, version July 2010)	IfL OL
ASU L 01.00-90 2014-02	Analysis of food products - Determination of lactose content of lactose-reduces milk and milk products in the present of glucose - enzymatic method	IfL OL
ASU L 02.00-12 2009-06	Analysis of food products - Determination of sucrose and glucose content of milk products and ice cream - Enzymatic method (takeover of the standard DIN 10326 with the same title, version December 2007)	IfL OL
ASU L 03.00-39 2010-09	Analysis of food products - Determination of starch in grated cheese - Enzymatic method (<i>Modification: also other foodstuffs</i>)	IfL OL

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ASU L 05.00-2 correction 2002-12	Analysis of food products - Determination of L lactic acid, succinic acid and D-3-hydroxybutyric acid in eggs and egg products - Enzymatic method; correction	IfL OL
ASU L 05.00-10 2003-12	Analysis of food products - Determination of glucose, fructose and sucrose in eggs and egg products - Enzymatic method	IfL OL
ASU L 07.00-14 correction 2021-03	Analysis of food products - Determination of acetic acid (acetate) in meat products - Enzymatic method; correction (<i>Modification: also other foodstuffs</i>)	IfL OL
r-biopharm ENZYTEC E8110 2018-01	Enzytec™ Liquid Lactose / D-Galactose - Enzymatic determination of lactose/D-galactose in foodstuffs and other materials	IfL OL
r-biopharm ENZYTEC E8120 2018-01	Enzytec™ Liquid D-Galactose - Enzymatic determination of D-galactose in foodstuffs and other materials	IfL OL
r-biopharm ENZYTEC E8140 2017-03	Enzytec™ Liquid D-Glucose - Enzymatic determination of D-glucose in foodstuffs and other materials	IfL OL
r-biopharm ENZYTEC E8160 2017-03	Enzytec™ Liquid D-Glucose / D-Fructose - Enzymatic Determination of D-glucose/D-fructose in foodstuffs and Other materials	IfL OL
r-biopharm ENZYTECE 8180 2017-03	Enzytec™ Liquid Sucrose / D-Glucose - Enzymatic Determination of sucrose/D-glucose in foodstuffs and other materials	IfL OL
r-biopharm ENZYTEC E8240 2017-03	Enzytec™ Liquid D-/L-Lactic Lactic acid - Enzymatic Determination of D- and L-lactic acid (without differentiation) in foodstuffs and other materials	IfL OL
r-biopharm ENZYTEC E8340 2017-11	UV-test for the determination of ethanol in foodstuffs and other materials	IfL OL

3.2.5 Potentiometric determination of pH in foodstuffs

ASU L 04.00-13 2006-12	Analysis of food products - Determination of pH value of butter plasma (takeover of the German standard DIN 10349 with the same title, version October 2004)	IfL OL
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ASU L 06.00-2 1980-09	Determination of pH value of meat and meat products	IfL OL
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VDLUFA VI, C 8.2 1985-01	Determination of pH value of milk and milk products (Modification: <i>also in other foodstuffs</i>)	IfL OL
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3.2.6 Cryometric tests of milk and cream

DIN EN ISO 5764 2009-10	Milk - Determination of freezing point - Thermistor cryoscope method (Reference method) (Modification: <i>also in cream</i>)	IfL OL
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ASU L 01.00-29 2019-12	Analysis of food products; Determination of the freezing point of milk; thermistor-cryometric-method (Reference method)	IfL OL
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3.2.7 Butyrometric tests of milk and milk products

ASU L 01.00-74/1 2002-12	Analysis of food products - Butyrometric determinations of the fat content of milk and milk products - Part 1: General guidance on the use of butyrometric methods and technical specification for amyl alcohol (takeover of the German standard DIN 10479-1, version June 2000)	IfL OL
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ASU L 01.00-74/2 2002-12	Analysis of food products - Butyrometric determination of fat content of milk and milk products - Part 2: Requirements specific to products (takeover of the German standard DIN 10479-2 with the same title, version November 2001)	IfL OL
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3.2.8 Selected physico-chemical tests of foodstuffs

ASU L 01.00-28 2021-03	Analysis of food products; Hydrometric determination of density of milk (takeover of the standard DIN 10459, version September 2020)	IfL OL
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ASU L 04.00-14 1996-02	Analysis of food products - Determination of the hardness of butter (takeover of the German standard DIN 10331 with the same title, version March 1996)	IfL OL
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VDLUFA VI, C 12.3 2003	Determination of density with the hydrometer (spindle)	IfL OL
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VDLUFA VI, C 26.4 1995	Determination of bulk density	IfL OL
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ADPI Bull. 916, p. 30 1990	Determination of solubility of powdered milk	IfL OL
ADPI Bull. 916, p. 32 1990	Degree of purity of powdered milk	IfL OL
LUFA Nord-West AA 3/5C-314 2021-01	Determination of lipase activity in foodstuffs	IfL OL

3.2.9 Determination of constituents, additives and organic contaminants in foodstuffs by HPLC with standard detectors

DIN EN ISO 9233-2 2013-08	Cheese, cheese rind and processed cheese - Determination of the Natamycin content - Part 2: High performance liquid chromatography method for cheese, cheese rind and processed cheese	IfL OL
ASU L 01.00-76 2009-06	Analysis of food products - Determination of aflatoxin M1 content of milk and powdered milk - Clean-up by immunoaffinity chromatography and determination by high-performance liquid chromatography (takeover of the German standard DIN EN ISO 1450 with the same title, version January 2008)	IfL OL
ASU L 45.00-1 1999-11	Analysis of food products - Determination of theobromine and caffeine content of cocoa (Restriction: <i>only theobromine</i>)	IfL OL
VDLUFA VI, C, 30.6.1 3rd supplement 1995	Determination of rennet whey content of powdered milk according to glycomacropeptide A concentration by high-performance liquid chromatography (HPLC)	IfL OL
IDF 178A 2005	Determination of acid-soluble β lactoglobulin content of heat-treated milk (Modification: precipitation of the caseins and the denatured whey proteins at pH 4.3)	IfL OL
LUFA Nord-West AA 3/5C-511 2019-09	Determination of benzoic acid and sorbic acid in low-fat and fatty foodstuffs by HPLC	IfL OL

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LUFA Nord-West AA 3/5C-513 2019-09	Determination of the sugar spectrum (sucrose, glucose, fructose, maltose, lactose) in foodstuffs (HPLC)	IfL OL
LUFA Nord-West AA 3/5C-514 2020-06	Determination of caffeine content by HPLC	IfL OL
LUFA Nord-West AA 3/5C-517 2019-09	Determination of natamycin in natamycin products, cheese and cheese rind (HPLC method)	IfL OL

3.2.10 Determination of constituents and organic contaminants in foodstuffs by gas chromatography (GC) with standard detectors

ASU L 00.00-38/1-4 1998-09	Analysis of food products - Fatty food - Determination of pesticides and poly-chlorinated biphenyls (PCB) - Part 1-4 (takeover of the German standard DIN EN 1528-1 to with the same title, version January 1997) <i>(Modification: extraction of fat: also fat recovery with BDI solution)</i> <i>(Restriction: only chlorinated pesticides)</i>	IfL OL
LUFA Nord-West AA 3/5C-403 2021-08	Determination of fatty acid profile by GC	IfL OL
LUFA Nord-West AA 3/5C-404 2021-06	Determination of cholesterol in milk and milk products	IfL OL
FA Nord-West AA 3/5C-405 2019-11	Determination of milk fat fraction by calculation on the basis of butyric acid (GC)	IfL OL
LUFA Nord-West AA 3/5C-406 2020-04	Determination of selected volatile halogenated hydrocarbons in foodstuffs	IfL OL

3.2.11 Determination of constituents in foodstuffs by ion chromatography (IC) with amperometric detection

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LUFA Nord-West AA 3/5C-518 2021-03	Determination of sucrose, glucose, galactose, fructose, maltose and lactose in milk, milk products, soft drinks and delicacies by IC	IfL OL
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3.3 Immunological tests of foodstuffs with ELISA and RIA *

ASU L 01.00-34 1989-12	Analysis of food products; Determination of aflatoxin M1 in milk and powdered milk with the aid of the enzyme-linked immunosorbent assay (ELISA) - Screening method	IfL OL
ASU L 01.00-68 1998-09	Analysis of food products - Search procedure for the presence of chloramphenicol residues in milk - Screening method with ELISA in the microtiter system <i>(also milk products, meat and sausage products and fresh eggs)</i>	IfL OL
ASU L 01.00-70 2002-05	Analysis of food products - Search procedure for the presence of streptomycin and dihydrostreptomycin residues in milk - Screening method with ELISA in the microtiter system <i>(also milk products)</i>	IfL OL
LUFA Nord-West AA 3/5C-604 2019-04	Determination of tetracycline (ELISA) in milk and milk products, meat and sausage products, fresh eggs	IfL OL
LUFA Nord-West AA 3/5C-606 2019-09	Determination of macrolides (RIA) in milk and milk products	IfL OL
RANDOX InfiniPlex for Milk EV4076, RANDOX Food Diagnostic 2017	Multi-antibiotic and veterinary drug screening	IfL OL
RANDOX QL 3454 2022-02	Quinolones ELISA	IfL OL

3.4 Microbiological tests

3.4.1 Sample preparation by means of digestion for bacteriological and mycological tests of foodstuffs *

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DIN EN ISO 6887-1 2017-03	Microbiology of the food chain - Preparation of Preparation of samples and preparation of first dilutions and of decimal dilutions for microbiological tests - Part 1: General rules for the preparation of initial dilutions and decimal dilutions (ISO 6887-1:2017)	IfL OL
DIN EN ISO 6887-2 2017-03	Microbiology of the food chain - Preparation of Preparation of samples and preparation of first dilutions and decimal dilutions for microbiological tests - Part 2: Specific rules for the preparation of meat and meat products	IfL OL
DIN EN ISO 6887-3 2020-12	Microbiology of the food chain - Preparation of Preparation of samples and preparation of first dilutions and of decimal dilutions for microbiological tests - Part 3: Specific rules for the preparation of fish and fishery products	IfL OL
DIN EN ISO 6887-4 2017-07	Microbiology of the food chain - Preparation of Preparation of samples and preparation of first dilutions and of decimal dilutions for microbiological tests - Part 4: Specific rules for the preparation of other products	IfL OL
DIN EN ISO 6887-5 2020-08	Microbiology of the food chain - Preparation of Preparation of samples and preparation of first dilutions and of decimal dilutions for microbiological tests - Part 5: Specific rules for the preparation of milk and milk products	IfL OL

3.4.2 Bacteriological and mycological culture methods for foodstuff tests **

ISO 4831 2006-08	Microbiology of food and animal feeding stuffs - Horizontal method for the detection and enumeration of coliforms - Most probable number technique	IfL OL
ISO 4832 2006-02	Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of coliforms - Colony-count technique	IfL OL
ISO 6611 2004-10	Milk and milk products - Enumeration of colony-forming units of yeasts and/or moulds - Colony-count technique at 25 °C	IfL OL
ISO 7251 2005-02	Microbiology of food and animal feeding stuffs - Horizontal method for the detection and enumeration of presumptive Escherichia coli - Most probable number technique	IfL OL
ISO 16649-2 2001-04	Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of β -glucuronidase-positive Escherichia coli - Part 2: Colony-count techniques at 44°C using 5-bromo-4-chloro-3-indolyl β -D-glucuronide	IfL OL

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ISO 21527-1 2008-07	Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of yeast and moulds - Part 1: Colony count technique in products with water activity greater than 0,95	IfL OL
ISO 21527-2 2008-07	Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of yeast and moulds - Part 2: Colony count technique in products with water activity less than or equal to 0,95	IfL OL
DIN ISO 16649-2 2020-12	Microbiology of food and feed - Horizontal method for counting β -glucuronidase-positive Escherichia coli - Part 2: Colony counting method at 44 °C with 5-bromo-4-chloro-3-indole- β -D-glucuronide (ISO 16649-2:2001)	IfL OL
DIN EN ISO 4833-1 2022-05	Microbiology of the food chain - Horizontal method for the enumeration of micro-organisms - Part 1: Colony counting at 30 °C by the cast plate method (ISO 4833-1:2013 + Amd 1:2022)	IfL OL
DIN EN ISO 6222 1999-07	Water quality - Enumeration of culturable micro-organisms - Colony count by inoculation in a nutrient agar culture medium	IfL OL
DIN EN ISO 6579-1 2017-07	Microbiology of the food chain - Horizontal method for the detection, enumeration and serotyping of Salmonella - Part 1: Detection of Salmonella spp.	IfL OL
DIN EN ISO 6888-1 2022-06	Microbiology of the food chain - Horizontal method for the enumeration of coagulase-positive staphylococci (Staphylococcus aureus and other species) - Part 1: Procedure with Baird-Parker agar medium (ISO 6888-1:2021)	IfL OL
DIN EN ISO 6888-3 2005-07	Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of coagulase-positive Staphylococci (Staphylococcus aureus and other species) - Part 3: Detection and MPN method for low bacterial counts (ISO 6888-3:2003)	IfL OL
DIN EN ISO 7932 2020-11	Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of presumptive Bacillus cereus - Colony-count technique at 30 degrees C (ISO 7932:2004 + Amd 1:2020, corrected version 2020-08)	IfL OL
DIN EN ISO 7937 2004-11	Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of Clostridium perfringens - Colony counting technique (ISO 7937:2004)	IfL OL

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DIN EN ISO 9308-1 2017-09	Water quality - Enumeration of Escherichia coli and coliform bacteria - Part 1: Membrane filtration method for waters with low bacterial background flora	IfL OL
DIN EN ISO 10272-1 2017-09	Microbiology of food and animal feeding stuffs - Horizontal method for detection and enumeration of Campylobacter spp. - Part 1: Detection method	IfL OL
DIN EN ISO 11290-1 2017-09	Microbiology of the food chain - Horizontal method for the detection and enumeration of Listeria monocytogenes and of Listeria spp. - Part 1: Detection method	IfL OL
DIN EN ISO 11290-2 2017-09	Microbiology of the food chain - Horizontal method for the detection and enumeration of Listeria monocytogenes and of Listeria spp. - Part 2: Enumeration method	IfL OL
DIN EN ISO 21528-1 2017-09	Microbiology of the food chain - Horizontal method for the detection and enumeration of Enterobacteriaceae - Part 1: Detection of Enterobacteriaceae	IfL OL
DIN EN ISO 21528-2 2019-05	Microbiology of the food chain - Horizontal method for the detection and enumeration of Enterobacteriaceae - Part 2: Colony-count technique (ISO 21528-2:2017, corrected version 2018-06-01)	IfL OL
DIN EN ISO 21871 2006-04	Microbiology of food and animal feeding stuffs - Horizontal method for the determination of low numbers of presumptive Bacillus cereus - Most probable number technique (MPN) and detection method	IfL OL
DIN EN ISO 22964 2017-08	Microbiology of the food chain - Horizontal method for the detection of Cronobacter spp.	IfL OL
ASU L 01.00-37 1991-12	Analysis of food products; Enumeration of yeasts and moulds in milk and milk products; reference method	IfL OL
ASU L 01.00-72 2011-01	Analysis of food products - Determination of presumptive Bacillus cereus in milk and milk products - Part 1: Colony count technique at 37°C (takeover of the german standard DIN 10198 with the same title version July 2010) <i>(Modification: incubation temperature 30°C, concentration polymyxin-B-sulphate)</i>	IfL OL
ASU L 02.07-2 1987-03	Analysis of food products; Determination of coagulase-positive staphylococci in dried milk products and processed cheese; Selective enrichment method	IfL OL

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VDLUFA VI, M 7.3.2 1985-01	Determination of albumen replacers (proteolites): Method with calcium caseinate agar (for caseolytes)	IfL OL
VDLUFA VI, M 7.6.2 1985-01	Determination of fat splitters (lipolites): Colony count method with tributyl agar	IfL OL
VDLUFA VI, M 7.8.2 1993	Determination of enterococci: colony count technique with Kanamycin aesculine azide agar	IfL OL
VDLUFA VI, M 7.9.2 1988	Determination of lactobacilli: colony count method with ROGOSA agar	IfL OL
VDLUFA VI, M 7.9.3 1996	Detection of heterofermentative gas-forming lactic acid bacteria	IfL OL
VDLUFA VI, M 7.12.2 1993	Determination of pseudomonas: colony count method with C-F-C selective agar (<i>Modification: use of GSP agar</i>)	IfL OL
VDLUFA VI, M 7.13 1996	Determination of thermotolerant (thermoresistant) microorganisms	IfL OL
VDLUFA VI, M 7.16.2 1985-01	Determination of acid-forming microorganisms: colony count method with Chinablue-Lactose-Agar	IfL OL
VDLUFA VI, M 7.17.2 1993	Determination of spores from aerobic spore-forming bacteria (bacillus)	IfL OL
VDLUFA VI, M 7.18.4 1988	Determination of sulphite-reducing clostridia (<i>Modification: casting plate method, area of application: foodstuffs</i>)	IfL OL
LUFA Nord-West AA 3/5M-223 2016-09	Quick method for the determination of salmonella in powdered milk	IfL OL

3.4.3 Bacteriological and mycological culture methods for hygienic status controls **

ISO 16649-2 2020-12	Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of β -glucuronidase-positive Escherichia coli - Part 2: Colony-count technique at 44°C using 5-bromo-4-chloro-3-indolyl β -D-glucuronide (ISO 16649-2:2001)	IfL OL
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DIN EN ISO 4833-1 2022-05	Microbiology of the food chain - Horizontal method for the enumeration of micro-organisms - Part 1: Colony counting at 30 °C by the casting plate method (ISO 4833-1:2013 + Amd 1:2022)	IfL OL
DIN EN ISO 6579-1 2020-08	Microbiology of the food chain - Horizontal method for the detection, enumeration and serotyping of Salmonella - Part 1: Detection of Salmonella spp. (ISO 6579- 1:2017 + Amd.1:2020)	IfL OL
DIN EN ISO 11290-1 2017-09	Microbiology of the food chain - Horizontal method for the detection and enumeration of Listeria monocytogenes and of Listeria spp. - Part 1: Detection method	IfL OL
DIN EN ISO 21528-1 2017-09	Microbiology of the food chain - Horizontal method for the detection and enumeration of Enterobacteriaceae - Part 1: Detection of Enterobacteriaceae	IfL OL
DIN EN ISO 21528-2 2019-05	Microbiology of the food chain - Horizontal method for the detection and enumeration of Enterobacteriaceae - Part 2: Colony-count technique (ISO 21528-2:2017, corrected version 2018-06-01)	IfL OL
DIN 10113-2 1997-07	Determination of surface microbial content on food contact materials and articles - Part 2: Semiquantitative swab method (Modification: Plate casting method)	IfL OL

3.4.4 Determination of inhibitors in milk and milk products with microbiological testing systems

ASU L 01.00-11 1996-02	Analysis of food products - Search procedure for the presence of antiinfectives in milk - Agar diffusion method with bacillus stearothermophilus (brilliant black reduction test)	IfL OL
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4 Tests at Site 4 – Institut für Boden und Umwelt (IfB), Institut für Düngemittel und Saatgut (IfD)
4.1 Chemical, chemical-physical and sensory tests of water, Sampling of untreated water and drinking water
4.1.1 Tests according to the Drinking Water Ordinance - TrinkwV
Sampling

Method	Title
DIN EN ISO 5667-1 (A 4) 2007-04	Water quality - Sampling - Part 1: Guidance on the design of sampling programmes and sampling techniques
DIN ISO 5667-5 (A 14) 2011-02	Water quality - Sampling - Part 5: Guidance on sampling of drinking water from treatment works and piped distribution systems
DIN EN ISO 5667-3 (A 21) 2019-07	Water quality - Sampling - Part 3: Guidance on the preservation and handling of water samples

Method	Title
DIN EN ISO 19458 (K 19) 2006-12	Water quality - Sampling for microbiological analysis
Recommendation of the Federal Environment Agency 18 December 2018	Assessment of drinking water quality regarding the parameter lead, copper and nickel

ANNEX 1: MICROBIOLOGICAL PARAMETERS
PART I: General requirements for drinking water

not used

PART II: Requirements for drinking water for dispensing from closed containers

not used

ANNEX 2: CHEMICAL PARAMETERS
PART I: Chemical parameters for which the concentrations in the distribution network, including the drinking water installation, as a rule no longer increase

No.	Parameter	Method
1	Acrylamide	not used
2	Benzene	DIN 38407-F 9; 1991-05
3	Boron	DIN EN ISO 11885 (E 22); 2009-09
4	Bromate	In-house method LC-MS/MS AA4/1C-058 Determination of bromate in water by high-performance liquid chromatography and mass-spectrometric detection (HPLC-MS/MS) 2019-06

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No.	Parameter	Method
5	Chromium	DIN EN ISO 17294-2 (E 29); 2017-01
6	Cyanide	DIN 38405-D 13; 2011-04
7	1,2-dichlorethane	DIN EN ISO 10301 (F 4); 1997-08
8	Fluoride	DIN 38405-D 4; 1985-07
9	Nitrate	DIN EN ISO 13395 (D 28); 1996-12
10	Active ingredients in pesticides and biocidal products	DIN 38 407-2 (F2); 1993-02 DIN 38407-35 (F35); 2010-10 DIN 38407-36 (F36); 2014-09 DIN 38407-47 (F 47); 2017-07
11	Total active ingredients in pesticides and biocidal products	DIN 38 407-2 (F2); 1993-02 DIN 38407-35 (F35); 2010-10 DIN 38407-36 (F36); 2014-09 DIN 38407-47 (F 47); 2017-07
12	Mercury	DIN EN ISO 12846 (E 12), 2012-08
13	Selenium	DIN EN ISO 17294-2 (E 29); 2017-01
14	Tetrachloroethene and trichloroethene	DIN EN ISO 10301 (F 4), 1997-08
15	Uranium	DIN EN ISO 17294-2 (E 29); 2017-01

PART II: Chemical parameters for which the concentrations in the distribution network, including the drinking water installation, can increase

No.	Parameter	Method
1	Antimony	DIN EN ISO 17294-2 (E 29); 2017-01
2	Arsenic	DIN EN ISO 17294-2 (E 29); 2017-01
3	Benzo(a)pyrene	DIN 38407-39 (F 39); 2011-09
4	Lead	DIN EN ISO 17294-2 (E 29); 2017-01
5	Cadmium	DIN EN ISO 17294-2 (E 29); 2017-01
6	Epichlorohydrine	not used
7	Copper	DIN EN ISO 11885 (E 22); 2009-09
8	Nickel	DIN EN ISO 17294-2 (E 29); 2017-01
9	Nitrite	DIN EN ISO 13395 (D 28); 1996-12
10	Polycyclic aromatic hydrocarbons	DIN 38407-39 (F 39); 2011-09
11	Trihalomethanes	DIN EN ISO 10301 (F 4); 1997-08
12	Vinyl chloride	not used

ANNEX 3: INDICATOR PARAMETERS
PART I: General indicator parameters

No.	Parameter	Method
1	Aluminium	DIN EN ISO 11885 (E 22); 2009-09
2	Ammonia	DIN EN ISO 11732 (E 23); 2005-05
3	Chloride	DIN EN ISO 10304-1 (D 20); 2009-07

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No.	Parameter	Method
4	Clostridium perfringens (including spores)	not used
5	Coliform bacteria	not used
6	Iron	DIN EN ISO 11885 (E 22); 2009-09
7	Colour (spectral absorption coefficient Hg 436 nm)	DIN EN ISO 7887 (C 1); 2012-04
8	Odour (as TON)	DIN EN 1622 (B 3); 2006-10 (Annex C)
9	Taste	DEV B 1/2 part a; 1971
10	Colony count at 22 °C	not used
11	Colony count at 36 °C	not used
12	Electrical conductivity	DIN EN 27888 (C 8); 1993-11
13	Manganese	DIN EN ISO 11885 (E 22); 2009-09
14	Sodium	DIN EN ISO 11885 (E 22); 2009-09
15	Total organically bound carbon (TOC)	DIN EN 1484 (H 3); 2019-04
16	Oxidizability	DIN EN ISO 8467 (H 5); 1995-05
17	Sulphate	DIN EN ISO 10304-1 (D 20); 2009-07
18	Turbidity	DIN EN ISO 7027-1 (C 21); 2016-11
19	Hydrogen ion concentration	DIN EN ISO 10523; 2012-04
20	Calcite solubility	not used

PART II: Special requirements for drinking water in drinking water installation facilities
 not used

Annex 3a: Requirements for drinking water in relation to radioactive material
 not used

Parameters not included in Annex 1 to 3 of the Drinking Water Ordinance:
Other periodic tests

Parameter	Method
Calcium	DIN EN ISO 11885 (E 22); 2009-09
Potassium	DIN EN ISO 11885 (E 22); 2009-09
Magnesium	DIN EN ISO 11885 (E 22); 2009-09
Acid capacity	DIN 38409-H 7; 2005-12
Phosphate	DIN EN ISO 6878 (D 11); 2004-09

The accreditation does not replace the validation or certification process requirement of the relevant authority in accordance with Article 15, Paragraph 4 of the Drinking Water Ordinance.

4.1.2 Selected chemical and chemical-physical parameters in drinking water, surface water, wastewater and process water

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DIN 38404-C 4 1976-12	German Standard Methods for Analysing of Water, Waste Water and Sludge; Physical and Physical-chemical Parameters (Group C); Determination of Temperature (C4)	IfB HM IfD HM
DIN 38404-6 (C 6) 1984-05	German standard methods for the examination of water, waste water and sludge; physical and physico-chemical parameters (group C); determination of the oxidation reduction (redox) potential (C6)	IfB HM IfD HM
DIN 38407-35 (F 35) 2010-10	German standard methods for the examination of water, waste water and sludge - Jointly determinable substances (group F) - Part 35: Determination of selected phenoxyalkyl carbonic acids and further acid plant treatment agents - Method using high performance liquid chromatography and mass spectrometric detection (HPLC-MS/MS) (F 35)	IfB HM IfD HM
DIN 38407-36 (F 36) 2014-09	German standard methods for the examination of water, waste water and sludge - Jointly determinable substances (group F) - Part 36: Determination of selected active substances of plant protection products and other organic substances in water - Method using high performance liquid chromatography and mass spectrometric detection (HPLC-MS/MS or -HRMS) after direct injection	IfB HM IfD HM
DIN 38407-42 (F 42) 2011-03	German standard methods for the examination of water, waste water and sludge - Jointly determinable substances (group F) - Part 42: Determination of selected polyfluorinated compounds (PFC) in water - Method using high performance liquid chromatography and mass spectrometric detection (HPLC/MS-MS) after solid-liquid extraction	IfB HM IfD HM
DIN ISO 17289 (G 25) 2014-12	Water quality - Determination of dissolved oxygen - Optical sensor method	IfB HM IfD HM
DIN 38409-H 2-3 1987-03	German standard methods for the examination of water, waste water and sludge; parameters characterizing effects and substances (group H); determination of filterable matter and the residue on ignition (H 2)	IfB HM IfD HM
DIN EN ISO 9377-2 (H 53) 2001-07	Water quality - Determination of hydrocarbon oil index - Part 2: Method using solvent extraction and gas chromatography	IfB HM IfD HM

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DIN EN ISO 21676 2022-01	Water quality - Determination of selected active pharmaceutical ingredients, transformation products and other organic substances dissolved in water and treated wastewater - Method using high-performance liquid chromatography and mass spectrometric detection (HPLC-MS/MS or -HRMS) after direct injection (ISO 21676:2018); German version EN ISO 21676:2021	IfB HM IfD HM
DIN ISO 11349 (H 56) 2015-12	Water quality - Determination of low-volatility lipophilic substances - Gravimetric method	IfB HM IfD HM
ISO 25101 2009-03	Water quality - Determination of perfluorooctane sulphonate (PFOS) and perfluorooctanoate (PFOA) - Method for unfiltered samples using solid phase extraction and liquid chromatography/mass spectrometry	IfB HM IfD HM

4.2 Analysis of industrial water in accordance with the Ordinance on Evaporative Cooling Systems, Cooling Towers and Wet Separators – Paragraph 3 (8) 42nd BImSchV 2017
Sampling

Method	Title
DIN EN ISO 19458 (K 19) 2006-12	Water quality - Sampling for microbiological analysis Recommendation of the Federal Environment Agency for the sampling and detection of Legionella in evaporative cooling systems, cooling towers and wet separators from 06.03.2020, Section C and D

Microbiological analyses

not used

**4.3 List of test methods for the technical module WATER, Site: Hameln
Version: LAWA of 18.10.2018**
Subarea 1: Sampling and general parameters

Parameter	Method	WW	SW	GRW
Sampling waste water	DIN 38402-A 11: 2009-02	☒	☐	☐
Sampling from running waters	DIN EN ISO 5667-6: 2016-12 (A 15)	☐	☒	☐
Sampling from aquifers	DIN 38402-A 13: 1985-12	☐	☐	☐

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Parameter	Method	WW	SW	GRW
Sampling from barrages and lakes	DIN 38402-A 12: 1985-06		☒	
Homogenisation of samples	DIN 38402-A 30: 1998-07	☒	☒	
Temperature	DIN 38404-C 4: 1976-12	☒	☒	☐
pH	DIN EN ISO 10523: 2012-04 (C 5)	☒	☒	☐
Conductivity (25°C)	DIN EN 27888: 1993-11 (C 8)	☒	☒	☐
Odours	DIN EN 1622: 2006-10 (B 3) Annex C	☒	☒	☐
Colour	DIN EN ISO 7887: 2012-04 (C 1), Procedure A	☒	☒	☐
Turbidity	DIN EN ISO 7027: 2000-04 (C 2)	☒	☒	☐
Oxygen	DIN EN ISO 5814: 2013-03 (G 22)		☒	☐
	DIN ISO 17289: 2014-12 (G 25)		☒	☐
	DIN EN 25813: 1993-01 (G 21)		☐	☐
Redox potential	DIN 38404-C 6: 1984-05	☒		☐

Subarea 2: Photometry, ion chromatography and volumetric analysis

Parameter	Method	WW	SW	GRW
Absorption at 254 nm (SAC 254)	DIN 38404-C 3: 2005-07		☒	☐
Absorption at 436 nm (SAC 436)	DIN EN ISO 7887: 2012-04 (C 1), Procedure B	☒	☒	☐
Ammonia nitrogen	DIN EN ISO 11732: 2005-05 (E 23)	☒	☒	☐
	DIN 38406-E 5: 1983-10	☐	☐	☐
	DIN EN ISO 14911: 1999-12 (E 34)		☐	☐
	DIN ISO 15923-1: 2014-07 (D 49)	☐	☐	☐
Nitrite nitrogen	DIN EN 26777: 1993-04 (D 10)	☒	☐	☐
	DIN EN ISO 10304-1: 2009-07 (D 20)	☐	☐	☐
	DIN EN ISO 13395: 1996-12 (D 28)	☒	☒	☐
	DIN ISO 15923-1: 2014-07 (D 49)	☐	☐	☐
Nitrate nitrogen	DIN EN ISO 10304-1: 2009-07 (D 20)	☒	☐	☐
	DIN EN ISO 13395: 1996-12 (D 28)	☒	☒	☐
	DIN 38405-D 9: 2011-09	☐	☐	☐

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Parameter	Method	WW	SW	GRW
	DIN 38405-D 29: 1994-11		☐	☐
	DIN ISO 15923-1: 2014-07 (D 49)	☐	☐	☐
Phosphorus, total (see also sub-area 3)	DIN EN ISO 6878: 2004-09 (D 11)	☒	☒	☐
	DIN EN ISO 15681-1: 2005-05 (D 45)	☐	☐	☐
	DIN EN ISO 15681-2: 2005-05 (D 46)	☐	☐	☐
Orthophosphate	DIN EN ISO 10304-1: 2009-07 (D 20)		☐	☐
	DIN EN ISO 6878: 2004-09 (D 11)		☒	☐
	DIN EN ISO 15681-1: 2004-07 (D 45)		☐	☐
	DIN EN ISO 15681-2: 2005-05 (D 46)		☐	☐
	DIN ISO 15923-1: 2014-07 (D 49)		☐	☐
Fluoride (dissolved)	DIN 38405-D 4-1, 1985-07	☒	☒	☐
	DIN EN ISO 10304-1: 2009-07 (D 20)	☐	☐	☐
Chloride	DIN EN ISO 10304-1: 2009-07 (D 20)	☒	☒	☐
	DIN EN ISO 15682: 2002-01 (D 31)	☐	☐	☐
	DIN ISO 15923-1: 2014-07 (D 49)	☐	☐	☐
	DIN EN ISO 10304-4: 1999-07 (D 25)			☐
	DIN 38405-D 1-1 und D 1-2: 1985-12	☒	☐	☐
	DIN 38405-D 1-3 und D 1-4: 1985-12		☐	☐
Sulphate	DIN EN ISO 10304-1: 2009-07 (D 20)	☒	☒	☐
	DIN 38405-D 5-1: 1985-01		☐	☐
	DIN 38405 D 5-2:1985-01	☐	☐	☐
	DIN ISO 15923-1: 2014-07 (D 49)	☐	☐	☐
Cyanid (easily liberatable)	DIN 38405-D 13-2: 1981-02	☒	☒	☐
	DIN EN ISO 14403-1: 2012-10 (D 2)	☐	☐	☐
	DIN EN ISO 14403-2: 2012-10 (D 3)	☐	☐	☐
	DIN 38405-D 7: 2002-04		☐	☐
Cyanid (total)	DIN 38405-D 13-1: 1981-02	☒	☒	☐
	DIN EN ISO 14403-1: 2012-10 (D 2)	☐	☐	☐
	DIN EN ISO 14403-2: 2012-10 (D 3)	☐	☐	☐

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Parameter	Method	WW	SW	GRW
	DIN 38405-D 7: 2002-04		☐	☐
Chromium VI	DIN 38405-D 24: 1987-05	☒	☒	☐
	DIN EN ISO 10304-3: 1997-11 (D 22), Part 6 dissolved chromate	☐	☐	☐
	DIN EN ISO 23913: 2009-09 (D 41)	☐	☐	☐
	DIN EN ISO 18412: 2007-02 (D 40)			☐
Sulphide (easily liberatable)	DIN 38405-D 27: 1992-07	☐	☐	☐

subarea 3: Elemental analysis

Parameter	Method	WW	SW	GRW
Aluminium	DIN EN ISO 11885: 2009-09 (E 22)	☒	☒	☐
	DIN EN ISO 12020: 2000-05 (E 25)	☐	☐	☐
	DIN EN ISO 17294-2: 2017-01 (E 29)	☐	☐	☐
	DIN EN ISO 15586: 2004-02 (E 4)		☐	☐
Arsenic	DIN EN ISO 11969: 1996-11 (D 18)	☐	☐	☐
	DIN EN ISO 11885: 2009-09 (E 22)	☐		
	DIN EN ISO 17294-2: 2017-01 (E 29)	☒	☒	☐
	DIN EN ISO 15586: 2004-02 (E 4)	☐	☐	☐
	DIN 38405-D 35: 2004-09	☐	☐	☐
Lead	DIN EN ISO 11885: 2009-09 (E 22)	☐		
	DIN 38406-E 6: 1998-07	☐	☐	☐
	DIN EN ISO 17294-2: 2017-01 (E 29)	☒	☒	☐
	DIN EN ISO 15586: 2004-02 (E 4)	☐	☐	☐
Cadmium	DIN EN ISO 11885: 2009-09 (E 22)	☐		
	DIN EN ISO 5961: 1995-05 (E 19)	☐	☐	☐
	DIN EN ISO 17294-2: 2017-01 (E 29)	☒	☒	☐
	DIN EN ISO 15586: 2004-02(E 4)	☐	☐	☐
Calcium	DIN EN ISO 11885: 2009-09 (E 22)		☒	☐
	DIN 38406-E 3: 2002-03		☐	☐
	DIN EN ISO 7980: 2000-07 (E 3a)		☐	☐

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Parameter	Method	WW	SW	GRW
	DIN EN ISO 17294-2: 2017-01 (E 29)		☐	☐
	DIN EN ISO 14911: 1999-12 (E 34)		☐	☐
Chromium	DIN EN ISO 11885: 2009-09 (E 22)	☐	☐	☐
	DIN EN 1233: 1996-08 (E 10)	☐	☐	☐
	DIN EN ISO 17294-2: 2017-01 (E 29)	☒	☒	☐
	DIN EN ISO 15586: 2004-02 (E 4)	☐	☐	☐
Iron	DIN EN ISO 11885: 2009-09 (E 22)	☒	☒	☐
	DIN 38406-E 32: 2000-05	☐	☐	☐
	DIN EN ISO 15586: 2004-02 (E 4)	☐	☐	☐
	DIN EN ISO 17294-2: 2017-01 (E 29)	☐	☐	☐
Potassium	DIN 38406-E 13: 1992-07		☐	☐
	DIN EN ISO 11885: 2009-09 (E 22)		☒	☐
	DIN EN ISO 17294-2: 2017-01 (E 29)		☐	☐
	DIN EN ISO 14911: 1999-12 (E 34)		☐	☐
Copper	DIN EN ISO 11885: 2009-09 (E 22)	☒	☒	☐
	DIN 38406-E 7: 1991-09	☐	☐	☐
	DIN EN ISO 17294-2: 2017-01 (E 29)	☐	☐	☐
	DIN EN ISO 15586: 2004-02 (E 4)	☐	☐	☐
Manganese	DIN EN ISO 11885: 2009-09 (E 22)			☐
	DIN EN ISO 17294-2: 2017-01 (E 29)			☐
	DIN 38406-E 33: 2000-06			☐
	DIN EN ISO 15586: 2004-02 (E 4)			☐
	DIN EN ISO 14911: 1999-12 (E 34)			☐
Sodium	DIN 38406-E 14: 1992-07		☐	☐
	DIN EN ISO 11885: 2009-09 (E 22)		☒	☐
	DIN EN ISO 17294-2: 2017-01 (E 29)		☐	☐
	DIN EN ISO 14911: 1999-12 (E 34)		☐	☐
Nickel	DIN EN ISO 11885: 2009-09 (E 22)	☐	☐	☐
	DIN 38406-E 11: 1991-09	☐	☐	☐
	DIN EN ISO 17294-2: 2017-01 (E 29)	☒	☒	☐

Parameter	Method	WW	SW	GRW
	DIN EN ISO 15586: 2004-02 (E 4)	☐	☐	☐
Mercury	DIN EN ISO17852: 2008-04 (E 35)	☐	☐	☐
	DIN EN ISO 12846: 2012-08 (E 12)	☒	☒	☐
Zinc	DIN EN ISO 11885: 2009-09 (E 22)	☒	☒	☐
	DIN 38406-E 8: 2004-10	☐	☐	☐
	DIN EN ISO 17294-2: 2017-01 (E 29)	☐	☐	☐
	DIN EN ISO 15586: 2004-02 (E 4)	☐	☐	☐
Boron	DIN EN ISO 11885: 2009-09 (E 22)	☒	☒	☐
	DIN EN ISO 17294-2: 2017-01 (E 29)	☐	☐	☐
Magnesium	DIN EN ISO 11885: 2009-09 (E 22)		☒	☐
	DIN 38406-E 3: 2002-03		☐	☐
	DIN EN ISO 7980: 2000-07 (E 3a)		☐	☐
	DIN EN ISO 17294-2: 2017-01 (E 29)		☐	☐
	DIN EN ISO 14911: 1999-12 (E 34)		☐	☐
Phosphor, total (see also sub-area 2)	DIN EN ISO 11885: 2009-09 (E 22)	☒	☒	☐
	DIN EN ISO 17294-2: 2017-01 (E 29)	☐	☐	☐

Subarea 4/5: Group and sum parameters

Parameter	Method	WW	SW	GRW
Biological oxygen demand (BOD ₅)	DIN EN 1899-1: 1998-05 (H 51)	☒		
	DIN EN 1899-2: 1998-05 (H 52)		☒	
Chemical oxygen demand (COD)	DIN 38409-H 41: 1980-12	☒		
	DIN 38409-H 44: 1992-05		☒	
	DIN ISO 15705: 2003-01 (H 45)		☐	
Phenol index	DIN 38409-H 16-2: 1984-06	☒	☒	☐
	DIN 38409-H 16-1: 1984-06		☐	☐
	DIN EN ISO 14402: 1999-12 (H 37) Verfahren nach Abschn. 4	☐	☐	☐
Filterable matter	DIN EN 872: 2005-04 (H 33)	☒	☒	
	DIN 38409-H 2-3: 1987-03		☒	

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Parameter	Method	WW	SW	GRW
Acid and base-neutralizing capacities	DIN 38409-H 7: 2005-12		☐	☐
Total organic carbon (TOC)	DIN EN 1484: 1997-08 (H 3)	☒	☒	☐
Dissolved organic carbon (DOC)	DIN EN 1484: 1997-08 (H 3)		☐	☐
Total bound nitrogen (TN _b)	DIN EN 12260: 2003-12 (H 34)	☐	☐	☐
	DIN EN ISO 11905-1: 1998-08 (H 36)	☒	☒	☐
Adsorbable organically bound halogens (AOX)	DIN EN ISO 9562: 2005-02 (H 14)	☒	☒	☐

Subarea6: Gaschromatographic methods

Parameter	Method	WW	SW	GRW
Volatile halogenated hydrocarbons (VHHC)	DIN EN ISO 10301: 1997-08 (F 4)*	☒	☒	☐
	DIN 38407-F 43: 2014-10	☐	☐	☐
	DIN EN ISO 15680: 2004-04 (F 19)	☐	☐	☐
	DIN EN ISO 17943: 2016-11 (F 41)		☐	☐
Benzene and derivatives (BTEX)	DIN 38407-F 9: 1991-05*	☒	☒	☐
	DIN 38407-F 43: 2014-10	☐	☐	☐
	DIN EN ISO 15680: 2004-04 (F 19)	☐	☐	☐
	DIN EN ISO 17943: 2016-11 (F 41)		☐	☐
Organochlorine insecticides (OCP)	DIN EN ISO 6468: 1997-02 (F 1)*		☐	☐
	DIN 38407-F 37: 2013-11		☐	☐
	DIN EN 16693: 2015-12 (F 51)		☐	☐
Polychlorinated biphenyls (PCB)	DIN EN ISO 6468: 1997-02 (F 1)*		☐	☐
	DIN 38407-F 3: 1998-07		☐	☐
	DIN 38407-F 37: 2013-11		☐	☐
Mono-, dichlorobenzenes	DIN EN ISO 15680: 2004-04 (F 19)		☐	☐
	DIN 38407-F 43: 2014-10		☐	☐
Tri- to hexachlorobenzene	DIN EN ISO 6468: 1997-02 (F 1)*	☐	☐	☐
	DIN 38407-F 2: 1993-02	☐	☐	☐
	DIN EN ISO 15680 (F19):2004-04**	☐	☐	☐
	DIN 38407-F 43: 2014-10**	☐	☐	☐

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Parameter	Method	WW	SW	GRW
	DIN 38407-F 37: 2013-11	☐	☐	☐
	DIN EN 16693: 2015-12 (F 51)***		☐	☐
Chlorophenols	DIN EN 12673: 1999-05 (F 15)		☐	☐
Organophosphorus and organonitrogen compounds	DIN EN ISO 10695: 2000-11 (F 6) *		☐	☐
Polycyclic aromatic hydrocarbons (PAH) (see also sub-area 7)	DIN 38407-F 39: 2011-09	☒	☒	☐
	DIN ISO 28540: 2014-05 (F 40)	☐	☐	☐
	DIN EN 16691: 2015-12 (F 50)		☐	☐
Hydrocarbon index	DIN EN ISO 9377-2: 2001-07 (H 53)	☒	☒	☐

* Mass spectrometric detection permissible

** Only applicable for trichlorobenzene

*** Only applicable for hexachlorobenzene

subarea 7: HPLC-methods

Parameter	Method	WW	SW	GRW
Polycyclic aromatic hydrocarbons (PAH)* (see also sub-area 6)	DIN EN ISO 17993: 2004-03 (F 18)	☐	☐	☐
Plant protection products and Pesticides (Procedures to be applied according to substance-specific requirements.)	DIN EN ISO 11369: 1997-11 (F 12)*		☐	☐
	DIN 38407-F 35: 2010-10		☒	☐
	DIN 38407-F 36: 2014-09		☒	☐

* Mass spectrometric detection permissible

Teilbereich 8: Microbiological methods

not used

Teilbereich 9.1: Biological methods, Biotests (Part 1)

not used

Teilbereich 9.2: Biological methods, Biotests (Part 2)

not used

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4.4 List of test methods for the technical module SOIL AND CONTAMINATED SITES

Site: Hameln

Version: LABO of 16.08.2012

Testing area 1: Solid matter

Subarea 1.1 Sampling and on-site tests

Test parameter	Methods/Notes	Procedure	
Design of sampling programmes		BBodSchV DIN ISO 10381-1: 2003 DIN ISO 10381-5: 2007	☒
Sampling in the investigation of areas with suspected contamination and contaminated sites	Manual drilling, Ramming core sampling 50 – 80mm, Samples in undisturbed bedding	DIN ISO 10381-2: 2003 DIN EN ISO 22475-1: 2007	☒
	Pile sampling	LAGA PN 98: 2001	
Sampling in the investigation of areas with suspected contamination and contaminated sites on volatile pollutants after the outcrop	The extracting agent has to be submitted in the sample vessels before sampling	HLUG Contaminated sites handbook Vol. 7, Part 4 2000	☒
Sampling in the investigation of natural, semi-natural and cultural locations		DIN ISO 10381-4: 2004 VDLUFA book of methods Volume 1, part A1	☒
Sampling of sediments		DIN 38414-11: 1987	☒
Sampling of suspended matters - optional		DIN 38402-24: 2007	☐
Characterization of samples		Tool for soil description related to soil conservation and remediation, excerpt from KA5, 2009 Pedological mapping guide 5th Edition (KA5): 2005	☒
	Series of standards geotechnical exploration and investigation	DIN EN ISO 14688-1: 2011 DIN EN ISO 14689-1: 2011 DIN EN ISO 22475-1: 2007	☒

Test parameter	Methods/Notes	Procedure	
Grain-size distribution	Finger test in the field	Tool for soil description related to soil conservation and remediation, excerpt from KA5, 2009 Pedological mapping guide 5th Edition (KA5): 2005 DIN 19682-2: 2007	☒
Sample storage, In situ sample pretreatment, sample transport		DIN 19747: 2009 DIN ISO 10381-1: 2003 DIN ISO 10831-2: 2003 DIN ISO 18512: 2009	☒
	Overlaying the soil in situ with solvent in the investigation of volatile contaminants	DIN ISO 22155: 2006	

Subarea 1.2 Laboratory - Analysis of inorganic parameters

Base parameters and sample preparation			
Test parameter	Methods/Notes	Procedure	
Preparation and processing of samples		DIN 19747: 2009	☒
Dry matter		DIN ISO 11465: 1996	☐
		DIN EN 14346: 2007	☒
Organic carbon and total organic carbon after dry combustion (TOC)	Soil samples dried in air	DIN ISO 10694: 1996	☒
		DIN EN 13137: 2001	☐
		DIN EN 15936: 2012	☒
pH (CaCl ₂)		DIN ISO 10390: 2005	☒
Bulk density – optional		DIN ISO 11272: 2001	☐
Particle size distribution – optional	Pipette analysis	DIN ISO 11277: 2002	☐
	Areometer method	DIN 18123: 2011 with LAGA PN98	☐

Analysis of inorganic parameters			
Test parameter	Methods/Notes	Procedure	
Aqua regia extract	Thermal, open vessel	DIN ISO 11466: 1997	☐
	Microwave digestion	DIN EN 13657: 2003	☒
Ammonium nitrate extract		DIN 19730: 2009	☒
Alkaline digestion method – optional	Metaborate melt digestion for chromium(VI) analysis	DIN EN 15192: 2007	☐

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Analysis of inorganic parameters			
Test parameter	Methods/Notes	Procedure	
Extraction for determination of thallium - optional	HNO ₃ , H ₂ O ₂	DIN ISO 20279: 2006	☐
Arsenic (As) Antimony (Sb)	ICP-OES	DIN ISO 22036: 2009	☐
	ICP-MS	DIN EN ISO 17294-2: 2005	☒
	ET-AAS or hydride-AAS	DIN ISO 20280: 2010	☐
Cadmium (Cd) Chromium (Cr), total Cobalt (Co) Copper (Cu) Nickel (Ni) Lead (Pb) Zinc (Zn)	ET-AAS	DIN ISO 11047: 2003	☐
	ICP-OES	DIN ISO 22036: 2009	☒
	ICP-MS	DIN EN ISO 17294-2: 2005	☒
Mercury (Hg)	AAS	DIN EN 1483: 2007	☒
	Cold vapour AAS or cold vapour AFS	DIN ISO 16772: 2005	☐
Cyanides		DIN ISO 17380: 2011	☐
		DIN ISO 11262: 2012	☐
Chromium (VI) - optional	IC with photometric detection	DIN EN 15192: 2007	☐
Molybdenum (Mo)	ICP-OES	DIN ISO 22036: 2009	☐
Vanadium (V) - optional	ICP-MS	DIN EN ISO 17294-2: 2005	☐
Selenium (Se) - optional	ICP-OES	DIN ISO 22036: 2009	☐
	ICP-MS	DIN EN ISO 17294-2: 2005	☐
	ET-AAS or hydride-AAS	DIN ISO 20280: 2010	☐
Thallium (Tl) from the HNO ₃ /H ₂ O ₂ extract - optional	ET-AAS	DIN ISO 20279: 2006	☐
	ICP-OES	DIN ISO 22036: 2009	☐
	ICP-MS	DIN EN ISO 17294-2: 2005	☐
Uranium (U)	ICP-OES	DIN ISO 22036: 2009	☐
Tungsten (W) - optional	ICP-MS	DIN EN ISO 17294-2: 2005	☐

Subarea 1.3 Laboratory - Analysis of organic parameters

Base parameters and sample preparation			
Test parameter	Methods/Notes	Procedure	
Preparation and processing of samples		DIN 19747: 2009	☒
Dry matter		DIN ISO 11465: 1996	☐
		DIN EN 14346: 2007	☒

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Base parameters and sample preparation			
Test parameter	Methods/Notes	Procedure	
Organic carbon and total organic carbon after dry combustion (TOC)	Soil samples dried in air	DIN ISO 10694: 1996	☒
		DIN EN 13137: 2001	☐
		DIN EN 15936: 2012	☒
pH (CaCl ₂)		DIN ISO 10390: 2005	☒
Bulk density – optional		DIN ISO 11272: 2001	☐
Particle size distribution – optional	Pipette analysis	DIN ISO 11277: 2002	☐
	Areometer method	DIN 18123: 2011 with LAGA PN98	☐

Analysis of organic parameters			
Test parameter	Methods/Notes	Procedure	
Polycyclic aromatic hydrocarbons (PAH) 16 PAH (EPA)	GC-MS	DIN ISO 18287: 2006	☒
	HPLC-UV/F Acenaphthylene cannot be determined with a fluorescence detector	DIN ISO 13877: 2000	☐
		DIN 38414-23: 2002	☐
Hexachlorobenzene	GC - ECD, GC - MS	DIN ISO 10382: 2006	☒
Pentachlorophenol	GC - ECD, GC - MS	DIN ISO 14154: 2005	☒
Aldrin, DDT, HCH mixture	GC - ECD, GC - MS	DIN ISO 10382: 2003	☒
		DIN EN 15308: 2008	☐
Polychlorinated biphenyls (PCB)	GC - ECD, GC - MS Extraction with acetone/petroleum ether or Soxhlet extraction The type of sum formation must be given (PCB6/PCB7)	DIN ISO 10382: 2003	☒
		DIN EN 15308: 2008	☐
		DIN 38414-20: 1996	☐
Explosive-typical compounds (HPLC) – optional	Extraction with methanol or acetonitrile and quantitation by HPLC-UV/DAD	E DIN ISO 11916-1: 2011	☐
Explosive-typical compounds (GC) – optional	Extraction with methanol. Recrystallisation in toluene and quantitation by GC-ECD or GC-MS	E DIN ISO 11916-2: 2011	☐
Mineral oil hydrocarbons (C ₁₀ -C ₄₀) – optional	GC-FID	DIN ISO 16703: 2005	☒
		LAGA KW/04: 2009	☐
BTEX aromatic compounds, volatile hydrocarbons – optional	Headspace, GC	DIN ISO 22155: 2006	☒

Testing area 1.4: Analysis - Dioxins and Furans

Base parameters and sample preparation			
Test parameter	Methods/Notes	Procedure	
Preparation and processing of samples		DIN 19747: 2009	☒
Dry matter		DIN ISO 11465: 1996	☐
		DIN EN 14346: 2007	☒
Organic carbon and total organic carbon after dry combustion (TOC)	Soil samples dried in air	DIN ISO 10694: 1996	☒
		DIN EN 13137: 2001	☐
		DIN EN 15936: 2012	☒
pH (CaCl ₂)		DIN ISO 10390: 2005	☒
Bulk density – optional		DIN ISO 11272: 2001	☐
Particle size distribution – optional	Pipette analysis	DIN ISO 11277: 2002	☐
	Areometer method	DIN 18123: 2011 with LAGA PN98	☐

Analysis of PCDD, PCDF and dioxin-like PCB			
Test parameter	Methods/Notes	Procedure	
PCDD / PCDF, dl-PCB	GC-MS, evaluation by the internal standard method using the corresponding 13C12 marked standards of a congener	DIN 38414-24: 2000 Dioxin-like PCB: in consideration of DIN 38407-3: 1998	☒

Testing area 2: Eluates and percolates, aqueous media
Subarea 2.1 Sampling and on-site tests

Sampling			
Test parameter	Methods/Notes	Procedure	
Design of sampling programmes and sampling techniques		DIN EN ISO 5667-1: 2007	☒
Sampling of ground water	AQS-leaflet P 8/2: 1996	ISO 5667-11: 2009 DIN 38402-13: 1985 DVGW-worksheet W 112: 2011	☐
Sampling of leachate		Currently no standardised method available; If applicable: E-DWA-M 905: 2008	☐

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Sampling			
Test parameter	Methods/Notes	Procedure	
Sampling of surface water (Running waters)	AQS-leaflet P 8/3: 1998	DIN 38402-15: 2010	☒
Sampling of surface water (Barrages and lakes)		DIN 38402-12: 1985	☒

on-site tests			
Test parameter	Methods/Notes	Procedure	
Colouring		DIN EN ISO 7887: 2012	☒
Turbidity		DIN EN ISO 7027: 2000	☒
Odour		DEV B1/2 1971	☒
Temperature		DIN 38404-4: 1976	☒
pH		DIN EN ISO 10523: 2012	☒
Oxygen content		DIN EN 25814: 1992	☒
Electrical conductivity		DIN EN 27888: 1993	☒
Redox potential		DIN 38404-6: 1984	☒
Sample storage, sample pretreatment, sample transport		DIN EN ISO 5667-3: 2004	☒

Subarea 2.2 Laboratory - Analysis of eluates/percolates for inorganic parameters

Eluates/Percolates			
Test parameter	Methods/Notes	Procedure	
Batch test – leaching of inorganic substances		DIN 19529: 2009	☒
Batch test – leaching of organic substances		DIN 19527: 2012	☒
Batch test – leaching of inorganic substances - optional		DIN EN 12457-4: 2003	☒
Percolation method for inorganic and organic substances - optional		DIN 19528: 2009	☐
Test of absorption availability - optional		DIN 19738: 2004	☐

Analysis of inorganic parameters			
Test parameter	Methods/Notes	Procedure	
Antimony (Sb) Arsenic (As)	ICP-OES	DIN EN ISO 11885: 2009	☐
	ICP-OES	DIN ISO 22036: 2009	☐
	ICP-MS	DIN EN ISO 17294-2: 2005	☒
	ET-AAS or hydride-AAS	DIN ISO 20280: 2010	☐
Lead (Pb) Cadmium (Cd) Chromium (Cr) total Cobalt (Co) Copper (Cu) Molybdenum (Mo) Nickel (Ni) Zinc (Zn)	ET-AAS	DIN EN ISO 15586: 2004	☐
	ICP-OES	DIN EN ISO 11885: 2009	☒
	ICP-OES	DIN ISO 22036: 2009	☐
	ICP-MS	DIN EN ISO 17294-2: 2005	☒
Mercury(Hg)	AAS	DIN EN 1483: 2007	☒
	Cold vapour AAS or cold vapour AFS	DIN ISO 16772: 2005	☐
Cyanide (CN ⁻), total Cyanide, easily liberatable	Spectral photometry	DIN EN ISO 14403: 2002	☐
		DIN 38405-13: 2011	☐
		DIN EN ISO 17380: 2011	☐
Fluoride, chloride, sulphate	Ion chromatography	DIN EN ISO 10304-1:2009	☒
	Individual methods	DIN 38405-1, -4, -5: 1985	☒
Vanadium (V) - optional	ET-AAS	DIN EN ISO 15586: 2004	☐
	ICP-OES	DIN EN ISO 11885: 2009	☐
	ICP-OES	DIN ISO 22036: 2009	☐
	ICP-MS	DIN EN ISO 17294-2: 2005	☒
Uranium (U) – optional	ICP-MS	DIN EN ISO 17294-2: 2005	☒
Tin (Sn) Thallium (Tl) Tungsten (W) - optional	ICP-OES	DIN EN ISO 11885: 2009	☐
	ICP-OES	DIN ISO 22036: 2009	☐
	ICP-MS	DIN EN ISO 17294-2: 2005	☒
Selenium (Se) - optional	ET-AAS	DIN EN ISO 15586: 2004	☐
	ICP-OES	DIN EN ISO 11885: 2009	☐

Analysis of inorganic parameters			
Test parameter	Methods/Notes	Procedure	
	ICP-OES	DIN ISO 22036: 2009	☐
	ICP-MS	DIN EN ISO 17294-2: 2005	☒
	ET-AAS or hydride-AAS	DIN ISO 20280: 2010	☐
Chromium (Cr VI)	Spectral photometry	DIN 38405-24: 1987	☐
	Ion chromatography	DIN EN ISO 10304-3: 1997	☐

Subarea 2.3 Laboratory - Analysis of eluates/percolates for organic parameters

Eluates/Percolates			
Test parameter	Methods/Notes	Procedure	
Batch test –leaching of inorganic substances		DIN 19529: 2009	☒
Batch test –leaching of organic substances		DIN 19527: 2012	☒
Batch test –leaching of inorganic substances - optional		DIN EN 12457-4: 2003	☒
Percolation method for organic and inorganic substances - optional		DIN 19528: 2009	☐
Test of absorption availability - optional		DIN 19738: 2004	☐

Analysis of organic parameters			
Test parameter	Methods/Notes	Procedure	
Aromatic compounds (BTEX)	Purge + trap/desorption, GC-MS	DIN EN ISO 15680: 2004	☐
	Liquid extraction or Headspace, GC	DIN 38407-9: 1991	☒
	Headspace-SPME, GC-MS	DIN 38407-41: 2011	☐
Volatile halogenated hydrocarbons	Purge + Trap/Desorption, GC-MS	DIN EN ISO 15680: 2004	☐
	Liquid extraction or Headspace, GC	DIN EN ISO 10301: 1997	☒
	Headspace-SPME, GC-MS	DIN 38407-41: 2011	☐

Analysis of organic parameters			
Test parameter	Methods/Notes	Procedure	
Aldrin	GC-ECD, GC-MS	DIN EN ISO 6468: 1997	☐
		DIN 38407-2: 1993	☐
Dichlorodiphenyltrichloroethane (DDT)	GC-ECD, GC-MS	DIN EN ISO 6468: 1997	☐
		DIN 38407-2: 1993	☐
Chlorophenols	GC-ECD, GC-MS	DIN EN 12673: 1999	☐
Chlorobenzenes (Cl3-Cl6)	GC-ECD, GC-MS	DIN 38407-2: 1993	☐
	Liquid extraction, GC-ECD, GC-MS	DIN EN ISO 6468: 1997	☐
Chlorobenzenes (Cl1-Cl3)	Liquid extraction or Headspace, GC-ECD, possibly MS	DIN EN ISO 10301: 1997	☐
Polychlorinated biphenyls (PCB)	GC-ECD, GC-MS The type of sum formation must be given (PCB6 /PCB7)	DIN 38407-2: 1993	☐
		DIN 38407-3: 1998	☐
16 PAH (EPA)	HPLC-F	DIN EN ISO 17993: 2004	☐
	GC-MS	DIN 38407-39: 2011	☒
Naphthalene	GC-FID, GC-MS	DIN EN ISO 15680: 2004	☐
		DIN 38407-9: 1991	☐
Mineral oil hydrocarbons (C ₁₀ -C ₄₀)	GC-FID	DIN EN ISO 9377-2: 2001	☒
Explosive-typical compounds (HPLC) - optional	HPLC / UV detection	DIN EN ISO 22478: 2006	☐
Explosive-typical compounds (GC) - optional	Determination of selected nitroaromatic compounds by GC	DIN 38407-17: 1999	☐
Phenols- optional	GC-ECD, GC-MS	ISO 8165-2: 1999	☐
		DIN EN 12673: 1999	☐

Testing area 3 – Soil air, landfill gas
Subarea 3.1 Sampling and on-site tests

not used

Subarea 3.2 Laboratory - Analysis of soil air, landfill gas

not used

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**4.5 List of test methods for the technical module WASTE, Site: Hameln
 Version: LAGA of May 2018**
Testing area 1: Sewage sludge

	Subarea / Parameter	Basis / Procedure		Site
		AbfKlärV		
1.1	Sampling and sample preparation	Paragraph 32, Section 3 und 4 AbfKlärV		
a)	Sampling	DIN EN ISO 5667-13 (08.11) <u>and</u> DIN 19698-1 (05.14)	☒	IfB/IfD HM
b)	Sample preparation	DIN 19747 (07.09)	☒	IfB/IfD HM
1.2	Heavy metals and chromium VI ¹	Paragraph 5, Section 1 No. 1 AbfKlärV		
	Heavy metals			
	Aqua regia digestion	DIN EN 16174 (11.12)	☒	IfB/IfD HM
		DIN EN 16174 Procedure A (11.12)	☐	
		DIN EN 13346 Procedure A (04.01)	☐	
	Arsenic, lead, cadmium, chromium, copper, nickel, zinc, iron (from aqua regia digestion)	DIN EN ISO 11885 (09.09)	☐	
		DIN ISO 11047 (05.03)	☐	
		DIN EN ISO 17294-2 (01.17)	☐	
		DIN EN 16170 (01.17)	☒	IfB/IfD HM
		DIN EN 16171 (01.17)	☒	IfB/IfD HM
		CEN/TS 16172; DIN SPEC 91258 (04.13)	☐	
		DIN ISO 22036 (06.09)	☐	
	Thallium (from aqua regia digestion)	DIN EN ISO 11885 (09.09)	☐	
		DIN ISO 11047 (05.03)	☐	
		DIN EN ISO 17294-2 (01.17)	☐	
		DIN 38406-26 (07.97)	☐	

¹ Deviant of part III No. 1 the proof of competence for part 1.2 can be provided without Chromium VI.

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		DIN EN 16170 (01.17)	☐	
		DIN EN 16171 (01.17)	☒	IfB/IfD HM
		CEN/TS 16172; DIN SPEC 91258 (04.13)	☐	
		DIN ISO 22036 (06.09)	☐	
	Mercury (from aqua regia digestion)	DIN EN ISO 17852 (04.08)	☐	
		DIN EN 16175-1 (12.16)	☒	IfB/IfD HM
		DIN EN 16175-2 (12.16)	☐	
		DIN EN 16171 (01.17)	☐	
		DIN EN ISO 12846 (08.12)	☐	
	Chromium VI (from alkaline hot extract) ²	DIN EN 16318 (07.16)	☐	
		DIN EN 15192 (02.07)	☐	
		DIN 10304-3 (11.97) ³	☐	
		DIN EN ISO 17294-2 (01.17) ⁵	☐	

1.3	Adsorbed organically bound halogens	Paragraph 5 Section 1 No. 2 AbfklärV		
	AOX (from dry residue)	DIN 38414-18 (11.89)	☒	IfB/IfD HM
		DIN EN 16166 (11.12)	☐	

1.4	Physical parameters, nutrients	Paragraph 5 Section 1 Nos. 3 - 9 AbfklärV		
	Dry residue	DIN EN 15934 (11.12)	☒	IfB/IfD HM
		DIN EN 12880 (02.01)	☐	
	Organic substance as loss on ignition (from the dry residue)	DIN EN 15935 (11.12)	☒	IfB/IfD HM
		DIN EN 12879 (02.01)	☐	
	pH	DIN EN 15933 (11.12)	☒	IfB/IfD HM
		DIN 38414-5 (07.09)	☐	
	Alkaline substances as CaO	Methods book of the VDLUFA Volume II.2, Method 4.5.1	☒	IfB/IfD HM

² The procedures DIN EN 16318 or DIN EN 15192 are to be used for the alkaline hot extract.

³ Instead of post column derivatisation with 1,5-Diphenylcarbazid the determination of Cr (VI) can be carried out after the ion chromatographic separation according to DIN 10304-3 with coupling of ICP-MS detection on the basis of DIN EN ISO 17294-2.

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	Ammonium nitrogen (NH ₄ -N)	DIN 38406-5 (10.83)	☒	IfB/IfD HM
	Total nitrogen (N _{tot})	DIN EN 13342 (01.01)	☐	
		DIN EN 16169 (11.12)	☒	IfB/IfD HM
		DIN ISO 11261 (05.97)	☐	
	Aqua regia digestion	DIN EN 16174 (11.12)	☒	IfB/IfD HM
		DIN EN 13346 Procedure A (04.01)	☐	
	Phosphorus (P) (from aqua regia digestion) (Conversion: Phosphorus (P) = 2.291 for phosphorus pentoxide (P ₂ O ₅))	DIN EN ISO 11885 (09.09)	☐	
		DIN EN ISO 6878 (09.04)	☐	
		DIN EN ISO 17294-2 (01.17)	☐	
		DIN EN 16171 (01.17)	☐	
		DIN EN 16170 (01.17)	☒	IfB/IfD HM
	Persistent organic pollutants	Paragraph 5 Section 2 Nos. 1 – 4 AbfKlärV		
1.5	Polychlorinated biphenyls (PCB)	DIN 38414-20 (01.96)	☐	
		DIN EN 16167 (11.12)	☒	IfB/IfD HM
1.6	Polychlorinated dibenzodioxins and -furans (PCDD / PCDF) and dioxin-like polychlorinated biphenyls (dl-PCB)	DIN CEN/TS 16190; DIN SPEC 91267 (05.12)	☐	
		DIN 38414-24 (10.00)	☒	IfB/IfD HM
1.7	Benzo(a)pyrene (B(a)P)	DIN EN 15527 (09.08)	☐	
		DIN 38414-23 (02.02)	☐	
		DIN CEN/TS 16181; DIN SPEC 91243 (12.13)	☒	IfB/IfD HM
1.8	Polyfluorinated compounds (PFC) with the individual substances perfluorooctanoic acid and perfluorooctanesulfonic acid (PFOA / PFOS)	DIN 38414-14 (08.11)	☒	IfB/IfD HM

Testing area 2: Soils

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	Subarea / Parameter	Basis / Procedure		Site
		AbfKlärV and BioAbfV		
2.1	Sampling and sample preparation	Paragraph 32 Section 2 AbfKlärV and Paragraph 9 BioAbfV		
a)	Sampling	DIN ISO 10381-1 (08.03) <u>and</u> DIN ISO 10381-4 (04.04)	☒	IfB/IfD HM
b)	Sample preparation	DIN ISO 19747 (07.09)	☒	IfB/IfD HM
2.2	Heavy metals	Paragraph 4 Section 1 AbfKlärV Paragraph 9 Section 2 BioAbfV		
	Aqua regia digestion	DIN EN 16174 (11.12)	☒	
		DIN EN 13657 (01.03)	☐	
	Lead, cadmium, chromium, copper, nickel, zinc (from aqua regia digestion)	DIN ISO 11047 (05.03)	☐	
		DIN EN ISO 17294-2 (01.17)	☐	
		DIN ISO 22036 (06.09)	☐	
		DIN EN 16170 (01.17)	☒	IfB/IfD HM
		DIN EN 16171 (01.17)	☐	
		DIN EN ISO 11885 (09.09)	☐	
	Mercury (from aqua regia digestion)	DIN ISO 16772 (06.05)	☐	
		DIN EN 12846 (08.12)* a procedure incorrectly stated by the legislator; properly DIN EN ISO 12846 (08.12)	☐	
		EN 16175-1 (12.16)	☒	IfB/IfD HM
		EN 16175-2 (12.16)	☐	
		DIN EN 16171 (01.17)	☐	
		DIN EN ISO 17852 (04.08)	☐	
2.3	Physical parameters, phosphate	Paragraph 4 Section 1 AbfKlärV Paragraph 9 Section 2 BioAbfV		
	Phosphate (from CAL/DL-extrakt; P-content to be converted to o-phosphate)	VDLUF A Methods book, Volume I, Method A 6.2.1.1 (6th partial delivery 2012)	☒	IfB/IfD HM

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		VDLUFA Methods book, Volume I, Method A 6.2.1.2 (Basic edition)	☒	IfB/IfD HM
		DIN EN ISO 10304-1 (07.09)	☐	
		DIN ISO 22036 (06.09)	☐	
	Soil texture (Clay content)	DIN 19682-2 (07.14)	☒	IfB/IfD HM
		DIN 18123 (04.11)	☐	
	pH	DIN EN 15933 (11.12)	☐	
		ISO 10390 (02.05)	☐	
		VDLUFA Method Manual I A 5.1.1	☒	IfB/IfD HM
	Dry residue	DIN EN 15934 (11.12)	☒	IfB/IfD HM
		DIN EN 12880 (02.01)	☐	

	Organic substances	Paragraph 4 Section 2 AbfKlärV		
2.4	Polychlorinated biphenyls (PCB)	DIN ISO 10382 (05.03)	☐	
		DIN EN 16167 (11.12)	☒	IfB/IfD HM
2.5	Benzo(a)pyrene (B(a)P)	DIN ISO 18287 (05.06)	☒	IfB/IfD HM
		DIN CEN TS 16181; DIN SPEC 91243 (12.13)	☐	
		DIN 38414-23 (02.02)	☐	

Testing area 3: Biowaste

	Subarea / Parameter	Basis / Procedure		Site
		BioAbfV		
3.1	Sampling and Sample preparation	Paragraph 4 Section 9 BioAbfV		
	a) Sampling	DIN EN 12579 (01.00) and DIN 51750- 1 (12.90) and DIN 51750- 2 (12.90) and DIN EN ISO 5667- 13 (08.11)	☒	IfB/IfD HM
	b) Sample preparation	DIN 19747 (07.09) in conjunction with Annex 3 item 1.3.3	☒	IfB/IfD HM

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	Subarea / Parameter	Basis / Procedure		Site
		DIN EN 13040 (02.07)	☐	
3.2	Heavy metals	Paragraph 4 Section 5 BioAbfV		
	Aqua regia digestion	DIN EN 13650 (01.02)	☐	
		DIN EN 16174 (11.12)	☒	IfB/IfD HM
		DIN EN 13657 (01.03)	☐	
		DIN EN 13346 (04.01)	☐	
	Lead (from aqua regia digestion)	DIN 38406- 6 (07.98)	☐	
		DIN ISO 11047 (05.03)	☐	
		DIN EN ISO 11885 (04.98)	☐	
		DIN EN ISO 17294-2 (02.05)	☐	
		DIN EN ISO 11885 (09.09)	☒	IfB/IfD HM
		DIN EN ISO 22036 (06.09)	☐	
	Cadmium (from aqua regia digestion)	DIN EN ISO 5961 (05.95)	☐	
		DIN ISO 11047 (05.03)	☐	
		DIN EN ISO 11885 (04.98)	☐	
		DIN EN ISO 17294-2 (02.05)	☐	
		DIN EN ISO 17294-2 (01.17)	☐	
		DIN EN ISO 11885 (09.09)	☒	IfB/IfD HM
		DIN EN ISO 22036 (06.09)	☐	
	Chromium (from aqua regia digestion)	DIN EN 1233 (08.96)	☐	
		DIN ISO 11047 (05.03)	☐	
		DIN EN ISO 11885 (04.98)	☐	
		DIN EN ISO 17294-2 (02.05)	☐	
		DIN EN ISO 17294-2 (01.17)	☐	
		DIN EN ISO 11885 (09.09)	☒	IfB/IfD HM
		DIN EN ISO 22036 (06.09)	☐	
	Copper (from aqua regia digestion)	DIN 38406-7 (09.91)	☐	
		DIN ISO 11047 (05.03)	☐	
		DIN EN ISO 11885 (04.98)	☐	

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		DIN EN ISO 17294-2 (02.05)	☐	
		DIN EN ISO 17294-2 (01.17)	☐	
		DIN EN ISO 11885 (09.09)	☒	IfB/IfD HM
		DIN EN ISO 22036 (06.09)	☐	
	Nickel (from aqua regia digestion)	DIN 38406- 11 (09.91)	☐	
		DIN ISO 11047 (05.03)	☐	
		DIN EN ISO 11885 (04.98)	☐	
		DIN EN ISO 17294- 2 (02.05)	☐	
		DIN EN ISO 17294- 2 (01.17)	☐	
		DIN EN ISO 11885 (09.09)	☒	IfB/IfD HM
		DIN EN ISO 22036 (06.09)	☐	
	Mercury (from aqua regia digestion)	DIN EN 1483 (07.07)	☒	IfB/IfD HM
		DIN EN 12338 (10.98)	☐	
		DIN EN ISO 12846 (08.12)	☐	
	Zinc (from aqua regia digestion)	DIN 38406- 8 (10.04)	☐	
		DIN ISO 11047 (05.03)	☐	
		DIN EN ISO 11885 (04.98)	☐	
		DIN EN ISO 17294- 2 (02.05)	☐	
		DIN EN ISO 17294- 2 (01.17)	☐	
		DIN EN ISO 11885 (09.09)	☒	IfB/IfD HM
		DIN EN ISO 22036 (06.09)	☐	

Subareas 3.3 bis 3.5 not used

Testing area 4: Used oil, insulating liquid
not used

Testing area 5: Waste for deposition

	Subarea/ Parameter	Basis/ Procedure		Site
		Paragraph 6 Section 2, Paragraph 8 Section 1, 3 and 5 DepV		
5.1	Sampling	LAGA PN 98 (12.01)	☒	

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5.2	Determination of the total content in the solid			
	Sample preparation	DIN 19747 (07.09)	☒	
	Digestion method (aqua regia)	DIN EN 13657 (01.03)	☒	
	Loss on ignition	DIN EN 15169 (05.07)	☒	
	TOC (Total organic carbon)	DIN EN 13137 (12.01)	☒	
	BTEX (benzene and derivatives)	DIN 38407-F9 (05.91) Manual Contaminated Sites HLUG, Volume 7, Analytical Techniques, Part 4 (2000)	☒	
		DIN EN ISO 22155 (07.16)	☐	
	PCB (polychlorinated biphenyls)	DIN EN 15308 (05.08)	☒	
	Mineral oil hydrocarbons	DIN EN 14039 (01.05) in conjunction with LAGA KW/04 (12.09)	☒	
	PAH (Polycyclic aromatic hydrocarbons)	DIN ISO 18287 (05.06)	☒	
	Density	DIN 18125-2 (03.11)	☒	
	Calorific value	DIN EN 15170 (05.09)	☐	
	Cadmium, chromium, copper, nickel, lead and zinc	DIN ISO 11047 (05.03)	☐	
		DIN EN ISO 11885 (09.09)	☒	
		DIN ISO 22036 (06.09)	☐	
	Mercury	DIN EN 12846 (08.12)* a procedure incorrectly stated by the legislator; properly DIN EN ISO 12846 (08.12)	☒	
		DIN EN ISO 17852 (04.08)	☐	
	Extractable lipophilic substances	LAGA KW/04 (12.09)	☒	

5.3	Determination of the contents in the eluate			
	Preparation of the eluate at a liquid to solid ratio of 10/1	DIN EN 12457-4 (01.03)	☒	
	Preparation of eluate with constant pH 4 and 11/ Acid neutralizing capacity	LAGA-Richtlinie EW 98 (2002)	☐	
	Up-flow percolation test	DIN CEN/TS 14405 (09.04)	☐	
		DIN 19528 (01.09)	☐	
	pH of the eluate	DIN 38404-5 (07.09)	☒	

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	DOC	DIN EN 1484 (08.97)	☒	
	DOC at pH between 7,5 and 8	LAGA-Richtlinie EW 98 p (2002)	☐	
	Phenols	DIN 38409-16 (06.84)	☒	
		DIN EN ISO 14402 (12.99)	☐	
		DIN 38407- 27 (10.12)	☐	
	Arsenic	DIN EN ISO 11969 (11.96)	☐	
		DIN EN ISO 11885 (09.09)	☐	
		DIN ISO 22036 (06.09)	☐	
		DIN EN ISO 15586 (02.04)	☐	
		DIN EN ISO 17294-2 (02.05)	☒	
		DIN EN ISO 17294-2 (01.17)	☐	
	Lead, cadmium, copper, nickel, zinc, chromium	DIN EN ISO 15586 (02.04)	☐	
		DIN EN ISO 17294-2 (02.05)	☒	
		DIN EN ISO 11885 (09.09)	☒	
		DIN ISO 22036 (06.09)	☐	
		DIN EN ISO 17294-2 (01.17)	☐	
	Mercury	DIN EN ISO 12846 (08.12)	☒	
		DIN EN ISO 17852 (04.08)	☐	
	Barium, molybdenum, selenium	DIN ISO 22036 (06.09)	☐	
		DIN EN ISO 11885 (09.09)	☒	
		DIN EN ISO 17294-2 (02.05)	☒	
		DIN EN ISO 17294-2 (01.17)	☐	
	Antimony	DIN ISO 22036 (06.09)	☐	
		DIN EN ISO 11885 (09.09)	☐	
		DIN EN ISO 15586 (02.04)	☐	
		DIN 38405- 32 (05.00)	☐	
		DIN EN ISO 17294- 2 (02.05)	☒	
		DIN EN ISO 17294-2 (01.17)	☐	
	Total dissolved solids (TDS)	DIN EN 15216 (01.08)	☐	
		DIN 38409-1 (01.87)	☒	
		DIN 38409-2 (03.87)	☐	

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	Conductivity of the eluate	DIN EN 27888 (11.93)	☒	
	Determination of dry residue	DIN EN 14346 (03.07)	☒	
	Chloride	DIN EN ISO 10304-1 (07.09)	☒	
		DIN 38405- 1 (12.85)	☐	
		DIN EN ISO 15682 (01.02)	☐	
	Sulfate	DIN EN ISO 10304-1 (07.09)	☒	
		DIN 38405-5 (01.85)	☐	
	Cyanide, easily liberatable	DIN 38405-13 (04.11)	☒	
		in sulphide-containing wastes: DIN ISO 17380 (05.06)	☐	
		DIN EN ISO 14403- 1 (10.12)	☐	
	Fluoride	DIN 38405-4 (07.85)	☒	
		DIN EN ISO 10304- 1 (07.09)	☐	

Subarea 5.4 not used

Testing area 6: Waste wood
not used

4.6 Sampling, sample preparation and analysis of waste in accordance with German Landfill Ordinance Annex 4, Site: Hameln

DepV, Annex 4	Parameter	Paragraph 8 Section 1, 3 and 5 DepV	
2	Sampling	LAGA PN 98 (May 2019)	☒
3	Determination of the total contents in the solid as well as the elutable fraction		
3.1	Determination of the total content in the solid		
3.1.1	Sample preparation	DIN 19747 (July 2009)	☒
3.1.2	Digestion method (aqua regia)	DIN EN 13657 (January 2003)	☒
3.1.3	Organic fraction of the dry residue of the original substance		
3.1.3.1	Loss on ignition	DIN EN 15169 (May 2007)	☒

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DepV, Annex 4	Parameter	Paragraph 8 Section 1, 3 and 5 DepV	
3.1.3.2	TOC (Total organic carbon)	DIN EN 15936 (November 2012)	☐
3.1.4	BTEX (benzene, toluene, ethylbenzene, o-, m-, p-xylene, styrene, cumene)	DIN EN ISO 22155 (July 2016)	☒
3.1.5	PCB (Polychlorinated biphenyls – sum of the 7 PCB congeners, PCB-28, -52, -101, -118, -138, -153, -180)	DIN EN 15308 (December 2016)	☒
3.1.6	Mineral oil hydrocarbons (C 10 to C40)	DIN EN 14039 (January 2005)) in conjunction with LAGA KW/04 (September 2019)	☒
3.1.7	PAK (Polycyclic aromatic hydrocarbons)	DIN ISO 18287 (May 2006)	☒
3.1.8	Density	DIN 18125-2 (March 2011)	☒
3.1.9	Calorific value	DIN EN 15170 (May 2009)	☐
3.1.10	Cadmium, chromium, copper, nickel, lead, zinc	DIN EN ISO 17294-2 (Januar 2017)	☐
		DIN ISO 22036 (June 2009)	☐
		DIN EN ISO 11885 (E 22) (September 2009)	☒
3.1.11	Mercury	DIN EN ISO 12846 (E 12) (August 2012)	☒
		DIN EN ISO 17852 (E 35) (April 2008)	☐
3.1.12	Extractable lipophilic substances	LAGA KW/04 (September 2019)	☒
3.2	Determination of the contents in the eluate		
3.2.1	Eluate preparation		
3.2.1.1	Preparation of the eluate at a liquid to solid ratio of 10/1	DIN EN 12457-4 (January 2003)	☒
3.2.1.2	Preparation of eluate with constant pH 4 and 11/ Acid neutralizing capacity	LAGA-Richtlinie EW 98 (September 2017)	☐
3.2.2	Up-flow percolation test	DIN 19528 (January 2009)	☐
		DIN EN 14405 (May 2017)	☐
3.2.3	pH of the eluate	DIN EN ISO 10523 (April 2012)	☒
3.2.4	DOC (Dissolved organic carbon)		

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3.2.4.1	DOC	DIN EN 1484 (April 2019)	☒
3.2.4.2	DOC at pH between 7,5 and 8	LAGA-Richtlinie EW 98 (September 2017)	☐
3.2.5	Phenols	DIN 38409-H 16 (June 1984)	☒
		DIN EN ISO 14402 (H 37) (December 1999)	☐
3.2.6	Arsenic	DIN EN ISO 17294-2 (January 2017)	☒
		DIN EN ISO 11885 (E 22) (September 2009)	☐
		DIN ISO 22036 (June 2009)	☐
3.2.7	Lead	DIN EN ISO 17294-2, (January 2017)	☒
		DIN ISO 22036 (June 2009)	☐
		DIN EN ISO 11885 (E 22) (September 2009)	☐
3.2.8	Cadmium	DIN EN ISO 17294-2, (January 2017)	☒
		DIN ISO 22036 (June 2009)	☐
		DIN EN ISO 11885 (E 22) (September 2009)	☐
3.2.9	Copper	DIN EN ISO 17294-2, (January 2017)	☐
		DIN ISO 22036 (June 2009)	☐
		DIN EN ISO 11885 (E 22) (September 2009)	☒
3.2.10	Nickel	DIN EN ISO 17294-2, (January 2017)	☒
		DIN ISO 22036 (June 2009)	☐
		DIN EN ISO 11885 (E 22) (September 2009)	☐
3.2.11	Mercury	DIN EN ISO 12846 (E 12) (August 2012)	☒
		DIN EN ISO 17852 (E 35) (April 2008)	☐

DepV, Annex 4	Parameter	Paragraph 8 Section 1, 3 and 5 DepV	
3.2.12	Zinc	DIN EN ISO 17294-2, (January 2017)	☐
		DIN ISO 22036 (June 2009)	☐
		DIN EN ISO 11885 (E 22) (September 2009)	☒
3.2.13	Chloride	DIN EN ISO 10304-1 (D 20) (July 2009)	☒
		DIN EN ISO 15682 (D 31) (January 2002)	☐
3.2.14	Sulphate	DIN EN ISO 10304-1 (D 20) (July 2009)	☒
3.2.15	Cyanide, easily liberatable	DIN 38405-D 13 (April 2011)	☐
		bei sulfidhaltigen Abfällen: DIN ISO 17380 (May 2006)	☐
		DIN EN ISO 14403-1 (D 2) (October 2012)	☐
		DIN EN ISO 14403-2, (October 2012)	☐
3.2.16	Fluoride	DIN 38405-D 4 (July 1985)	☒
		DIN EN ISO 10304-1 (D 20) (July 2009)	☐
3.2.17	Barium	DIN ISO 22036 (June 2009)	☐
		DIN EN ISO 11885 (E 22) (September 2009)	☒
		DIN EN ISO 17294-2 (E 29) (January 2017)	☐
3.2.18	Chromium, total	DIN ISO 22036 (June 2009)	☐
		DIN EN ISO 11885 (E 22) (September 2009)	☐
		DIN EN ISO 17294-2 (January 2017)	☒
3.2.19	Molybdenum	DIN ISO 22036 (June 2009)	☐
		DIN EN ISO 11885 (E 22) (September 2009)	☐
		DIN EN ISO 17294-2 (E 29) (January 2017)	☒

DepV, Annex 4	Parameter	Paragraph 8 Section 1, 3 and 5 DepV	
3.2.20	Antimony	DIN ISO 22036 (June 2009)	☐
		DIN EN ISO 11885 (E 22) (September 2009)	☐
		DIN 38405-E 32 (May 2000)	☐
		DIN EN ISO 17294-2 (E 29) (January 2017)	☒
3.2.21	Selenium	DIN ISO 22036 (June 2009)	☐
		DIN EN ISO 11885 (E 22) (September 2009)	☐
		DIN EN ISO 17294-2 (E 29) (January 2017)	☒
3.2.22	Total dissolved solids	DIN EN 15216 (January 2008)	☐
		DIN 38409-H 1 (January 1987)	☒
		DIN 38409-H 2 (March 1987)	☐
3.2.23	Conductivity of the eluate	DIN EN 27888 (C 8) (November 1993)	☒
3.2.24	Determination of dry residue	DIN EN 14346 (March 2007)	☒
3.3	Biodegradability of the dry residue of the original substance		
3.3.1	Breathability over 4 days (AT ₄)		☐
3.3.2	Gas formation rate in the fermentation test over 21 days (GB ₂₁)		☐

4.7 Tests of agricultural and horticultural soils, fertilisers, compost, secondary raw material fertilisers and wastes

4.7.1 Sampling

DIN ISO 10381-2 2003-08	Soil quality - Sampling - Part 2: Guidance on sampling techniques	IfB HM IfD HM
DIN ISO 10381-3 2002-08	Soil quality - Sampling - Part 3: Guidance on safety	IfB HM IfD HM

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DIN ISO 10381-4 2004-04	Soil quality - Sampling - Part 4: Guidance on the procedure for investigation of natural, near-natural and cultivated sites	IfB HM IfD HM
DIN 19671-1 1964-05	Soil drilling apparatus for drawing soil samples in agricultural engineering; groove borers, tube borers	IfB HM IfD HM
BioAbfV Status: 27/09/2017 Paragraph 4 section 9 BioAbfV Annex 3, No. 1.1	Test of treated and untreated biowaste - Sampling	IfB HM IfD HM
VDLUFA I, A 1.0 1991	General guideline for taking soil samples	IfB HM IfD HM
VDLUFA I, A 1.2.1 2007	Sampling for the test of nutrients accessible to plants in agrarian and horticultural soils (Modification: <i>only for deeper layers (5 m)</i>)	IfB HM IfD HM

4.7.2 Sample preparation

DIN EN 13657 2003-01	Characterization of waste - Digestion for subsequent determination of aqua regia soluble portion of elements in waste	IfB HM IfD HM
DIN EN 16174 2012-11	Sludge, treated biowaste and soil - Digestion of aqua regia soluble fractions of elements	IfB HM IfD HM
DIN 19682-2 2014-07	Soil quality - Field tests - Part 2: Determination of soil texture	IfB HM IfD HM
VDLUFA I, D 2.1 1997	Determination of the soil type of the fine soil with the finger test	IfB HM IfD HM
VDLUFA II.1, 4.1.3 1995	Determination of citric acid-soluble phosphate - Extraction	IfB HM IfD HM
VDLUFA II.1, 4.1.4 1995	Determination of water-soluble and neutral ammonium citrate- soluble phosphate following FRESSENIUS-NEUBAUER extraction	IfB HM IfD HM

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VDLUFA II.1, 5.1.1.1 1995	Determination of water-soluble potassium in mineral fertilisers - Preparation of the analytical solution	IfB HM IfD HM
VDLUFA II.1, 6.1.1 2019	Determination of calcium which is soluble in mineral acid - Preparation of the analytical solution	IfB HM IfD HM
VDLUFA II.1, 6.1.3 1999	Determination of water-soluble calcium in mineral fertilisers - Preparation of the analytical solution	IfB HM IfD HM
VDLUFA VII, 2.1.3 2011	Microwave-heated pressure digestion	IfB HM IfD HM
DIN EN 15920 2011-08	Fertilizers - Extraction of phosphorus soluble in 2 % citric acid	IfB HM IfD HM
DIN EN 15957 2011-12	Fertilizers - Extraction of phosphorus which is soluble in neutral ammonium citrate	IfB HM IfD HM
DIN EN 15958 2012-02	Fertilizers - Extraction of water soluble phosphorus	IfB HM IfD HM
DIN EN 15477 2009-04	Fertilizers - Determination of the water-soluble potassium content (Modification: <i>Determination by means of ICP-OES</i>)	IfB HM IfD HM
DIN EN 15961 2017-03	Fertilizers - Extraction of water-soluble calcium, magnesium, sodium and sulfur in the form of sulfates	IfB HM IfD HM
DIN EN 16962 2018-03	Fertilizers - Extraction of water soluble micro-nutrients in fertilizers and removal of organic compounds from fertilizer extracts (Modification: <i>Weighing and extraction according to DIN EN 15958: 2012-02</i>)	IfB HM IfD HM
4.7.3 Gravimetric methods		
DIN ISO 11465 1996-12	Soil quality - Determination of dry matter and water content on a mass basis - Gravimetric method 6	IfB HM IfD HM
DIN EN 15934 2012-11	Sludge, treated biowaste, soil and waste - Calculation of dry matter fraction after determination of dry residue or water content	IfB HM IfD HM
DIN 15935 2012-11	Sludge, treated biowaste, soil and waste - Determination of loss on ignition	IfB HM IfD HM

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DIN 19684-3 2000-08	Methods of soil investigations for agricultural water engineering - Chemical laboratory tests - Part 3: Determination of the loss on ignition and the residue of soil after ignition	IfB HM IfD HM
DIN 38414-S 22 2018-10	German standard methods for the examination of water, waste water and sludge - Sludge and sediments (group S) - Part 22: Determination of dry residue by freezing and preparation of the freeze dried mass of sludge (S 22)	IfB HM IfD HM
BGK Methods Manual Chapter II C 1 2020-04	Content of foreign substances	IfB HM IfD HM
BGK Methods Manual Chapter II C 2 2013-05	Content of stone	IfB HM IfD HM
BGK Methods Manual Chapter II C 3 2015-12	Degree of impurity (qualitative as sum of foreign substance areas)	IfB HM IfD HM
VDLUFA II.1, 6.5.1 2008	Determination of screening stage of fertilisers (dry method)	IfB HM IfD HM
VDLUFA II.1, 15.2.1 2014	Determination of dry matter	IfB HM IfD HM
4.7.4 Volumetric, titrimetric and potentiometric methods		
DIN EN 15933 2012-11	Sludge, treated biowaste and soil - Determination of pH value	IfB HM IfD HM
DIN EN 16169 2012-11	Sludge, treated biowaste and soil - Determination of Kjeldahl nitrogen	IfB HM IfD HM
VDLUFA I, A 5.1.1 2016	Determination of the pH value	IfB HM IfD HM
VDLUFA I, A 10.1.1 1991	Determination of salt content in soils, garden soils and substrates	IfB HM IfD HM
VDLUFA I, A 13.4.1 1991	Determination of salt content in horticultural soils, garden soils and substrates in extract with water	IfB HM IfD HM
VDLUFA II, 3.2.1 1995	Determination of ammonia nitrogen - Distillation with caustic soda	IfB HM IfD HM

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VDLUFA II.1, 6.3.2 2008	Determination of the basic active components in slaked lime, converter lime, lime fertilisers from [...] as well as organic and organic-mineral fertilisers	IfB HM IfD HM
VDLUFA II, 6.4 1995	Determination of reactivity of carbonated fertiliser limes	IfB HM IfD HM
VDLUFA II.2, 4.5.1 2008	Determination of the basic active components in slaked lime, converter lime, lime fertilisers [...] as well as organic and organic-mineral fertilisers	IfB HM IfD HM
VDLUFA VII, 2.2.2.11 2017	Determination of fluorine in plants and animal feedstuff by the ion-selective electrode method	IfB HM IfD HM

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4.7.5 Spectroscopic methods (UV, VIS, AAS, ICP)

DIN EN ISO 12846 (E 12) 2012-08	Water quality - Determination of mercury - Method using atomic absorption spectrometry (AAS) with and without enrichment	IfB HM IfD HM
DIN EN 1483 (E 12) 2007-07	Water quality - Determination of mercury - Method using atomic absorption spectrometry	IfB HM IfD HM
DIN EN ISO 11885 (E 22) 2009-09	Water quality - Determination of selected elements by inductively coupled plasma optical emission spectrometry (ICP- OES) (Modification: <i>Determination from aqua regia digestion and determination from water soluble, citric acid soluble, neutral ammonium citrate soluble and HCl-soluble extracts</i>)	IfB HM IfD HM
DIN EN ISO 11732 (E 23) 2005-05	Water quality - Determination of ammonium nitrogen - Method by flow analysis (CFA and FIA) and spectrometric detection (Modification: <i>Matrix test of agricultural and horticultural soils , fertilisers, compost, secondary raw material fertilisers and wastes</i>)	IfB HM IfD HM
DIN EN ISO 17294-2 (E 29) 2017-01	Water quality - Application of inductively coupled plasma mass spectrometry (ICP-MS) - Part 2: Determination of selected elements including uranium isotopes (ISO 17294-2:2016) (Modification: <i>Determination from aqua regia digestion and determination from water soluble extracts</i>)	IfB HM IfD HM
DIN EN 16170 2017-01	Sludge, treated biowaste and soil - Determination of elements using inductively coupled plasma optical emission spectrometry (ICP-OES)	IfB HM IfD HM
DIN EN 16171 2017-01	Sludge, treated biowaste and soil - Determination of elements using inductively coupled plasma mass spectrometry (ICP-MS)	IfB HM IfD HM
DIN EN 16175-1 2016-12	Sludge, treated biowaste and soil- Determination of mercury- Part 1: Cold Vapor Atomic Absorption Spectrometry (CV-AAS)	
VDLUFA I, A 6.1.4.1 2002	Determination of mineral nitrogen (nitrate and ammonia) in soil profiles (N _{min} laboratory method)	IfB HM IfD HM
VDLUFA I, A 6.2.1.1 2016	Determination of phosphorus and potassium in the calcium acetate lactate (CAL) extract	IfB HM IfD HM

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VDLUFA I, A 6.2.1.2 1991	Determination of phosphorus and potassium in the double lactate (DL) extract	IfB HM IfD HM
VDLUFA I, A 6.2.4.1 1991	Determination of plant-available magnesium in the calcium chloride extract	IfB HM IfD HM
VDLUFA I, A 6.3.1 2016	Determination of soluble sulphur in soil profiles (S_{min})	IfB HM IfD HM
VDLUFA I, A 6.4.1 2002	Determination of magnesium, sodium and the trace elements copper, manganese, zinc and boron in calcium chloride/DTPA extract	IfB HM IfD HM

4.7.6 Determination of residues and contaminants by liquid chromatography with mass-selective detectors (MS, MS/MS detector) in soils, fertilisers, sewage sludges, slurries, composts, secondary raw material fertilisers and wastes **

DIN 38414-14 2011-08	German standard methods for the examination of water, waste water and sludge - Sludge and sediments (group S) - Part 14: Determination of selected polyfluorinated compounds (PFC) in sludge, compost and soil - Method using high performance liquid chromatography and mass spectrometric detection (HPLC-MS/MS) (S 14) (here: <i>also for fertilisers</i>)	IfB HM IfD HM
ASU L 00.00-115 2018-10	Tests of foodstuff - Multimethod for the determination of pesticide residues using GC- and LC-based analysis following acetonitrile extraction/partitioning and clean-up by dispersive SPE in foods of plant origin - Modular QuEChERS-method (Takeover of the standard of the same name DIN EN 15662, July 2018) (Modification: <i>here in soils and fertilisers</i>)	IfB HM IfD HM
VDLUFA VII, 3.3.2.6 2011	Determination of perfluorooctane carboxylic acid (PFOA) and perfluorooctane sulphonic acid (PFOS) as lead substances for perfluorinated chemicals (PFC) in sewage sludge and compost by liquid chromatography with mass spectrometric detection	IfB HM IfD HM
LUFA Nord-West AA 4/1C-052 2020-09	Analysis of residues of high polar pesticides in solid matrix	IfB HM IfD HM

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LUFA Nord-West	Determination of herbicides from the group of pyridine	IfB HM
AA 4/1C-059	carboxylic acids (aminopyralid/clopyralid/picloram/	IfD HM
2019-05	fluroxypyr)	

4.7.7 Determination of residues and contaminants by gas chromatography with mass selective detectors (MS, MS/MS detector) in soils, fertilisers, sewage sludges, slurries, composts, secondary raw material fertilisers, wastes and consumer goods made of plant material **

DIN EN ISO 22155 2016-07	Soil quality - Gas chromatographic quantitative determination of volatile aromatic and halogenated hydrocarbons and selected ethers - Static headspace method	IfB HM IfD HM
ASU L 00.00-115 2018-10	Tests of foodstuff - Multimethod for the determination of pesticide residues using GC- and LC-based analysis following acetonitrile extraction/partitioning and clean-up by dispersive SPE in foods of plant origin - Modular QuEChERS-method (Takeover of the standard of the same name DIN EN 15662, July 2018) (Modification: <i>here in soils and fertilisers</i>)	IfB HM IfD HM
VDLUFA VII, 3.3.2.3 2011	Determination of polychlorinated dibenzo-p-dioxines (PCDD) and polychlorinated dibenzofurans (PCDF) and of selected coplanar polychlorinated biphenyls (non-ortho PCB) in soils, sewage sludge and composts	IfB HM IfD HM
VDLUFA VII, 3.3.3.1 2011	Determination of polycyclic aromatic hydrocarbons (PAH) in soils, sewage sludges and composts	IfB HM IfD HM
VDLUFA VII, 3.3.6.1 2011	Determination of phenols in soils, sewage sludges, composts, plant material as well as water and wastewater by gas chromatography with mass-spectrometric detection (Modification: <i>also for consumer goods made of plant material</i>)	IfB HM IfD HM
LUFA Nord-West AA 4/1C-043 2021-03	Determination of diethylhexylphthalate in sewage sludge and soils by GC-MSD measurement	IfB HM IfD HM

4.7.8 Further chromatographic methods (GC, HPLC)

DIN ISO 16703 2005-12	Soil quality - Determination of content of hydrocarbon in the range C ₁₀ to C ₄₀ by gas chromatography	IfB HM IfD HM
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VDLUFA II.1, 3.9.2 1995	Determination of biuret in urea - HPLC method (Modification: <i>here also for urea in fertilisers and fertiliser-like matrices</i>)	IfB HM IfD HM
VDLUFA VII, 3.3.2.1 2011	Determination of selected individual components of polychlorinated biphenyls (PCB) and chlorinated hydrocarbons (CHC) in soils, sewage sludge and composts (Modification: <i>also for dust</i>)	IfB HM IfD HM

4.7.9 Further methods

DIN ISO 10694 1996-08	Soil quality - Determination of organic and total carbon after dry combustion (elementary analysis)	IfB HM IfD HM
DIN EN 16168 2012-11	Sludge, treated biowaste and soil - Determination of total nitrogen using dry combustion method	IfB HM IfD HM
VDLUFA I, A 4.1.3.2 2016	Direct determination of organic carbon by combustion at 550 °C and gas analysis	IfB HM IfD HM
VDLUFA II.1, 3.5.2.7 1995	Determination of total nitrogen - Combustion method	IfB HM IfD HM

4.8 Tests of selected animal feedstuffs and foodstuffs, harvested crops and plants

4.8.1 Sample preparation

VDLUFA VII, 2.1.3 2011	Microwave-heated pressure digestion (Modification: <i>here also foodstuffs and animal feedstuffs, harvest crops and plants</i>)	IfB HM IfD HM
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4.8.2 Gravimetric tests of harvest crops and plants

VDLUFA III, 3.1 1976	Determination of moisture (Modification: <i>here also harvest crops and plants</i>)	IfB HM IfD HM
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4.8.3 Determination of elements by inductively coupled plasma atomic emission spectrometry (ICP-OES) in animal feedstuffs and foodstuffs, harvested crops and plants **

ASU F 0096 2019-06	Determination of calcium, sodium, phosphorus, magnesium, potassium, sulphur, iron, zinc, copper, manganese and cobalt in feedstuffs after pressure digestion using ICP-AES (Takeover of the standard of the same name DIN EN 15621, version Oktober 2017) (Modification: <i>measurement of further elements Al, B</i>)	IfB HM IfD HM
LUFA Nord-West AA 4/2A-022 2021-06	Determination of selected elements in animal feedstuffs and foodstuffs, harvested crops and plants by inductively coupled plasma atomic emission spectrometry (ICP-OES) after microwave pressure digestion	IfB HM IfD HM

4.8.4 Determination of elements by inductively coupled plasma mass spectrometry (ICP-MS) in animal feedstuffs and foodstuffs, harvested crops and plants **

DIN EN 15111 2007-06	Foodstuffs - Determination of trace elements - Determination of iodine by ICP-MS (inductively coupled plasma mass spectrometry)	IfB HM IfD HM
ASU F 0108 2019-06	Determination of trace elements, heavy metals and other elements in animal feedstuffs by ICP-MS (multi-method) (Takeover of the standard of the same name DIN EN 17053, version March 2018) (Modification: <i>measurement of further elements Cr, Li, Ni, Sb, Y, Sn</i>)	IfB HM IfD HM
VDLUFA VII, 2.2.2.3 2011	Determination of extractable iodine content in animal feedstuffs by inductively coupled plasma with mass-spectrometric detection (ICP-MS)	IfB HM IfD HM
LUFA Nord-West AA 4/2A-008 2021-06	Determination of selected elements in animal feedstuffs and foodstuffs, harvested crops and plants by inductively coupled plasma mass spectrometry (ICP-MS) after microwave pressure digestion	IfB HM IfD HM

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4.8.5 Determination of mercury by atomic emission spectrometry (AAS) in animal feedstuffs and foodstuffs, harvested crops and plants **

ASU F 0089 2013-04	Determination of mercury in animal feedstuffs by cold vapour atomic absorption spectrometry (KD-AAS) after microwave pressure digestion (extraction with 65 % nitric acid and 30 % hydrogen peroxide) (Takeover of the standard of the same name DIN EN 16277, version September 2012)	IfB HM IfD HM
LUFA Nord-West AA 4/2A-014 2021-06	Determination of mercury in animal feedstuffs and foodstuffs, harvested crops and plants by cold vapour AAS after microwave pressure digestion	IfB HM IfD HM

4.8.6 Determination of residues and contaminants in animal feedstuffs and foodstuffs by liquid chromatography with mass-selective detectors (MS-, MS/MS-detector) **

ASU L 00.00-115 2018-10	Tests of foodstuff - Multimethod for the determination of pesticide residues using GC- and LC-based analysis following acetonitrile extraction/partitioning and clean-up by dispersive SPE in foods of plant origin - Modular QuEChERS-method (Takeover of the standard of the same name DIN EN 15662, July 2018)	IfB HM IfD HM
VDLUFA VII, 3.3.2.5 2011	Determination of perfluorooctane carboxylic acid (PFOA) and perfluorooctane sulphonic acid (PFOS) as lead substances for perfluorinated chemicals (PFC) in sewage sludge and compost by liquid chromatography with mass spectrometric detection	IfB HM IfD HM
LUFA Nord-West AA 4/1C-049 2021-04	Determination of mycotoxins in foodstuffs and animal feedstuffs by LC-MS/MS	IfB HM IfD HM
LUFA Nord-West AA 4/1C-052 2020-09	Analysis of residues of high polar pesticides in solid matrix (here: <i>animal feedstuffs and foodstuffs, additives and technical aids in food production / QuPPE-Method</i>)	IfB HM IfD HM
LUFA Nord-West AA 4/1C-059 2019-05	Determination of herbicides from the group of pyridine carboxylic acids (aminopyralid/clopyrali/picloram/fluroxypyr)	IfB HM IfD HM

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4.8.7 Determination of residues and contaminants in animal feedstuffs and foodstuffs by gas chromatography with mass-selective detectors (MS-, MS/MS-detector) *

ASU L 00.00-115 2018-10	Tests of foodstuff - Multimethod for the determination of pesticide residues using GC- and LC-based analysis following acetonitrile extraction/partitioning and clean-up by dispersive SPE in foods of plant origin - Modular QuEChERS-method (Takeover of the standard norm of the same name DIN EN 15662, July 2018)	IfB HM IfD HM
VDLUFA VII, 3.3.2.4 2011	Determination of polychlorinated dibenzo-p-dioxines (PCDD) and polychlorinated dibenzofurans (PCDF) and selected coplanar polychlorinated biphenyls (non-ortho PCB) in animal feedstuffs	IfB HM IfD HM
VDLUFA VII, 3.3.3.2 2011	Determination of polycyclic aromatic hydrocarbons (PAH) in plant material	IfB HM IfD HM

4.8.8 Determination of residues and contaminants in animal feedstuffs and foodstuffs by gas chromatography with conventional detectors (ECD-detector) *

VDLUFA VII, 3.3.2.2 2016	Determination of chlorinated hydrocarbons (CHC), selected individual components of the polychlorinated biphenyls (PCB) and toxaphenes in feedstuffs by means of capillary gas chromatography (also applies to foodstuffs)	IfB HM IfD HM
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4.8.9 Photometric tests in foodstuffs, animal feedstuffs and consumer goods

ASU L 00.00-49/1 1999-11	Tests of foodstuffs - Low-fat foodstuffs - Determination of dithiocarbamate and thiouramdisulphide residues - Part 1: Spectrophotometric method	IfB HM IfD HM
ASU L 26.00-2 2001-07	Test of foodstuffs - Continuous flow method for the determination of nitrate content in vegetable products according to cadmium reduction	IfB HM IfD HM
VDLUFA III, 14.15.1 1993	Determination of formaldehyde (Modification: also for consumer goods)	IfB HM IfD HM

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4.9 Variety diagnostics of agricultural crops by electrophoresis **

LUFA Nord-West AA 4/1E-002 2021-03	Variety determination of potatoes by electrophoresis of potato proteins	IfB HM
LUFA Nord-West AA 4/1E-003 2021-03	Variety determination of wheat by electrophoresis of seed proteins	IfB HM
LUFA Nord-West AA 4/1E-004 2021-03	Variety determination of barley by electrophoresis of seed proteins	IfB HM
LUFA Nord-West AA 4/1E-005 2021-03	Variety determination of oat by electrophoresis of seed proteins	IfB HM
LUFA Nord-West AA 4/1E-006 2021-03	Variety determination of triticale by electrophoresis of seed proteins	IfB HM

4.10 Tests of harmful airborne substances in fields of activity not regulated by immission control law

DIN EN ISO 10304-1 (D 20) 2009-07	Water quality - Determination of dissolved anions by liquid chromatography of ions - Part 1: Determination of bromide, chloride, fluoride, nitrate, nitrite, phosphate and sulphate (here: <i>only chloride analysis</i>)	IfB HM IfD HM
DIN EN ISO 11885 (E 22) 2009-09	Water quality - Determination of selected elements by inductively coupled plasma atomic emission spectroscopy (here: <i>only sodium, potassium, magnesium and calcium analysis</i>)	IfB HM IfD HM
VDI 2267, sheet 14 2003-12	Identification of particulate substances in ambient air - Measurement of the mass concentrations of Al, As, Ca, Cd, Co, Cr, Cu, Fe, K, Mg, Mn, Na, Ni, Pb, V and Zn as components of dust precipitation by optical emission spectroscopy (ICP OES) (additionally: thallium with ICP-MS)	IfB HM IfD HM (only analysis)

The methods described in **1.5** correspond to the requirements of the
"special proof of competence in the area of immission control"
("LAI Module Immission Control") (by the L/W/V updated version of 30th January 2018).

Competence in the testing and technical task areas

Group I. Nr. 1: G, P, O and Group IV: O

subject to immission control legislation is hereby confirmed.

Abbreviations used:

AbfklärV	Klärschlamm-Verordnung (Sewage Sludge Ordinance)
ADPI	American Dairy Products Institute
AOAC	Association of Official Analytical Chemists
AOCS	Official and tentative methods of the American Oil Chemists Society
AQS	Analytische Qualitätssicherung Baden-Württemberg
ASU	Amtliche Sammlung von Untersuchungen nach § 64 LFGB (official collection of tests acc. to Article 64 of the LFGB)
BAM	Bundesanstalt für Materialforschung und -prüfung (Federal Institute for Materials Research and Testing)
BGBI	Bundesgesetzblatt (Federal Law Gazette)
BGK	Bundesgütegemeinschaft Kompost e. V. (Federal Quality Association for Compost)
BGR	Bundesanstalt für Geowissenschaften und Rohstoffe (Federal Institute for Geosciences and Natural Resources)
BLE	Bundesanstalt für Landwirtschaft und Ernährung (Federal Office for Agriculture and Food)
BMU	Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit (Federal Ministry for Environment, Nature Conservation and Nuclear Safety)
DAB	Deutsches Arzneibuch (German Pharmacopoeia)
DEV	Deutsche Einheitsverfahren zur Wasser-, Abwasser- und Schlammuntersuchung (German standard methods for the test of water, waste water and sewage sludge)
DFG	Deutsche Forschungsgemeinschaft (German Research Foundation)
DGF	Deutsche Gesellschaft für Fettwissenschaft e. V. (German Society of Fats Science)
DIN	Deutsches Institut für Normung e.V. (German Institute for Standardization)

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DLG	DLG-Prüfbestimmung für Milch und Milchprodukte einschließlich Speiseeis; Deutsche Landwirtschafts-Gesellschaft e. V. Frankfurt/Main; in der jeweiligen gültigen Fassung (Testing specifications for milk and milk products, including ice cream, of the German Agricultural Association, Frankfurt am Main, in the currently valid version)
DVWG	Deutscher Verein des Gas- und Wasserfaches e. V. (German Technical and Scientific Association for Gas and Water)
DVWK	Deutscher Verband für Wasserwirtschaft und Kulturbau e. V. (German Association for Water, Wastewater and Waste (ATV-DVWK))
EG	Europäische Gemeinschaft (European Community)
EN	Europäische Norm (European standard)
EPA	Environmental Protection Agency, USA
EWG	Europäische Wirtschaftsgemeinschaft (European Economic Community)
FLI	Friedrich-Loeffler-Institut (Friedrich Loeffler Institute)
HM	Hameln
IAG	Internationale Arbeitsgemeinschaft (International Association)
IDF	International Dairy Federation
IMV	Internationaler Milchwirtschaftsverband (International Dairy Farming Association)
IOCCC	International Office of Cocoa, Chocolate and Sugar Confectionery
ISO	International Organization for Standardization
ISTA	International Seed Testing Association
KTBL	Kuratorium für Technik und Bauwesen in der Landwirtschaft (Advisory Board for Agricultural Technology and Engineering)
LABO	Länderarbeitsgemeinschaft Boden (the German Working Group on Soil Issues of the Federal States and the Federal Government represented by the Federal Environment Ministry))
LAGA	Länderarbeitsgemeinschaft Abfall (the German Working Group on waste issues of the Federal States and the Federal Government represented by the Federal Environment Ministry)
LAWA	Länderarbeitsgemeinschaft Wasser (the German Working Group on water issues of the Federal States and the Federal Government represented by the Federal Environment Ministry)
LFGB	Lebensmittel- und Futtermittel-Gesetzbuch (Foodstuff and Animal Feed Code)
LUA-NRW	Landesumweltamt Nordrhein-Westfalen(Federal Environmental Agency Nordrhein-Westfalen)
LUFA Nord-West AA...	In-house methods of the LUFA Nord-West
OFD H	Oberfinanzdirektion Hannover (Regional Finance Office Hannover)
OL	Oldenburg
RIA	Radioimmunoassay

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TGL	Technische Güter- und Lieferbedingungen (Technical quality and delivery)
TS	Technical Specification
TrinkwV	Trinkwasserverordnung (Drinking Water Ordinance)
VDI	Verein Deutscher Ingenieure (Association of German Engineers)
VDLUFA	Verband Deutscher Landwirtschaftlicher Untersuchungs- und Forschungsanstalten (Association of German Agricultural Analytic and Research Institutes)
VDLUFA I	VDLUFA Methodenbuch Band I, Die Untersuchung von Böden (VDLUFA Methods Manual, Vol. I - Tests of soils)
VDLUFA II	VDLUFA Methodenbuch Band II, Die Untersuchung von Düngemitteln (VDLUFA Methods Manual, Vol. II - Tests of fertilisers)
VDLUFA III	VDLUFA Methodenbuch Band III, Die chemische Untersuchung von Futtermitteln (VDLUFA Methods Manual, Vol. III - Chemical tests of animal feedstuffs)
VDLUFA VI	VDLUFA Methodenbuch Band VI, Chemische, physikalische und mikrobiologische Untersuchungsverfahren für Milch, Milchprodukte und Molkereihilfsstoffe (VDLUFA Methods Manual, Vol. VI - Chemical, physical and microbiological methods of test for milk, milk products and dairy excipients)
VDLUFA VII	VDLUFA Methodenbuch Band VII, Umweltanalytik (VDLUFA Methods Manual, Vol. VII - Environmental analytical tests)