

Deutsche Akkreditierungsstelle GmbH

Annex to the Accreditation Certificate D-PL-14165-01-00 according to DIN EN ISO/IEC 17025:2005

Period of validity: 06.06.2017 to 29.04.2019

Date of issue: 18.05.2018

Holder of certificate:

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

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**

Tests in the fields:

sampling of untreated water and drinking water; chemical and sensory tests in accordance with the Drinking Water Ordinance, sampling of water, waste water, water from standing waters, running waters, rainwater and seepage water, sludge and sediments; 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; sampling of sewage sludge and soils in accordance with the Sewage Sludge Ordinance (AbfKlärV); sampling of biowaste in accordance with Biowaste Ordinance (BioAbfV); physical, physico-chemical and chemical tests of soils in accordance with the Sewage Sludge Ordinance (AbfKlärV), 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, analysis and deposit 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

Abbreviations used: see last page

*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.

Annex to the accreditation certificate D-PL-14165-01-00

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

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	IfB OL
DIN EN 13651 2002-01	Soil improvers and growing media – Extraction of calcium chloride/DTPA (CAT) soluble nutrients	IfB OL
DIN EN 13652 2001-01	Soil improvers and growing media – Extraction of water soluble nutrients and elements	IfB OL
VDLUFA I, A 6.1.1.1 2002	Determination of nitrogen as nitrate by UV absorption (Deviation: <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	Mineral nitrogen in soil profiles – N _{min} laboratory method	IfF OL
VDLUFA I, A 6.2.1.1 1991	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, copper, manganese, zinc and boron – CAT extract (here: <i>only Mg, Na and Mn</i>)	IfF OL IfB OL
VDLUFA I, A 7.1.1 1997	Determination of boron taken up by plants (soluble in hot water)	IfF 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

VDLUFA VII, 2.1.3 4th edition 2011	Microwave-heated pressure digestion (Remark: identical with VDLUFA III, 10.8.1.2, 8th supplementary update 2012)	IfB OL
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1.1.2 Gravimetric methods

DIN EN 12580 2000-01	Soil improvers and growing media – Determination of a quantity (Deviation: <i>also as on-site parameter</i>)	IfB OL
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DIN EN 13039 2012-01	Soil improvers and growing media – Determination of organic matter content and ash	IfB OL
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VDLUFA I, A 2.1.1 2001	Determination of water content by dehumidification in the drying closet	IfB OL
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VDLUFA I, A 15.2 1991	Determination of ash content and organic matter in peaty soils	IfB OL
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1.1.3 Volumetric, titrimetric and potentiometric methods

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 13041 2006-09	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 2001	Determination of pH	IfB OL
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VDLUFA I, A 5.3.1 1991	Gas volumetric determination of carbonate	IfB 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 1991	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
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VDLUFA I, A 13.4.3 1991	Determination of water-soluble sodium and chloride in substrates and composts	IfB OL
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1.1.4 Spectroscopic methods (UV, VIS, AAS, ICP, IR)

VDLUFA I, A 6.1.1.1 2002	Determination of nitrogen as nitrate by UV absorption (Deviation: <i>photometric</i>)	IfB OL
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VDLUFA I, A 6.1.2.1 2002	Determination of ammonia nitrogen	IfB OL
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VDLUFA I, A 6.1.4.1 2002	Mineral nitrogen in soil profiles – N _{min} laboratory method	IfF OL
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VDLUFA I, A 6.2.1.1 1991	Determination of phosphorus and potassium in Calcium acetate lactate (CAL) extract	IfB OL IfF OL
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VDLUFA I, A 6.2.4.1 1991	Determination of magnesium accessible to plants in calcium chloride extract	IfB OL
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VDLUFA I, A 6.4.1 2002	Magnesium, sodium, copper, manganese, zinc and boron – CAT extract (here: <i>only Mg, Na and Mn</i>)	IfF OL IfB OL
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VDLUFA I, A 7.1.1 1997	Determination of boron taken up by plants (soluble in hot water)	IfF OL
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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
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1.1.5 Other methods

DIN ISO 10694 1996-08	Soil quality – Determination of organic and total carbon after dry combustion (elementary analysis)	IfFOL
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DIN ISO 13878 1998-11	Soil quality – Determination of total nitrogen content by dry combustion ("elemental analysis")	IfFO L
DIN 11540 2005-04	Peats and peat products for horticulture and landscape gardening – Test methods, properties, specifications (here only 6.9: <i>Determination of grain size composition by sieve analysis</i>)	IfB OL
Analysereeks PPO 22.06.1999	Aangepast veen onderzoek (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
Analysereeks PPO 22.06.1999	Gravimetrisch vochtgehalte en organische stoffractie (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 spring 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, 10.2.1 2016	Detection of substances harmful to plants in soils, horticultural substrates and composts	IfB OL
VDLUFA I A, 10.2.2 1997	Detection of gaseous substances harmful to plants in soils, horticultural substrates and composts	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

1.2 Tests of digested animal manure

1.2.1 Sampling and sample preparation

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 4th edition 2011	Wet digestion under pressure (Remark: identical with VDLUFA III, 10.8.1., 8th supplementary update 2012)	IfF OL
VDLUFA VII, 2.1.3 4th edition 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

DIN EN ISO 10523 (C 5) 2012-04	Water quality – Determination of pH (Deviation: <i>Matrix here fermentation substrates, digested animal manure, fermentation residues and agricultural fertilisers, 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. 2001	Determination of pH Deviating matrix – Measurement in original substance (<i>aqueous digested animal manure system</i>) (Remark: in conformity with old VDLUFA II, 9.29)	IfB OL
VDLUFA II, 3.5.1.1 1995	Determination of total nitrogen	IfF OL
VDLUFA II, 11.14 1995	Determination of salinity from electrical conductivity and determination of pH in water (here: <i>in digested animal manure</i>)	IfB OL

1.2.3 Gravimetric methods

VDLUFA I, A 2.1.1 1991	Determination of water content (and dry matter) by dehumidification in the drying closet (Deviation: <i>Matrix here also harvested crops, input stuffs/input materials for biogas plants, fermenter contents, digested animal manure, fermentation substrates, fermentation residues/fermentation rests and agricultural fertilisers</i>)	IfB OL
VDLUFA II, 9.28.1 1976	Determination of total moisture: Determination as weight loss at 105 °C (Deviation: <i>Matrix here also harvested crops, input stuffs/input materials for biogas plants, fermenter contents, digested animal manure, fermentation substrates, fermentation residues/fermentation rests and agricultural fertilisers</i>) (standard withdrawn)	IfB OL
VDLUFA II, 10.1 1999	Determination and evaluation of organic matter, determination of residue on ignition (Deviation: <i>Matrix here also harvested crops, input stuffs/input materials for biogas plants, fermenter contents, digested animal manure, fermentation substrates, fermentation residues/fermentation rests and agricultural fertilisers</i>)	IfB OL

1.2.4 Chromatographic methods

LUFA Nord-West AA1/3A-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)

DIN EN ISO 11885 (E 22) 2009-09	Water quality – Determination of selected elements by inductively coupled plasma atomic emission spectroscopy (Deviation: <i>Determination of sulphur, heavy metals and trace elements following digestion in accordance with VDLUFA 2.1.3 in fermentation substrates, fermentation residues and agricultural fertilisers</i>)	IfB OL IfF OL
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DIN EN ISO 17294-2 2005-02	Water quality – Application of inductively coupled plasma mass spectrometry (ICP-MS) – Part 2: Determination of 62 elements (Deviation: <i>Sample matrix and sample preparation, trace elements in digested animal manure</i>)	IfB OL IfF OL
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1.2.6 Other methods

DIN ISO 10694 1996-08	Soil quality – Determination of organic and total carbon after dry combustion (elementary analysis) (Deviation: <i>Determination in fermentation substrates, input materials for biogas plants, fermentation residues and agricultural fertilisers</i>)	IfFOL
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DIN ISO 13878 1998-11	Soil quality – Determination of total nitrogen content by dry combustion ("elemental analysis") (Deviation: <i>Determination in fermentation substrates, fermentation residues, agricultural fertilisers and input materials for biogas plants</i>)	IfF OL
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BGK-Methodenbuch C3 2006-09	Total content of organic acids	IfB OL
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VDI Guideline 4630 2006-04	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
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VDLUFA II, 3.2.6 1995	Determination of ammonia nitrogen – Electrometric method with the gas-sensitive NH ₃ electrode	IfB OL
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1.3 Chemical, physico-chemical and sensory tests of animal feedstuffs, harvested crops and plants

1.3.1 Sample preparation

VDLUFA III, 2 1983	Processing of submitted samples and preparation of samples for analysis	IfF OL
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VDLUFA VII 2.1.1 4th edition 2011	Wet digestion under pressure (Remark: identical with VDLUFA III, 10.8.1.2, 8th supplementary update 2012)	IfF OL
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VDLUFA VII, 2.1.3 4th edition 2011	Microwave-heated pressure digestion (Remark: identical with VDLUFA III, 10.8.1, 8th supplementary update 2012)	IfF OL
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1.3.2 Gravimetric determination of ingredients in animal feedstuffs, harvested crops and plants *

VO (EG) 152/2009 Annex III, A	Determination of moisture content (Remark: content identical with that of VDLUFA III, 3.1, 1976 and BVL F 0001(EG):2010-07)	IfF OL
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VO (EG) 152/2009 Annex III, I	Determination of crude fibre content (Remark: content identical with that of VDLUFA III, 6.1.1, 1993 and BVL F 0010(EG):2010-07)	IfF OL
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VO (EG) 152/2009 Annex III, H	Determination of untreated oil and fat content (Remark: content identical with that of VDLUFA III, 5.1.1, 1988 and BVL F 0009(EG):2010-07)	IfF OL
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VO (EG) 152/2009 Annex III, M	Determination of raw ash content (Remark: content identical with that of VDLUFA III, 8.1, 1976 and BVL F 0014(EG):2010-07)	IfF OL
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VO (EG) 152/2009 Annex III, N	Determination of insoluble ash in hydrochloric acid (Remark: content identical with that of VDLUFA III, 8.2, 1976 und BVL F 0015(EG):2010-07)	
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ASU F 0084 2011-06	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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VDLUFA III, 5.4.8 1976	Determination of unsaponifiable components in fats	IfF OL
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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
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VDLUFA III, 6.5.3 2012	Determination of acidic detergent lignin (ADL)	IfF OL
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VDLUFA III, 8.4 1988	Determination of raw ash in mineral animal feedstuffs	IfF OL
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1.3.3 Titrimetric determination of ingredients and quality parameters in animal feedstuffs, harvested crops and plants *

VO (EG) 152/2009 Annex III, C	Determination of raw protein content (Remark: content identical with that of VDLUFA III, 4.1.1, 1993 and BVL F 0003(EG):2010-07)	IfF OL
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VO (EG) 152/2009 Annex III, J	Determination of sugar content (Remark: content identical with that of VDLUFA III, 7.1.1, 1976 and BVL F 0011(EG):2010-07)	IfF OL
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VO (EG) 152/2009 Annex III, K	Determination of lactose content (Remark: content identical with that of VDLUFA III, 7.1.4, 1976 and BVL F 0012(EG):2010-07)	IfF OL
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VDLUFA III, 4.2.1 1976	Determination of raw protein soluble in fermentation	IfF OL
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VDLUFA III, 4.4.1 1976	Determination of pure albumen - Method according to Barnstein	IfF OL
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VDLUFA III, 5.2.1 1976	Determination of free fatty acids	IfF OL
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VDLUFA III, 5.4.3 1976	Determination of peroxide number by the method of Wheeler (Deviation: <i>isooctane in place of chloroform</i>)	IfF OL
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VDLUFA III, 10.5.2 1976	Determination of chlorides (Remark: in conjunction with VO (EG) 152/2009, annex III, Q)	IfF OL
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VDLUFA III, 20.2 1976	Solubility of albumen in soya extract grist	IfF OL
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VDLUFA III, 20.1 1976	Determination of urease activity in soya products	IfF OL
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1.3.4 Determination of ingredients with GC/FID-methods in animal feedstuffs, harvested crops and plants **

DIN ISO 5504 1982	Oilseeds and oilseed residues – Determination of isothiocyanates and vinyl thiooxazolidone (Deviation: <i>here only ITC</i>)	Iff OL
ASU F 0063 2011-06	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	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 13.00-26 2008-06	Animal and vegetable fats and oils - Analysis by gas chromatography of methyl esters	Iff OL
ASU L 13.00-27/2 2012-01	Animal and vegetable fats and oils – Gas chromatography of fatty acid methyl esters – Part 2: Preparation of methyl esters of fatty acids	Iff OL
LUFA Nord-West AA 1/3A-038 2012-11	Determination of methanol in glycerine by GC (modification of VDLUFA III, 14.24.1 procedure)	Iff OL

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

ASU L 00.00-115 2014-02	Multi-method for the determination of pesticide residues in foodstuffs of vegetable origin by GC-MS(/MS) or LC-MS/MS following acetonitrile extraction/apportionment and purification with dispersive SPE (QuEChERS1) (Deviation: <i>matrix group 1 fruit and vegetables, 2 sour fruit, 5 cereals and cereal products, legumes (dried), 8 milk and milk products, 12 feedstuffs</i>)	Iff OL
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1.3.6 Determination of pesticides/-residues with LC/MS-methods in animal feedstuffs, harvested crops and plants *

ASU L 00.00-115 2014-02	Multi-method for the determination of pesticide residues in foodstuffs of vegetable origin by GC-MS(/MS) or LC-MS/MS following acetonitrile extraction/apportionment and purification with dispersive SPE (QuEChERS1) (Deviation: matrix group 1 fruit and vegetables, 2 sour fruit, 5 cereals and cereal products, legumes (dried), 8 milk and milk products, 12 feedstuffs)	Iff OL
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1.3.7 HPLC methods

VO (EG) No. 152/2009 Annex III, G	Determination of tryptophan content in feedstuffs	Iff OL
DIN EN 15791 2009-12	Animal feeding stuffs – Determination of deoxynivalenol in animal feed – High performance liquid chromatographic 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
VDLUFA III, 4.11.4 1993	Determination of DL-2-hydroxy-4-methylmercaptobutyric acid following hydrolysis (total MHA®)	Iff OL
VDLUFA III, 14.22.1 2006	Determination of monensin sodium (HPLC method)	Iff OL
VDLUFA III, 14.23.1 2006	Determination of salinomycin sodium (HPLC method)	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 AA1/3-027 2017-11	Determination of vitamin D ₃ by the HPLC method <i>(modification of VDLUFA III, 13.8.1)</i>	Iff OL
LUFA Nord-West AA1/3-029 2017-11	Determination of vitamin A and vitamin E from a digestion by the HPLC method <i>(modification of the procedure (EC) 152/2009, Annex IV, A, B / VDLUFA III, 13.1.2 and 13.5.4)</i>	Iff OL

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LUFA Nord-West AA1/3-032 2016-10	Determination of ochratoxin A following immunoaffinity column clean-up – HPLC method <i>(modification of DIN EN 16007:2011-10)</i>	Iff OL
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1.3.8 Ion chromatographic methods

(EC) 152/2009 Annex III, F	Determination of amino acid content (except tryptophane) <i>(modification of the procedures VDLUFA III, 4.11.1, 4.11.5 and 4.11.6 applies here also for commercial products, restricted to lysine, methionine, cystine and threonine)</i>	Iff OL
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LUFA Nord-West AA1/3A-046 2013-11	Ion chromatographic determination of organic acids in silage and distillates	Iff OL
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LUFA Nord-West AA1/3A-047 2016-10	Ion chromatographic determination of organic acids in animal feedstuffs	Iff OL
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1.3.9 Spectroscopic methods (AAS, ICP, UV, VIS, flame photometer, IR)

DIN 38405-35 (D 35) 2004-09	Determination of arsenic – Method by graphite furnace atomic absorption spectrometry (GF-AAS) <i>(Deviation: sample matrix, here: animal feedstuffs, harvested crops and plants)</i>	Iff OL
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DIN 38406-6 (E 6) 1998-07	Determination of lead by atomic absorption spectrometry (AAS) <i>(Deviation: sample matrix, here: animal feedstuffs, harvested crops and plants)</i>	Iff OL
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DIN EN 1483 (E 12) 1997-08	Water quality – Determination of mercury <i>(Deviation: sample matrix animal feedstuffs, Wickbold combustion)</i>	Iff OL
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DIN EN ISO 11885 (E 22) 2009-09	Water quality – Determination of selected elements by inductively coupled plasma atomic emission spectroscopy <i>(Deviation: sample matrix and sample preparation, here: animal feedstuffs, harvested crops and plants)</i>	Iff OL
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DIN ISO 11047 2003-05	Soil quality – Determination of cadmium, chromium, cobalt, copper, lead, manganese, nickel and zinc in aqua regia extracts of soil – Flame and electrothermal atomic absorption spectrometric methods (Deviation: <i>sample matrix and sample preparation, here: animal feedstuffs, harvested crops and plants</i>)	Iff OL
DIN EN ISO 5961 1995-05	Determination of cadmium by atomic absorption spectrometry (Deviation: <i>sample matrix here: animal feedstuffs, harvested crops and plants</i>)	Iff OL
DIN EN ISO 15586 2004-02	Determination of trace elements using atomic absorption spectrometry with graphite furnace (Deviation: <i>sample matrix and sample preparation, here: animal feedstuffs, harvested crops and plants</i>) (Deviation: <i>here for: Ag, Al, As, Cd, Co, Cr, Cu, Fe, Mn, Mo, Ni, Pb, Sb, Se, Tl, V and Zn</i>)	Iff OL
DIN EN ISO 17294-2 2005-02	Water quality – Application of inductively coupled plasma mass spectrometry (ICP-MS) – Part 2: Determination of 62 elements (Deviation: <i>sample matrix and sample preparation, trace elements in animal feedstuffs</i>)	Iff OL
DIN EN 1233 1996-08	Determination of chromium – Atomic absorption spectrometric methods (Deviation: <i>sample matrix and sample preparation, here: animal feedstuffs</i>)	Iff OL
DIN 38406-7 1991-09	Determination of copper by atomic absorption spectrometry (Deviation: <i>sample matrix and sample preparation, here: animal feedstuffs</i>)	Iff OL
DIN 38406-8 1980-10	Determination of Zinc (atomic absorption spectroscopy method) (Deviation: <i>sample matrix and sample preparation, here: animal feedstuffs</i>)	Iff OL
VO (EG) 152/2009 Annex III, P	Determination of total phosphorus (Remark: identical with VDLUFA III, 10.6.1, 1976 and BVL F 0017(EG):2010-07)	Iff OL

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ASU F 0021(EG) 2010-09	Determination of trace element contents of iron, copper, manganese and zinc in animal feedstuffs by atomic absorption spectroscopy – Annex IV of Regulation (EC) no. 152/2009 of the Commission of 27 January, 2009 for the definition of sampling procedures and analytical methods for the official test of animal feedstuffs (ABl. EC L 54/1 of 26.02.2009) (Remark: content identical with that of VDLUFA III, 11.1.2, 1983, VDLUFA III, 11.3.2, 1983, VDLUFA III, 11.4.2, 1983 and VDLUFA III, 11.5.2, 1983)	Iff OL
ASU F 0037 2010-09	Determination of the contents of calcium, copper, iron, magnesium, manganese, potassium, sodium and zinc – Method using atomic absorption spectrometry Animal feeding stuffs – Determination of the contents of calcium, copper, iron, magnesium, manganese, potassium, sodium and zinc – Method using atomic absorption spectrometry	Iff OL
ASU F 0041 2010-09	Determination of phytase activity	Iff OL
ASU F 0042 2010-09	Determination of calcium, sodium, phosphorus, magnesium, potassium, iron, zinc, copper, manganese, cobalt, molybdenum, arsenic, lead and cadmium by ICP-AES	Iff OL
ASU F 0060 2013-04	Determination of selenium by hydride generation atomic absorption spectrometry (HGAAS) after microwave digestion (digestion with 65 % nitric acid and 30 % hydrogen peroxide)	Iff OL
ASU F 0065 2011-06	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 F 0088 2013-04	Determination of cadmium and lead in animal feedstuffs by atomic absorption spectrometry with graphite furnace (GF-AAS) following pressure digestion	Iff OL
ASU F 0089 2013-04	Determination of mercury by cold-vapour atomic absorption spectrometry (CVAAS) after microwave pressure digestion (extraction with 65 % nitric acid and 30 % hydrogen peroxide)	Iff OL

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ASU F 0090 2013-04	Determination of arsenic by hydride generation atomic absorption spectrometry (HGAAS) after microwave pressure digestion (digestion with 65 % nitric acid and 30 % hydrogen peroxide)	Iff OL
ASU F 0096 2013-04	Determination of calcium, sodium, phosphorus, magnesium, potassium, sulphur, iron, zinc, copper, manganese and cobalt after pressure digestion by ICP-AES	Iff OL
VDLUFA III, 11.6.2 2006	Determination of selenium in animal feedstuffs - Flow injection – hydride technique – AAS method	Iff OL
VDLUFA III, 31.2 2004	Test of silage (grass, maize) by near-infrared spectroscopy in the VDLUFA network. (Deviation: <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
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

1.3.10 Determination of ingredients and degestibility parameters with enzymatic methods in animal feedstuffs *

ASU F 0064 2011-06	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

1.3.11 Microscopic and macroscopic methods

VO (EG) No. 152/2009 Annex VI	Analysis for the determination of the constituents of animal origin in the official test of animal feedstuffs	Iff OL
VO (EG) No. 152/2009 Annex VI	Analysis for the determination of the constituents of animal origin in the official testing of animal feedstuffs (Deviation: <i>alternatively sample preparation without sedimentation step or with chloral hydrate</i>)	Iff OL

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ASU F 0073 2011-06	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	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	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	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
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
1.3.12 Other tests		
VO (EG) 152/2009 Annex III, L	Determination of starch content (Remark: content identical with that of VDLUFA III, 7.2.1, 1976 and BVL F 0013(EG):2010-07)	Iff OL
ASU F 0092 2013-04	Determination of fluoride content after hydrochloric acid treatment by ion-sensitive electrode method (ISE)	Iff OL
VDLUFA III, 18.1 1976	Determination of pH	Iff OL
VDLUFA III, 22.4 1988	Refractometric determination of dry substance content in molasses	Iff OL

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VDLUFA VII, 2.2.2.1 1996	Determination fluorine in plant material by the ion-sensitive electrode method (also in mineral animal feedstuffs and pre-mixtures)	Iff OL
VDLUFA VII, 2.2.2.11 2011	Determination of fluorine in plants and animal feedstuffs by the ion-sensitive electrode method	Iff OL
r-biopharm, Art. No. R1401 2012-09	Ridascreen® Zearalenon	Iff OL
r-biopharm, 2018-09 Art.No. R5901 (96 wells) Art. No. R5902 (48 wells)	Ridascreen® Fast DON	Iff OL
LUFA Nord-West AA1/3-155 2008-05	Determination of pH in commercial feedstuff	Iff OL
LUFA Nord-West AA 1/3-185 2015-02	Sensory evaluation of locally produced animal feedstuffs	Iff OL

1.4 Chemical and physico-chemical tests of foodstuffs

1.4.1 Sample preparation

VDLUFA VII, 2.1.3 2011	Microwave pressure degestion	Iff OL
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1.4.2 Determination of ingredients with GC/FID in foodstuffs *

ASU L 01.00-87 2012-01	Determination of milk fat purity in milk and milk products by gas chromatographic analysis of triglycerides (Reference method)	Iff OL
ASU L 13.00-26 2008-06	Animal and vegetable fats and oils – Analysis by gas chromatography of methyl esters	Iff OL
ASU L 13.00-27-2 2012-01	Animal and vegetable fats and oils – Gas chromatography of fatty acid methyl esters – Part 2: Preparation of methyl esters of fatty acids	Iff OL

1.4.3 Determination of pesticides/-residues with GC/MS in foodstuffs *

ASU L 00.00-115 2007-12	Multi-method for the determination of pesticide residues in foodstuffs of vegetable origin by GC-MS(/MS) or LC-MS/MS following acetonitrile extraction/apportionment and purification with dispersive SPE (QuEChERS1) (Deviation: <i>matrix group 1 fruit and vegetables, 2 sour fruit, 5 cereals and cereal products, legumes (dried) 8 milk and milk products, 12 feedstuffs</i>)	Iff OL
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1.4.4 Determination of pesticides/-residues with LC/MS in foodstuffs **

ASU L 00.00-115 2007-12	Multi-method for the determination of pesticide residues in foodstuffs of vegetable origin by GC-MS(/MS) or LC-MS/MS following acetonitrile extraction/apportionment and purification with dispersive SPE (QuEChERS1) (Deviation: <i>matrix group 1 fruit and vegetables, 2 sour fruit, 5 cereals and cereal products, legumes (dried) 8 milk and milk products, 12 feedstuffs</i>)	Iff OL
LUFA Nord-West AA1/3A-054 2016-09	Determination of residues from highly polar pesticides in foodstuffs of vegetable origin of <i>matrix group 1 fruit and vegetables, 2 sour fruit, 5 cereals and cereal products, legumes (dried)</i>	Iff OL

1.4.5 HPLC methods

ASU L 26.00-1 2001-07	Test of foodstuffs – Determination of nitrate content in vegetable products by the HPLC method	Iff OL
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1.4.6 Ion chromatographic methods

LUFA Nord-West AA1/3A-046 2013-11	Ion chromatographic determination of organic acids in silage and distillates	Iff OL
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1.4.7 Spectroscopic methods (AAS, ICP, UV, VIS, flame photometer, IR)

DIN 38405-35 (D 35) 2004-09	Determination of arsenic – Method by graphite furnace atomic absorption spectrometry (GF-AAS) (Deviation: <i>sample matrix and sample preparation, here: foodstuffs</i>)	Iff OL
DIN 38406-6 (E 6) 1998-07	Determination of lead by atomic absorption spectrometry (AAS) (Deviation: <i>sample matrix</i>)	Iff OL
DIN EN ISO 11885 (E 22) 2009-09	Water quality – Determination of selected elements by inductively coupled plasma atomic emission spectroscopy (Deviation: <i>sample matrix and sample preparation</i>)	Iff OL
DIN EN ISO 5961 1995-05	Determination of cadmium by atomic absorption spectrometry (Deviation: <i>sample matrix</i>)	Iff OL
DIN EN ISO 17294-2 2005-02	Water quality – Application of inductively coupled plasma mass spectrometry (ICP-MS) – Part 2: Determination of 62 elements (Deviation: <i>sample matrix and sample preparation, trace elements in foodstuffs</i>)	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 (Deviation: <i>without mercury</i>)	Iff OL
DIN 38406-29 1999-05	Determination of 61 elements by inductively coupled plasma mass spectrometry (ICP-MS) (Deviation: <i>sample matrix and sample preparation, trace elements in foodstuffs</i>) (<i>standard withdrawn</i>)	Iff OL
ASU L 00.00-49-1 1999-11	Low-fat foodstuffs – Determination of dithiocarbamate and thiouramdisulphide residues – Part 1: Spectrophotometric 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 foodstuffs)	Iff OL

1.4.8 Titrimetric methods

ASU L 00.00-46-1 1999-11	Test of foodstuffs – Determination of sulfite in foodstuff – Part 1: Optimized Monier-Williams method (here: <i>in grapes, grape juice and wine</i>)	Iff OL
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1.5 Microbiological and molecular-biological methods for the test of animal feedstuffs, harvested crops, plants and foodstuffs, fertilisers, substrates, secondary raw material fertilisers and environmental samples

1.5.1 Microbiological and molecular-biological test of Untersuchung bacteria, yeasts and molds with cultural methods in animal feedstuffs, harvested crops, plants and foodstuffs and environmental samples **

DIN ISO 21528-2 2009-12	Microbiology of food and animal feeding stuffs – Horizontal methods for the detection and enumeration of Enterobacteriaceae – Part 2: Colony-count method (ISO 21528-2:2004)	Iff OL
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ASU F 0069 2011-06	General guidelines for the determination of germ content in animal feedstuffs by solid nutritive substances (abbreviated version of VDLUFA method 28.1.1 "General guidelines for the determination of germ content in animal feedstuffs by solid nutritive substances")	Iff OL
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ASU F 0070 2011-06	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
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ASU F 0071 2011-06	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
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ASU F 0072 2011-06	General guidelines for the microbiological quality evaluation of animal feedstuffs (abbreviated version of VDLUFA method 28.1.4 "General guidelines for microbiological quality evaluation")	Iff OL
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ASU L 00.00-20 2008-12	Microbiology of food – Horizontal method for the detection of Salmonella spp.	Iff OL
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ASU L 00.00-33 2006-09	Microbiology of food and animal feeding stuffs – Horizontal method for the enumeration of presumptive Bacillus cereus – Colony-count technique at 30 C	Iff OL
ASU L 00.00-55 2004-12	Microbiology of food and animal feeding stuffs – Horizontal method for the enumeration of coagulase-positive staphylococci (Staphylococcus aureus and other species) – Part 1: Technique using Baird-Parker agar medium	Iff OL
ASU L 00.00-57 2006-12	Microbiology of food and animal feeding stuffs – Horizontal method for the enumeration of Clostridium perfringens – Colony-count technique	Iff OL
ASU L 00.00-88 2004-07	Microbiology of food and animal feeding stuffs – Horizontal method for the enumeration of microorganisms – Colony-count technique at 30 °C	Iff OL
ASU L 01.00-37 1991-12	Enumeration of yeast and mould in milk and milk products – Reference method	Iff OL
Guidelines for controlling laying hen flocks for S. enteritidis, S. thyphimurium In accordance with	Detection of Salmonella typhimurium and Salmonella enteritidis	Iff OL
ASU L 00.00-20 2008-12	Microbiology of food – Horizontal method for the detection of Salmonella spp.	Iff OL
LUFA Nord-West AA 1/3-515 2014-01	Qualitative and quantitative proof of clostridia	Iff OL
LUFA Nord-West AA 1/3-523 2011-09	Inhibitor test; EEC four-plate test	Iff OL
LUFA Nord-West 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 1/3-569 2017-06	Enterobacteriaceae testing of hygienic status samples (environmental samples, samples from the surroundings)	Iff OL
LUFA Nord-West 1/3-570 2017-06	Test of hygienic status controls for the detection of salmonella (environmental samples, samples from the surroundings)	Iff OL

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

DIN ISO 21528-2 2009-12	Microbiology of food and animal feeding stuffs – Horizontal methods for the detection and enumeration of Enterobacteriaceae – Part 2: Colony-count method (ISO 21528-2:2004)	Iff OL
DIN 38414-13 1992-03	German standard methods for the examination of water, waste water and sludge; sludge and sediments (group S); detection of salmonellae in disinfected sewage sludge (S 13)	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 2008-12	Microbiology of food and animal feeding stuffs – Horizontal method for the detection of Salmonella spp	Iff OL
ASU L 00.00-57 2006-12	Microbiology of food and animal feeding stuffs – Horizontal method for the enumeration of Clostridium perfringens – Colony-count technique	Iff OL
ASU L 01.00-37 1991-12	Enumeration of yeast and mould in milk and milk products – Reference method	Iff OL
Guidelines for controlling laying hen flocks for S. enteritidis, S. thyphimurium In accordance with	Detection of Salmonella typhimurium and Salmonella enteritidis	Iff OL
ASU L 00.00-20 2008-12	Microbiology of food – Horizontal method for the detection of Salmonella spp.	

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<p>Memorandum Extended final production testing for microbiological parameters HBPS 1998-11</p>	<p>Test of epidemiological harmlessness</p>	<p>Iff OL</p>
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<p>LUFA Nord-West AA 1/3-515 2014-01</p>	<p>Qualitative and quantitative proof of clostridia</p>	<p>Iff OL</p>
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1.5.3 Microbiological tests of water

<p>DIN EN ISO 6222 (K 5) 1999-07</p>	<p>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)</p>	<p>Iff OL</p>
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<p>DIN EN ISO 7899-2 (K 15) 2000-11</p>	<p>Water quality – Detection and enumeration of intestinal enterococci – Part 2: Membrane filtration method</p>	<p>Iff OL</p>
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<p>ISO 11731 1998-05</p>	<p>Water quality – Detection and enumeration of Legionella</p>	<p>Iff OL</p>
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<p>DIN EN ISO 9308-1 2012-12</p>	<p>Water quality – Enumeration of Escherichia coli and coliform bacteria – Part 1: Membrane filtration method for waters with low bacterial background flora</p>	<p>Iff OL</p>
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<p>DIN EN ISO 9308-3 1999-07</p>	<p>Water quality – Detection and enumeration of Escherichia coli and coliform bacteria in surface and waste water – Part 3: Miniaturized method (most probable number) by inoculation in liquid medium</p>	<p>Iff OL</p>
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<p>DIN EN ISO 11731-2 2008-06</p>	<p>Water quality – Detection and enumeration of Legionella – Part 2: Direct membrane filtration method for waters with low bacterial counts</p>	<p>Iff OL</p>
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<p>DIN EN ISO 16266 2008-05</p>	<p>Water quality – Detection and enumeration of Pseudomonas aeruginosa – Method by membrane filtration</p>	<p>Iff OL</p>
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<p>Drinking Water Ordinance Annex 5 2011-11</p>	<p>Detection of Clostridium perfringens by membrane filtration (mCP method) at 44 ± 1 °C over 21 ± 3 hours</p>	<p>Iff OL</p>
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DIN EN ISO 9308-2 2014-06	Enumeration of Escherichia coli and coliform bacteria – Part 2: Most probable number method	Iff OL
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1.5.4 Molecular-biological methods for the test of animal feedstuffs, foodstuffs, harvested crops and plants and derived products

1.5.4.1 Sample preparation for Detection of GMO and derived products and detection of species with PCR technique in animal feedstuffs, harvested crops and plants and foodstuffs *

VO (EG) 152/2009 Annex VI; point 2.2.4 EURL-AP, 2014-06	DNA extraction using „Wizard® Magnetic DNA purification system for Food“ kit	Iff OL
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BIOTECON foodproof® GMO Sample Preparation Kit 2015-06	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 2008-06	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 May 2005)	Iff OL
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1.5.4.2 Detection of GMO and derived products and detection of species with PCR technique in animal feedstuffs and foodstuffs *

VDLUFA III, 29.1 2012	Molecular-biological detection of animal parts (PCR method)	Iff OL
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ASU L 00.00-118 2008-06	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 September 2005) (also for detection of species, e.g. maize, soya, rapeseed and potato)	Iff OL
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ASU L 00.00-31 2001-07	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
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ASU L 00.00-125 2008-12	Detection of the CTP2-CP4-EPSPS genetic sequence for the screening of components from genetically modified organisms in foodstuffs – Construct-specific method	Iff OL
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1.5.4.3 Detection of GMO and derived products in Feedstuffs with Screening-methods **

VO (EG) 152/2009 Annex VI; point 2.2.5 EURL-AP, 2014-06	Detection of ruminant DNA in feed using real-time PCR	Iff OL
VO (EG) 152/2009 Anhang VI; 2.2.5 EURL-AP, 201x-xx, Draft	Detection of pig DNA in feed using real-time PCR (This document is not release from EURL-AP; current status implementation phase)	Iff OL
BAX® Part D 14368501 2010	BAX® System PCR Assay for Salmonella	Iff OL
BIOTECON foodproof® GMO Screening Kit 2010-06	PCR kit for the qualitative detection of genetically modified plants (35S, NOS, bar and FMV) with the use of real-time PCR instruments	Iff OL
ASU L 00.00-105 2006-12	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 November 2005)	Iff OL
LUFA Nord-West AA 1/3-544 2010-04	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 AA1/3-547 2014-11	Real-time PCR for the quantitative determination of genetically modified GA 21 maize	Iff OL
LUFA Nord-West AA1/3-548 2013-06	Quantitative detection of round-up-ready soybeans	Iff OL
LUFA Nord-West AA1/3-549 2009-10	Real-time PCR for the quantitative determination lines with the 35S/pat genetic construct	Iff OL

1.5.4.4 Proof of species with Multiplex-Real-Time-PCR in Feedstuffs and Foodstuffs *

ASU L 08.00-61 2016-03	Foodstuffs – Methods of analysis – Proof of species beef, pork ,turkey and chicken in charcuterie by multiplex-real-time PCR (Deviation: <i>qualitative Determination in Feedstuff</i>)	Iff OL
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Annex to the accreditation certificate D-PL-14165-01-00

ASU L 08.00-62 2016-03	Foodstuffs - Methods of analysis - Proof of species beef, pork, sheep and equidae in charcuterie by multiplex-real-time PCR (Deviation: <i>qualitative Determination in Feedstuff</i>)	IfF OL
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1.6 Tests of harmful airborne substances

1.6.1 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) (also thallium with ICP-MS)	IfB HM IfD HM (only analysis)
LUFÄ Nord-West AA1/1-956 2014-12	Leak locating at biogas plants by infrared camera	IfB OL

1.6.2 Fields of activity regulated by immission control law

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			
SO ₂ continuous	Gaseous emission measurement; determination of sulphur dioxide concentration; infrared absorption units	VDI 2462 sheet 4 1975-08 Retracted norm	<input checked="" type="checkbox"/>	AA 1/1-948 AA1/1-904	Site 1
SO ₂	Stationary source emissions – Determination of mass concentration of sulphur dioxide – Reference method	DIN EN 14791 2014-12 (E)	<input checked="" type="checkbox"/>	AA1/1-946 AA4/1B-028	Sampling: Site 1 Analysis: Site 4
NO _x	Stationary source emissions – Determination of mass concentration of nitrogen oxides – NO _x -Reference method: Chemiluminescence	DIN EN 14792 2014-12 (E)	<input checked="" type="checkbox"/>	AA1/1-948	Site 1
NO _x	Stationary source emissions – Reference method for determination of the sum of nitrogen monoxide and nitrogen dioxide – Ion chromatography method	VDI 2456 2004-11	<input checked="" type="checkbox"/>	AA1/1-906 AA4/1B-028	Sampling: Site 1 Analysis: Site 4
HCl	Stationary source emissions – Determination of mass concentration of gaseous chlorides expressed as HCl – Standard reference method	DIN EN 1911 2010-12	<input checked="" type="checkbox"/>	AA1/1-947 AA4/1B-028	Sampling: Site 1 Analysis: Site 4
CO	Stationary source emissions – Determination of the mass concentration of carbon monoxide (CO) – Reference method: Non-dispersive infrared spectrometry	DIN EN 15058 2014-12 (E)	<input checked="" type="checkbox"/>	AA1/1-948	Site 1
NH ₃	Gaseous emission measurement; determination of basic nitrogen compounds seizable by absorption in sulphuric acid	VDI 3496-1 1982-04	<input checked="" type="checkbox"/>	AA1/1-929	Sampling: Site 1 Analysis: Site 1

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			
CO, NO, NO ₂ , N ₂ O ₂ , SO ₂ , HCL, NH ₃ , CH ₄ continuous	Messen von Gasen mittels FT- IR-Spektroskopie Measure of gases by FTIR- spectrometry	VDI 2460 Blatt 1 1996-07 und DIN EN 15483 2009-02 und KTBL-Schrift 401-11	<input checked="" type="checkbox"/>	AA1/1-904	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	<input checked="" type="checkbox"/>	AA1/1-949	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	<input checked="" type="checkbox"/>	AA1/1-950 AA4/1C-063	Sampling: site 1 Analysis: Site 4
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	<input checked="" type="checkbox"/>	AA1/1-950 AA4/1C-063	Sampling: site 1 Analysis: Site 4
PAH	Stationary source emissions – Determination of polycyclic aromatic hydrocarbon (PAH) – GC/MC method	VDI 3874 2006-12	<input checked="" type="checkbox"/>	AA1/1-953 AA4/1C-062	Sampling: site 1 Analysis: Site 4

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			
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	<input checked="" type="checkbox"/>	AA1/1-950 AA4/1C-063	Sampling: site 1 Analysis: Site 4
Formaldehyde	Measurement of gaseous emissions – Measurement of formaldehyde in exhaust gas of combustion engines FTIR method	VDI 3862 sheet 8 2015-06	<input checked="" type="checkbox"/>	AA1/1-904	Site 1
	Gaseous emission measurement – Measurement of formaldehyde by AHMT method	VDI 3862-4 2001-05	<input checked="" type="checkbox"/>	AA1/1-955	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	<input checked="" type="checkbox"/>	AA1/1-922	Site1
Dust, plan filter head unit	Stationary source emissions – Determination of low mass concentration of dust – Part 1: Manual gravimetric method	DIN EN 13284-1 2015-12 (E)	<input checked="" type="checkbox"/>	AA1/1-922	Site 1
PAH	Stationary source emissions – Determination of polycyclic aromatic hydrocarbon (PAH) – GC/MC method	VDI 3874 2006-12	<input checked="" type="checkbox"/>	AA1/1-953 AA4/1C-062	Sampling: site 1 Analysis: Site 4 also through HPLC

Testing area/ Identification	Group I.1: Determination of emissions				
Component / Source Type	Standard / Directive / Technical Rule		SRM	QM document	Remarks Site
Task area P: particulate and of particles adsorbed chemical compounds	Title	Designation			
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	<input checked="" type="checkbox"/>	AA1/1-926 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	<input checked="" type="checkbox"/>	AA1/1-926 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	<input checked="" type="checkbox"/>	AA1/1-926 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	<input checked="" type="checkbox"/>	AA1/1-926 AA4/2A-050	Sampling: site 1 Analysis: Site 4
Quecksilber (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	<input checked="" type="checkbox"/>	AA1/1-926 AA4/2A-051	Sampling: site 1 Analysis: Site 4

Testing area/ Identification	Group I.1: Determination of emissions				
Component / Source Type	Standard / Directive / Technical Rule		SRM	QM document	Remarks Site
Task area O: Odours	Title	Designation			
Odours	Air quality - Determination of odour concentration by dynamic olfactometry	DIN EN 13725 2003-07 (corrigendum 2006-04)	<input checked="" type="checkbox"/>	AA 1/1-901	Site 1
Odours / sampling	Olfactometry – Static sampling - Active plane source - Passive plane source - Point source	VDI 3880 20011-10	<input checked="" type="checkbox"/>	AA 1/1-933 AA 1/1-934 AA 1/1-935 AA 1/1-936	Site 1

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 - Measurement of the impact frequency of recognizable odours - Grid measurement	DIN EN 16841-1 2017-03	<input checked="" type="checkbox"/>	AA 1/1-903	Site 1
Odours / plume measurements	Measurement of odour impact by field inspection - Measurement of the impact frequency of recognizable odours - Plume measurement	DIN EN 16841-2 2017-03	<input checked="" type="checkbox"/>	AA 1/1-903	Site 1

1.7 List of test methods for the technical module WASTE
Version: LAGA of August 2012

Testing area 1: Sewage sludge

Not documented

Testing area 2: Soils

Not documented

Testing area 3: Biowaste

	Subareas/ Parameter	Basis/ Procedure	
		Section 4 BioAbfV	
3.1	Sampling and sample preparation	Section 4, Paragraph 9 BioAbfV, Annex 3 No. 1.1/1.2 BioAbfV	<input type="checkbox"/>
3.2	Heavy metals	Section 4, Paragraph 5 BioAbfV	
	Aqua regia digestion	DIN EN 13650 (01.02)	<input type="checkbox"/>
		DIN EN 13657 (01.03)	<input type="checkbox"/>
		DIN EN 13346 (04.01)	<input type="checkbox"/>
	Lead (from aqua regia digestion)	DIN 38406-E 6 (07.98)	<input type="checkbox"/>
		DIN ISO 11047 (05.03)	<input type="checkbox"/>
		DIN EN ISO 11885 (04.98)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (09.09)	<input type="checkbox"/>
	Cadmium (from aqua regia digestion)	DIN EN ISO 5961 (E 19) (05.95)	<input type="checkbox"/>
		DIN ISO 11047 (05.03)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (04.98)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (09.09)	<input type="checkbox"/>
	Chromium (from aqua regia digestion)	DIN EN 1233 (E 10) (08.96)	<input type="checkbox"/>
		DIN ISO 11047 (05.03)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (04.98)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (09.09)	<input type="checkbox"/>
	Copper (from aqua regia digestion)	DIN 38406-E 7 (09.91)	<input type="checkbox"/>
		DIN ISO 11047 (05.03)	<input type="checkbox"/>
		DIN EN ISO 11885 (04.98)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/>

	Subareas/ Parameter	Basis/ Procedure	
		DIN EN ISO 11885 (E 22) (09.09)	<input type="checkbox"/>
	Nickel (from aqua regia digestion)	DIN 38406-E 11 (09.91)	<input type="checkbox"/>
		DIN ISO 11047 (05.03)	<input type="checkbox"/>
		DIN EN ISO 11885 (04.98)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (09.09)	<input type="checkbox"/>
	Mercury (from aqua regia digestion)	DIN EN 1483 (E 12) (07.07)	<input type="checkbox"/>
		DIN EN 12338 (E 31) (10.98)	<input type="checkbox"/>
	Zinc (from aqua regia digestion)	DIN 38406-E 8 (10.04)	<input type="checkbox"/>
		DIN ISO 11047 (05.03)	<input type="checkbox"/>
		DIN EN ISO 11885 (04.98)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (09.09)	<input type="checkbox"/>
3.3	Physical parameters, foreign matter	Section 4, Paragraph 5 BioAbfV	
	Dry residue	DIN EN 13040 (02.07)	<input type="checkbox"/>
		DIN EN 13040 (01.08)	<input type="checkbox"/>
	pH	DIN EN 13037 (02.00)	<input type="checkbox"/>
		DIN EN 13037 (01.12)	<input type="checkbox"/>
	Salinity	DIN EN 13038 (02.00)	<input type="checkbox"/>
		DIN EN 13038 (01.12)	<input type="checkbox"/>
	Organic substance as loss on ignition (from dry residue)	DIN EN 13039 (02.00)	<input type="checkbox"/>
	Fruit stones and foreign matter	Annex 3 BioAbfV, No. 1.3.3 Methods Manual for Compost of the Bundesgütegemeinschaft Kompost e.V.	<input type="checkbox"/>
3.4	Process validation¹	Section 3, Paragraph 4 BioAbfV	
	- Determination of minimum retention time		
	Tracer tests with spores of Bacillus globigii	Annex 2 No. 4.1.1 BioAbfV	<input type="checkbox"/>
	Tracer tests with lithium	Annex 2 No. 4.1.2 BioAbfV	<input type="checkbox"/>
	- Epidemiological hygiene Salmonella senftenberg W 775	Annex 2 No. 4.2.1 BioAbfV	<input type="checkbox"/>

¹ Deviation from Part II No. 4.1 of the specialised module waste: The proof of competence for the subareas 3.4 and 3.5 can be shown for each separate parameter.

	Subareas/ Parameter	Basis/ Procedure	
	(H2S-neg.)		
	- Phytohygiene Plasmiodiophora brassicae (clubroot)	Annex 2 No. 4.3.1 BioAbfV	<input type="checkbox"/>
	Tomato seeds		<input type="checkbox"/>
	Tobacco mosaic virus (TMV)		<input type="checkbox"/>
3.5	Testing of hygienic biowaste³	Section 3, Paragraph 4 BioAbfV	
	- Epidemiological hygiene Salmonella	Annex 2 No. 4.2.2 BioAbfV	<input checked="" type="checkbox"/>
	- Phytohygiene Germinable seed material and plants capable of producing shoots	Annex 2 No. 4.3.2 BioAbfV	<input checked="" type="checkbox"/>

Testing area 4: Used oil, insulating fluid

Not documented

Testing area 5: Waste for deposition

Not documented

Testing area 6: Wood waste

Not documented

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 2016-10	Gamma spectrometric determination of radionuclides (guidelines for measurement of the federal government)	Iff OL
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1.9 Determination of livestock water and irrigation water

DIN EN ISO 8467 1995-05	Water quality Determination of permanganate index	Iff OL
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DIN EN ISO 10523 2012-04	Water quality Determination of pH	Iff OL
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DIN EN ISO 11885 2009-09	Determination of selected elements by inductively coupled plasma optical emission spectrometry (ICP OES) (Deviation: <i>divergent sample preparation for coloured sample and sample with particle</i>)	IfF OL
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**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 Test methods for the detection and biochemical differentiation of bacteria in Milk, feces
incl. faecal swabs, tissue samples incl. punctates, swabs and lavage fluids ****

DIN EN ISO 6579-1 2017-07	Microbiology of food and animal feeding stuffs – Horizontal method for the detection of <i>Salmonella spp</i> (ISO 6579:2017-07+Amd 1:2017-07) (1)	IfT OL
Official Methods Collection of the FLI 2016-12	Paratuberculosis (official methods collection of the FLI, Chapter 38: Paratuberculosis) (Remark: here faecal sample culture)	IfT OL
api 10 S version 08052G-DE- 2006-02	system for Enterobacteriaceae and other non –fastidious gram-negative rods	IfT OL
api NH version 074870-de- 2016-03	system for the identification of Naisseria and haemophilus	IfT OL
api rapid 32 A version 07881H-DE-2006-05	identification system for anaerobes	IfT OL
api rapid ID 32 Strep version 079241I-de-2009-03	system for the identification of Streptococcaceae and relative organism in 4h	IfT OL
api ID 32 E version 07991H- de-2010-01	system for the identification of von Enterobacteriaceae and other non-fastidious gram-negative rods	IfT OL
api ID 32 Staph version 08020E-DE-2006-04	Identification system for staphylococci	IfT OL
api rapid ID 32 E version 08019F-DE-2006-03	system for the identification of Enterobacteriaceae in 4h	IfT OL

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LUFA Nord-West 2/4-101 2017-04	Detection of pathogenic agents from swabs, secretions and animal organ parts	Ift OL
Official Methods Collection of the FLI 2014-10	Culture detection of <i>Taylorella equigenitalis</i> (CEM) in conformity with the Canadian tests regulations	Ift OL
LUFA Nord-West 2/4-104 2017-05	Culture detection of <i>Actinobaculum suis</i>	Ift OL
LUFA Nord-West 2/4-105 2016-04	Culture detection of <i>Actinobacillus pleuropneumoniae</i> and <i>Haemophilus parasuis</i>	Ift OL
LUFA Nord-West 2/4-106 2017-10	Creation of resistance tests with the microdilution method	Ift OL
LUFA Nord-West 2/4-109 2017-07	Culture detection of anaerobic germs from organs and faecal/swab samples from animals	Ift OL
LUFA Nord-West 2/4-111 2015-01	Gram stain	Ift OL
LUFA Nord-West 2/4-115 2017-04	Detection of <i>R. A. (Rhinitis atrophicans)</i> in nasal/throat swabs from swine	Ift OL
LUFA Nord-West 2/4-119 2017-11	Differentiation of <i>Staphylococcus hyicus</i>	Ift OL
LUFA Nord-West 2/4-201 2017-05	Bacteriological and mycological test of milk samples	Ift OL
LUFA Nord-West 2/4-219 2017-01	Salmonella differentiation (according to the White-Kaufmann Le Minor scheme)	Ift OL
LUFA Nord-West 2/4-223 2017-01	Bacteriological test of faecal samples	Ift OL

2.1.2 Test methods in culture tests for germ differentiation in hygienic status controls including biochemical differentiation **

DIN EN ISO 6579-01 2017-07	Microbiology of food and animal feeding stuffs – Horizontal method for the detection of <i>Salmonella spp</i> (ISO 6579:2017-07+Amd 1:2017-07) (1)	Ift OL
LUFA Nord-West 2/4-111 2015-01	Gram stain	Ift OL

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LUFA Nord West 2/4-203 2017-05	Bacteriological test of milk machine swabs	Ift OL
api 10 S version 08052G-DE- 2006-02	system for Enterobacteriaceae and other non –fastidious gram-negative rods	Ift OL
api NH version 074870-de- 2016-03	system for the identification of Naisseria and haemophilus	Ift OL
api rapid 32 A version 07881H-DE-2006-05	identification system for anaerobes	Ift OL
api rapid ID 32 Strep version 079241I-de-2009-03	system for the identification of Streptococcaceae and relative organism in 4h	Ift OL
api ID 32 E version 07991H- de-2010-01	system for the identification of von Enterobacteriaceae and other non-fastidious gram-negative rods	Ift OL
api ID 32 Staph version 08020E-DE-2006-04	Identification system for staphylococci	Ift OL
api rapid ID 32 E version 08019F-DE-2006-03	system for the identification of Enterobacteriaceae in 4h	Ift OL
LUFA Nord-West 2/4-219 2017-01	Salmonella differentiation (according to the White-Kaufmann Le Minor scheme)	Ift OL

2.1.3 Agglutination test methods for proteins in blood *

Official Methods Collection of the FLI 2014-06	Rose Bengal test	Ift OL
Official Methods Collection of the FLI 2014-06	Brucellosis - SLA micromethod	Ift OL

2.1.4 Complement fixation reaction test method for the detection of proteins in blood *

Official Methods Collection of the FLI 2014-06	Complement fixation reaction for the test of <i>Brucella abortus</i> antibodies	Ift OL
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2.1.5 ELISA (ligand assay) for the detection of proteins in blood and milk *

Idexx licence no. BGVV-B 305 Version 06-44100-02	Idexx Swine Salmonella Elisa testkit (Idexx Swine salmonella)	Ift OL
ID Vet licence no. FLI-B 443 PARAS ver 0616DE	ID Screen Paratuberculosis indirect	Ift OL
Idexx licence no. BGVV-B 263 06-07130-26	Idexx <i>Mycobacterium paratuberculosis</i> antibody testkit (Idexx Paratuberculosis Screening)	Ift OL
ID Vet APPS ver 0414DE	ID Screen APP Screening indirect	Ift OL
ID Vet version APPS 1-9-11 ver 0214 DE	ID Screen APP 1-9-11 indirect	Ift OL
ID Vet APPS 2 ver 0814 DE	ID Screen APP 2 indirect	Ift OL
ID Vet version APPS 3-6-8 ver 1114DE	ID Screen APP 3-6-8 indirect	Ift OL
ID Vet version APPS 4-7 ver 0414 DE	ID Screen APP 4-7 indirect	Ift OL
ID Vet version APPS 5 ver 0414 DE	ID Screen APP 5 indirect	Ift OL
ID Vet APPS 10 ver 0314 DE	ID Screen APP 10 indirect	Ift OL
ID Vet APPS 12 ver 0814 DE	ID Screen APP 12 indirect	Ift OL
Idexx version 06-04174-05	Idexx <i>Mycoplasma hyopneumoniae</i> antibody testkit (Idexx M.hyo.)	Ift OL
Idexx Zul.-Nr.BGAF-B 023 version 06-40709-07	Idexx Brucellosis Milk X2 Elisa testkit	Ift OL

2.1.6 Amplification methods for the detection of nucleic acid in faecal samples

2.1.6.1 Real-time PCR **

LUFA Nord-West 2/4-534 2016-01	Chlamydien – PCR	Ift OL
life technologies 03-2012	VetMAX MAP Real-Time PCR Screening Kit	Ift OL
LUFA Nord-West 2/4-531 2012-08	Triplex-PCR	Ift OL

2.1.6.2 PCR **

LUFA Nord-West 2/4-531 2012-08	Triplex-PCR	Ift OL
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2.1.7 Amplification methods for the detection of nucleic acid in tissue samples, body- and irrigation fluids and cultures

2.1.7.1 Real-time PCR **

LUFA Nord-West 2/4-534 2016-01	Chlamydien – PCR	Ift OL
LUFA Nord-West 2/4-535 2017-12	<i>Mycoplasma bovis</i> – PCR	Ift OL
LUFA Nord-West 2/4-546 2016-02	<i>Taylorella equigenitalis</i>	Ift OL
Life technologies 03-2012	VetMAX MAP Real-Time PCR Screening Kit	Ift OL

2.1.7.2 PCR **

LUFA Nord-West 2/4-528 2016-02	<i>Actinobacillus pleuropneumoniae</i> – PCR	Ift OL
LUFA Nord-West 2/4-532 2015-06	Pasteurellen – PCR	Ift OL
LUFA Nord-West 2/4-537 2016-06	Leptospiren – PCR	Ift OL

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LUFA Nord-West 2/4-541 2016-01	<i>Haemophilus parasuis</i> – PCR	Ift OL
LUFA Nord-West 2/4-514 2012-12	Multiplex PCR for the detection of genome fragments of porcine respiratory pathogens	Ift OL
LUFA Nord-West 2/4-552 2013-11	Differentiation of pathogenic <i>E.coli</i> by Multiplex – PCR	Ift OL

2.2 Virology

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

IDEXX licence no. BFAV-KSP/D11a/98 version 06-43230-08	IDEXX Classical Swine Fever Virus (CSFV) antibody test kit (IDEXX CSFV Ab)	Ift OL
Idexx licence no.BGVV-B 231 version 06-41299-03	Infectious Bovine Rhinotracheitis Virus (BHV1) gB antibody test kit IDEXX IBR gB X3	Ift OL
IDEXX licence no.BGVV-B 174 version 06-01942-11	IDEXX Bovine Rhinotracheitis Virus (BHV1) gE antibody test kit (IDEXX IBR gE)	Ift OL
Qiagen licence no. FLI-B 491 Version09-2015	Qiagen CATTLETYPE® BHV1 gB Ab	Ift OL
IDEXX licence no. BGVV-B 230 version 06-43860-13	IDEXX Bovine Viral Diarrhoea Virus (BVDV) antigen test kit/serum Plus (IDEXX BVDV Ag/serum Plus)	Ift OL
IDEXX licence no. BGVV-B 233 version 06-44000-07	IDEXX Bovine Viral Diarrhoea Virus (BVDV) antibody test kit (IDEXX BVDV Total Ab)	Ift OL
Idexx licence no. BGVV-B 241 P00302-10	Idexx Maedi-Visna/CAEV antibody testkit (Idexx MVV/CAEV p28 Ab Verification)	Ift OL
ID Vet licence no. FLI B 548 VISNAS ver 0514 DE	ID Screen MVV/CAEV indirect Screening Test	Ift OL
Idexx version 06-40959-05	IDEXX porcines reproductive and respiratory syndrome virus antibody testkit (Idexx PRRS X3)	Ift OL

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ID VET FLUAc A ver 0509 DE	ID Screen® Influenza A antibody-competition	Ift OL
ID VET licence no. FLI-B 439 BTC ver 0414 DE	ID Screen® Bluetongue Competition	Ift OL
IDVET licence no. FLI-B 526 version AujeszkyGB ver 0215 DE	ID Screen® Aujeszky gB Competition	Ift OL
IDVET licence no. FLI-B 591 SBVB ver 1114 DE	ID Screen®Schmallenberg Virus Indirect	Ift OL
IDEXX licence no. BFAV-B 385 version 06-40679-02	IDEXX Infectious Bovine Rhinotracheitis (BHV1) Antibody test kit for Tank Milk (IDEXX BHV-1 Bulk Milk)	Ift OL
SYNBIOTICS licence no. BGVV B 280 LBLV2T.ND version 15 – 04/03/2015	LACTELISA® BLV Ab Bi Indirect Tank 150 (ALBLV2T)	Ift OL
Ingenasa Ingezim Circovirus IgG/IgM version 04-02-08	Ingezim Circovirus IgG/IgM	Ift OL

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

BIO-X version 03/06/16	Multiscreen Antigen Elisa	Ift OL
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2.2.3 Amplification methods for the detection of nucleic acid in blood

2.2.3.1 Real-time PCR **

Qiagen FLI-B 451 version 2014-11	Qiagen Virotype BVDV RT-PCR Kit	Ift OL
Qiagen FLI B 517 version 2014-11	Qiagen Virotype CSFV RT-PCR Kit	Ift OL
Qiagen FLI B 539 version 2013-10	Qiagen Virotype BTV pan/8 RT-PCR Kit	Ift OL

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LUFA Nord-West 2/4-518 2016-02	Typing of bluetongue virus genomes by Realtime PCR (RT-PCR)	Ift OL
Qiagen version 2015-02	Qiagen Virotype PRRSV RT-PCR Kit	Ift OL
Qiagen FLI-B 585 version 2013-10	Qiagen Virotype SBV RT-PCR Kit	Ift OL
LUFA Nord-West 2/4-521 2017-06	PCV-2-PCR	Ift OL
Qiagen FLI 670 version 2015-08	Qiagen Virotype ASFV PCR-Kit	Ift OL
LUFA Nord-West 2/4-550 2017-04	BVD-Virus-2-Genom	Ift OL

2.2.3.2 PCR **

LUFA Nord-West 2/4-530 2015-06	PPV – PCR	Ift OL
LUFA Nord-West 2/4-514 2012-12	Multiplex PCR for the detection of genome fragments of porcine respiratory pathogens	Ift OL

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

2.2.4.1 Real-time PCR **

Qiagen FLI-B 451 version 2014-11	Qiagen Virotype BVDV RT-PCR Kit	Ift OL
Qiagen FLI B 517 version 2014-11	Qiagen Virotype CSFV RT-PCR Kit	Ift OL
Qiagen FLI B 539 version 2013-10	Qiagen Virotype BTV pan/8 RT-PCR Kit	Ift OL
LUFA Nord-West 2/4-518 2016-02	Typing of bluetongue virus genomes by Realtime PCR (RT-PCR)	Ift OL
Qiagen version 2015-02	Qiagen Virotype PRRSV RT-PCR Kit	Ift OL

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Qiagen FLI-B 585 version 2013-10	Qiagen Virotype SBV RT-PCR Kit	Ift OL
LUFA Nord-West 2/4-521 2017-06	PCV-2-PCR	Ift OL
LUFA Nord-West 2/4-527 2016-11	Influenza-PCR	Ift OL
LUFA Nord-West 2/4-529 2015-01	BHV1-PCR	Ift OL
Qiagen FLI 670 version 2015-08	Qiagen Virotype ASFV PCR Kit	Ift OL
LUFA Nord-West 2/4-550 2017-04	BVD-Virus-2-Genom	Ift OL
LUFA Nord-West 2/4-547 2015-02	BRSV-PI3-Multiplex-RT-PCR	Ift OL

2.2.4.2 PCR **

LUFA Nord-West 2/4-530 2015-06	PPV – PCR	Ift OL
LUFA Nord-West 2/4-514 2012-12	Multiplex PCR for the detection of genome fragments of porcine respiratory pathogens	Ift OL

2.2.5 Precipitation method for the detection of proteins in blood *

Pourquier licence no. FLI-B 466 version P00410-02	Enzootic Bovine Leukosis (BLV) Agar-Gel Immunodiffusion Test Pourquier AGID Leukosis	Ift OL
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2.3 Parasitology

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

Afosa version 05/2016	Sarcoptes-ELISA 2001 PIG	Ift OL
Idexx version 06-05120-08	Idexx Fasciola hepatica Antibody Testkit (Idexx Fasciolosis Verification)	Ift OL

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ID Vet version NCS-MS ver 0214 DE	ID Screen Neospora caninum Indirect	Ift OL
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2.3.2 ELISA (ligand assay) for the detection of proteins in milk *

Idexx version 06-05120-08	Idexx Fasciola hepatica Antibody Testkit (Idexx Fasciolosis Verification)	Ift OL
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ID Vet version NCS-MS ver 0214 DE	ID Screen Neospora caninum Indirect	Ift OL
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Svanova version 19-2940-02/06	SVANOVIR® O. ostertagi-Ab <i>Ostertagia ostertagi</i> Antibody Test	Ift OL
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2.3.3 Microscopic methods for the detection of parasites in faecal samples **

LUFA Nord-West 2/4-451 2017-09	Detection of parasite eggs in faecal samples by the sedimentation – flotation method	Ift OL
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LUFA Nord-West 2/4-452 2017-09	Detection of lungworm and gastrointestinal worm larvae in faecal samples by the migration method (Baermann funnel method)	Ift OL
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LUFA Nord-West 2/4-453 2017-09	Microscopic detection of cryptosporidial pathogens in faecal samples	Ift OL
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2.3.4 Microscopic methods for the detection of parasites in tissue samples **

LUFA Nord-West 2/4-454 2017-09	Detection of ectoparasites in skin scrapings	Ift OL
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2.4 Immunology

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

Idexx Bovine Pregnancy Testkit version 06-41169-09	Idexx Bovine Pregnancy testkit (Idexx Bovine Pregnancy)	Ift OL
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Idexx Milk Pregnancy Test version: 06-41209-04	Idexx Milk Pregnancy Test (Idexx Milk Pregnancy)	Ift OL
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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 (ISO 22935-3:2009)	IfL OL
ASU L 04.00-9 1986-05	Determination of the water dispersion in butter; indicator paper method (takeover of the German standard DIN 10311 with the same title, version August 1985)	IfL OL
LUFÄ Nord-West AA 3/5S-101 2017-01	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	Butter – Determination of moisture, non-fat solids and fat contents – 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	Butter – Determination of moisture, non-fat solids and fat contents – Part 2: Determination of non-fat solids content (Reference method) (takeover of the standard DIN EN ISO 3727 – Part 2 with the same title, April 2002)	IfL OL
ASU L 00.00-24/3 2013-01	Butter – Determination of moisture, non-fat solids and fat contents – Part 3: Calculation of fat content (takeover of the standard DIN EN ISO 3727 – Part 3 with the same title, 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	Milk – Determination of fat content – Gravimetric method (Reference method) (takeover of the standard DIN EN ISO 1211 with the same title, version November 2010) (Modification: <i>cooling by fan</i>) (Deviation: <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	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	Determination of the total solids 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 and 4: determination of fat content (Röse-Gottlieb method)	IfL OL
ASU L 02.09-2 1986-05	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	Cheese and processed cheese products – Determination of fat content – Gravimetric method (according to Schmid-Bondzynski-Ratzlaff) (Reference method) (takeover of the standard DIN EN ISO 1735 with the same title, version May 2005) (Deviation: <i>here also caseins and caseinates</i>)	IfL OL
ASU L 03.00-9 2007-04	Cheese and processed cheese – Determination of the total solids content (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	Determination of fat content in dry substance from cheese and processed cheese	IfL OL
ASU L 04.00-8 1992-06	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	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	Determination of water content in meat and meat products, Gravimetric method, Reference method	IfL OL
ASU L 06.00-4 2007-04	Determination of ash in meat and meat products	IfL OL
ASU L 06.00-6 2014-08	Determination of total fat content in meat and meat products, Gravimetric method according to Weibull-Stoldt (Modification: <i>automated procedure with hydrotherm and soxtherm</i>)	IfL OL
IDF 9C 1987-11	Determination of fat content – 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 4a-D 1973	Determination of ash in cocoa and chocolate products	IfL OL
IOCCC sheet 6a-D 1972	Determination of total fat in cocoa products (Modification: <i>automated procedure with hydrotherm</i>)	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 5th supplement 2000	Total ash determination	IfL OL
VDLUFA VI, C 15.2.4 3rd supplement 1995	Gravimetric determination of free fat in dried fatty milk products (<i>Soxhlet</i>)	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 2016-07	Determination of filling weight/filling volume/volume/ drained net weight/over-run	IfL OL
LUFA Nord-West AA 3/5C-118 2011-09	Determination of free fat in milk and cream (cold extraction with petroleum ether)	IfL OL
LUFA Nord-West AA 3/5C-135 2014-06	Gravimetric determination of coatings	IfL OL
LUFA Nord-West AA 3/5C-136 2017-07	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	Acidity test of milk and liquid milk products according to Soxhlet-Henkel (takeover of the German standard DIN 10316 with the same title, version August 2000)	IfL OL
ASU L 01.00-10/1 2016-02	Determination of nitrogen content – Part 1: Kjeldahl method and calculation of the raw protein content (German standard DIN EN ISO 8968-1)	IfL OL
ASU L 01.00-10/5 2002-12	Milk – Determination of nitrogen content – Part 5: Determination of protein-nitrogen content (takeover of the German standard DIN EN ISO 8968-5 with the same title, version June 2002)	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	Determination of raw protein content in meat and meat products	IfL OL

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ASU L 13.00-5 2012-01	Animal and vegetable fats and oils – Determination of acid value and acidity (takeover of the standard DIN EN ISO 660 with the same title, version October 2009)	IfL OL
ASU L 13.00-6 1991-06	Determination of peroxide number in fats and oils – Method of Wheeler (takeover of method C-VI 6a (84) with the same title of the German standard methods for the test of fats, fat products and related substances)	IfL OL
DGF C-V 3 2002-05	Saponification number	IfL OL
DGF C-V 11d 2002-05	Iodine number according to Wijs (Modification: <i>chloroform in place of cyclohexane</i>)	IfL OL
IOCCC, sheet 105 1988	Determination of moisture (Karl Fischer method)	IfL OL
VDLUFA VI C 10.6.2 1st supplement 1988	Determination of chloride content in cheese – Method of Erbacher	IfL OL
VDLUFA VI C 10.6.3 1st supplement 1988	Determination of chloride content in cheese – potentiometric method (also other foodstuffs)	IfL OL
VDLUFA VI C 30.3 1985-01	Determination of non-protein nitrogen (NPN) content	IfL OL
ADPI Bull. 916, p. 35 1990	Determination of titratable acid (ADPI method)	IfL OL
AOAC 970.22 1990	Nitrogen (total) in cocoa products	IfL OL
IDF 6B 1989	Acidity test of butter fat (IDF method)	IfL OL

3.2.3 Photometric determination of secondary constituents and additives in foodstuffs *

ASU L 01.00-36 1990-06	Determination of nitrate content in milk and milk products – Xylenol method (also meat and meat products)	IfL OL
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ASU L 01.00-41 1991-12	Determination of phosphatide value in milk, milk products and cheese	IfL OL
ASU L 06.00-8 2010-01	Determination of hydroxyproline content in meat and meat products – Photometric method following acid digestion	IfL OL
ASU L 07.00-60 2007-04	Foodstuffs – Determination of nitrate and/or nitrite content – Part 3: Spectrometric determination of nitrate and nitrite content of meat products after enzymatic reduction of nitrate to nitrite (takeover of the standard DIN EN 12014-3 with the same title, version August 2005) <i>(Restriction: only determination of nitrite)</i> <i>(Modification: also in milk and milk products)</i>	IfL OL
DGF C-VI, 6e 2006	Anisidine value	IfL
IOCCC sheet 107/B 1980	Determination of purines in cocoa and cocoa products	IfL OL
LUFA Nord-West AA3/5C-307 2015-03	Determination of the whey protein nitrogen index (WPNI) – Photometric method	IfL OL
LUFA Nord-West AA3/5C-308 2017-05	Determination of diacetyl content in butter – Photometric method	IfL OL

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

ASU L 01.00-17 2016-10	Determination of lactose and galactose content of milk products; enzymic 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	Milk and milk products except milk powder – Determination of L- and D-lactic acid (L- and D-lactate) content – Enzymatic method (takeover of the German standard DIN 10335 with the same title, version September 2010)	IfL OL

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ASU L 01.00-31 1988-12	Determination of lactulose content in milk	IfL OL
ASU L 01.00-86 2012-01	Milk and milk products – Determination of the citric acid content – Enzymatic method (takeover of the German standard DIN 10325 with the same title, version July 2010)	IfL OL
ASU L 02.00-12 2009-06	Milk products and ice cream – Determination of sucrose and glucose content – Enzymatic method (takeover of the standard DIN 10326 with the same title, version December 2007)	IfL OL
ASU L 03.00-39 2010-09	Determination of starch in grated cheese – Enzymatic method (Modification: <i>also other foodstuffs</i>)	IfL OL
ASU L 05.00-2 2002-12	Determination of L lactic acid, succinic acid and D-3-hydroxybutyric acid in eggs and egg products – Enzymatic method	IfL OL
ASU L 05.00-10 2003-12	Determination of glucose, fructose and sucrose in eggs and egg products – Enzymatic method	IfL OL
ASU L 07.00-14 2008-06	Determination of acetic acid (acetate) in meat products – Enzymatic method (Modification: <i>also other foodstuffs</i>)	IfL OL
VDLUFA VI, C 8.6 1985-01	Determination of L and D lactic acid content (L and D lactate) in milk and milk products (enzymatic method)	IfL OL
VDLUFA VI, C 8.7 5th supplement 2000	Enzymatic determination citric acid content in cheese and processed cheese	IfL OL
VDLUFA VI, C 20.2.3 1985-01	Determination of lactose and galactose content in milk and milk products (enzymatic method)	IfL OL
VDLUFA VI, C 20.3 1st supplement 1988	Determination of sucrose and glucose content in milk products and ice cream (enzymatic method)	IfL OL
r-biopharm Art. No 10 176 290 035 2013-03	UV-method for the determination of ethanol in foodstuffs And other materials	IfL OL

r-biopharm Art. No 10 542 946 035 2011-07	UV-method for the determination of urea and ammonia in foodstuffs and other materials	IfL OL
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3.2.5 Potentiometric determination of pH in foodstuffs

ASU L 04.00-13 2006-12	Determination of pH 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 in meat and meat products	IfL OL
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VDLUFA VI, C 8.2 1985-01	Determination of pH in 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

ASU L 01.00-29 1988-12	Determination of the freezing point of milk	IfL OL
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3.2.7 Polarographic tests of milk and milk products

ASU L 01.00-40 2000-07	Determination of whey protein fraction in total protein of milk, milk products and cheese (polarographic method)	IfL OL
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3.2.8 Butyrometric tests of milk and milk products

ASU L 01.00-74/1 2002-12	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	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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3.2.9 Refractometric tests of milk and milk products

VDLUFA VI, C 16.2 1st supplement 1988	Determination of milk fat refraction	IfL OL
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3.2.10 Selected physico-chemical tests of foodstuffs

ASU L 01.00-28 1988-12	Hydrometric determination of density of milk (takeover of the standard DIN 10459 with the same title, version October 1988)	IfL OL
ASU L 04.00-14 1996-02	Determination of the hardness of butter (takeover of the German standard DIN 10331 with the same title, version March 1996)	IfL OL
VDLUFA VI, C 12.3 1985-01	Determination of density of milk and milk and buttermilk serum	IfL OL
VDLUFA VI, C 26.4 3rd supplement 1995	Determination of bulk density	IfL OL
VDLUFA VI, C 26.5 3rd supplement 1995	Determination of bulkhead value and tamped density	IfL OL
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
IMV 87 1979	Determination of dispersibility	IfL OL
IMV 87 1979	Determination of wettability	IfL OL
IMV 107 1982	Determination of burnt casein and caseinate particle content	IfL OL
LUFA Nord-West AA 3/5C-314 2015-03	Determination of lipase	IfL OL

LUFA Nord-West AA 3/5C-802 2008-11	Alcohol sample for the determination of milk freshness	IfL OL
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3.2.11 Determination of constituents, additives and organic contaminants in foodstuffs by HPLC with standard detectors

ASU L 01.00-76 2009-06	Milk and milk powder - Determination of aflatoxin M1 content – 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
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ASU L 15.03-1 2010-01	Determination of ochratoxin A in barley – HPLC method with immunoaffinity column clean-up (takeover of the standard DIN EN 14132, version September 2009) <i>(also in roasted coffee, cocoa products and spices)</i>	IfL OL
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ASU L 45.00-1 1999-11	Determination of theobromine and caffeine in cocoa <i>(Restriction: only theobromine)</i>	IfL OL
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VDLUFA VI, C, 30.6.1 3rd supplement 1995	Determination of laboratory whey powder in powdered milk according to glycomacropeptide A concentration by HPLC	IfL OL
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IDF 178A 1999	Determination of acid-soluble β lactoglobulin content in heat-treated milk <i>(Modification: membrane filtration in place of centrifugation, Eluent B: Composition: TFA changed to acetonitrile)</i>	IfL OL
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LUFA Nord-West AA 3/5C-511 2017-04	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 2017-08	Determination of the sugar spectrum (sucrose, glucose, fructose, maltose, lactose) in foodstuffs (HPLC)	IfL OL
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LUFA Nord-West AA 3/5C-514 2015-06	Determination of caffeine content by HPLC	IfL OL
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LUFA Nord-West AA 3/5C-517 2017-02	Determination of natamycin in natamycin products, cheese and cheese rind (HPLC method)	IfL OL
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3.2.12 Determination of constituents and organic contaminants in foodstuffs by gas chromatography (GC) with standard detectors

ASU L 00.00-38/1-4 1998-09	Fatty food – Determination of pesticides and polychlorinated biphenyls (PCBs) (takeover of the German standard DIN EN 1528-1 to with the same title, version January 1997) (Modification: <i>extraction of fat: also fat recovery with BDI solution</i>) (Restriction: <i>only chlorinated pesticides</i>)	IfL OL
LUFA Nord-West AA 3/5C-403 2016-04	Determination of fatty acid profile by GC	IfL OL
LUFA Nord-West AA 3/5C-404 2017-01	Determination of selected sterols in foodstuffs	IfL OL
FA Nord-West AA 3/5C-405 2017-01	Determination of milk fat fraction by calculation on the basis of butyric acid (GC)	IfL OL
LUFA Nord-West AA 3/5C-406 2017-01	Determination of volatile halogenated hydrocarbons in foodstuffs	IfL OL

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

LUFA Nord-West AA 3/5C-518 2017-10	Determination of sugar 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	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 01.00-67 1998-09	Search procedure for the presence of sulphadimidine residues in milk – Screening method with ELISA in the microtiter system (<i>also milk products</i>)	IfL OL

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ASU L 01.00-68 1998-09	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	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 2016-06	Determination of tetracycline (ELISA) in milk and milk products, meat and sausage products and fresh eggs	IfL OL
LUFA Nord-West AA 3/5C-606 2015-02	Determination of macrolides (RIA) in milk and milk products	IfL OL
LUFA Nord-West AA 3/5C-607 2016-06	Determination of chloramphenicol (RIA) in milk and milk products	IfL OL

3.4 Microbiological tests

3.4.1 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 7954 1987-11	Microbiology –General guidance for enumeration of yeasts and moulds – Colony count technique at 25 degrees C <i>(standard withdrawn)</i>	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 technique at 44 °C using 5-bromo-4-chloro-3-indolyl β -D-glucuronide	IfL OL

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ISO 21528-2 2004-08	Microbiology of food and animal feeding stuffs – Horizontal methods for the detection and enumeration of Enterobacteriaceae – Part 2: Colony-count method	IfL OL
ISO/TS 22964 2006-02	Milk and milk products – Detection of Enterobacter sakazakii	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 9308-1 2001-07	Water quality – Detection and enumeration of Escherichia coli coliform bacteria – Part 1: Membrane filtration method	IfL OL
DIN EN ISO 10272-1 2006-04	Microbiology of food and animal feeding stuffs – Horizontal method for detection and enumeration of Campylobacter spp. – Part 1: Detection method	IfL OL
ASU L 00.00-20 2008-12	Microbiology of food and animal feeding stuffs – Horizontal method for the detection of Salmonella spp. (according to DIN EN ISO 6579)	IfL OL
ASU L 00.00-22 2006-09	Microbiology of food and animal feeding stuffs – Horizontal method for the detection and enumeration of Listeria monocytogenes – Part 2: Enumeration method (according to DIN EN ISO 11290-2)	IfL OL
ASU L 00.00-32 2006-09	Microbiology of food and animal feeding stuffs – Horizontal method for the detection and enumeration of Listeria monocytogenes – Part 1: Detection method (according to DIN EN ISO 11290-1)	IfL OL
ASU L 00.00-55 2004-12	Microbiology of food and animal feeding stuffs – Horizontal method for the enumeration of coagulase-positive staphylococci (Staphylococcus aureus and other species) – Part 1: Technique using Baird-Parker agar medium (according to DIN EN ISO 6888-1)	IfL OL

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ASU L 00.00-57 2006-12	Microbiology of food and animal feeding stuffs – Horizontal method for the enumeration of <i>Clostridium perfringens</i> – Colony-count technique (according to DIN EN ISO 7937)	IfL OL
ASU L 00.00-88 2004-07	Microbiology of food and animal feeding stuffs – Horizontal method for the enumeration of microorganisms – Colony-count technique at 30°C (according to DIN EN ISO 4833)	IfL OL
ASU L 00.00-100 2006-12	Microbiology of food and animal feeding stuffs – Horizontal method for the enumeration of coagulase- positive staphylococci – Detection and MPN technique for low numbers (takeover of standard DIN EN ISO 6888-3 with the same title version July 2005)	IfL OL
ASU L 01.00-2 1991-12	Microbiological analysis of coliform bacteria in milk, milk products, butter, cheese and ice cream – Method with liquid culture medium (according to DIN 10172-1)	IfL OL
ASU L 01.00-3 1987-03	Microbiological analysis of coliform bacteria in milk, milk products, butter, cheese and ice cream – Method with solid medium (according to DIN 10172-3)	IfL OL
ASU L 01.00-25 1997-09	Determination of <i>Escherichia coli</i> in milk, milk products, butter, cheese and ice cream – Method with solid medium	IfL OL
ASU L 01.00-37 1991-12	Enumeration of yeasts and moulds in milk and milk products (reference method)	IfL OL
ASU L 01.00-72 2011-01	Microbiological analysis of milk – Determination of presumptive <i>Bacillus cereus</i> - Colony count technique at 37°C (according to DIN 10198) (Modification: <i>incubation temperature 30°C,</i> <i>concentration polymyxin-B-sulphate</i>)	IfL OL
ASU L 02.07-2 1987-03	Determination of coagulase-positive staphylococci in dried milk products and processed cheese – Selective enrichment method	IfL OL
ASU L 06.00-31 1992-06	Microbiological analysis of meat and meat products; detection and enumeration of lactobacilli; spatula method (reference method) (according to DIN 10168)	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 off at splitters (lipolites) – Colony count method with tributyl agar	IfL OL
VDLUFA VI, M 7.8.2 2nd supplement 1993	Determination of enterococci (colony count technique with Kanamycin aesculine azide agar)	IfL OL
VDLUFA VI, M 7.9.2 1st supplement 1988	Determination of lactobacilli (colony count method with ROGOSA agar)	IfL OL
VDLUFA VI, M 7.9.3 4th supplement 1996	Detection of heterofermentative gas-forming lactic acid bacteria	IfL OL
VDLUFA VI, M 7.12.2 2nd supplement 1993	Determination of pseudomonads (colony count method with C-F-C selective agar) (Modification: <i>use of GSP agar</i>)	IfL OL
VDLUFA VI, M 7.13 4. Erg. 1996	Determination of thermoduric (thermoresistant) microorganisms	IfL OL
VDLUFA VI, M 7.16.2 1985-01	Determination of acid-forming microorganisms	IfL OL
VDLUFA VI, M 7.17.2 2nd supplement 1993	Determination of spores from aerobic spore-forming bacteria (bacillus)	IfL OL
VDLUFA VI, M 7.18.4 1st supplement 1988	Determination of sulphite-reducing clostridia (Modification: <i>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 salmonellae in powdered milk	IfL OL

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

ISO 16649-2 2001-04	Microbiology of food and animal feeding stuffs – Horizontal method for the enumeration of β -glucuronidase-positive <i>Escherichia coli</i> – Part 2: Colony-count technique at 44°C using 5-bromo-4-chloro-3-indolyl β -D-glucuronide	IfL OL
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ISO 21528-2 2004-08	Microbiology of food and animal feeding stuffs – Horizontal methods for the detection and enumeration of Enterobacteriaceae – Part 2: Colony-count method	IfL OL
DIN 10113-2 1997-07	Determination of surface colony count on fitment and utensils in food areas – Part 2: Semiquantitative swab method (Modification: <i>Sampling by the customer, casting plate method, communication of results</i>)	IfL OL
ASU L 00.00-20 2008-12	Microbiology of food and animal feeding stuffs – Horizontal method for the detection of Salmonella spp. (according to DIN EN ISO 6579)	IfL OL
ASU L 00.00-88 2004-07	Microbiology of food and animal feeding stuffs – Horizontal method for the enumeration of microorganisms – Colony-count technique at 30 °C (according to DIN EN ISO 4833)	IfL OL

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

ASU L 01.00-11 1996-02	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 (and sensory) tests in accordance with the Drinking Water Ordinance and sampling of untreated water and drinking water

4.1.1 Testing methods according to the Drinking Water Ordinance (TrinkwV 2001)

Sampling

Method	Title
DIN EN ISO 5667-01 (A 4) 2007-04	Guidance on the design of sampling programmes and sampling techniques
DIN ISO 5667-5 (A 14) 2011-02	Guidance on sampling of drinking water from treatment works and piped distribution systems
DIN EN ISO 5667-3 (A 21) 2013-03	Guidance on the preservation and handling of water samples
DIN EN ISO 19458 (K 19) 2006-12	Water quality - Sampling for microbiological analysis
DIN 38402-A 12 1985-06	Sampling from barrages and lakes
DIN 38402-A 15 2010-04	Sampling from running waters
DIN 38402-A 18 1991-05	Sampling of water from mineral springs and spas

ANNEX 1: MICROBIOLOGICAL PARAMETERS

PART I: General requirements for drinking water

Not documented

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

Not documented

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	DIN 38413-P 6; 2007-02
2	Benzene	DIN 38407-F 9; 1991-05
3	Boron	DIN EN ISO 11885 (E 22); 1998-04
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) 2016-09
5	Chromium	DIN EN ISO 17294-2 (E 29); 2005-02
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 (F35); 2010-10 DIN 38407-36 (F36); 2014-09 In-house method LC-MS/MS AA4/1C-052 Analysis of residues of highly polar pesticides, 2017-09
11	Total active ingredients in pesticides and biocidal products	DIN 38 407-2 (F2) 1993-02 DIN 38407 (F35); 2010-10 DIN 38407-360(F36); 2014-09 In-house method LC-MS/MS AA4/1C-052 Analysis of residues of highly polar pesticides, 2017-09
12	Mercury	DIN EN ISO 12846 (E 12), 2012-08
13	Selenium	DIN 38405-D 23; 1994-10
14	Tetrachloroethene and trichloroethene	DIN EN ISO 10301 (F 4), 1997-08
15	Uranium	DIN EN ISO 17294-2 (E 29); 2005-02

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); 2005-02
2	Arsenic	DIN EN ISO 17294-2 (E 29); 2005-02
3	Benzo-(a)-pyrene	DIN EN ISO 17993 (F 18); 2004-03
4	Lead	DIN EN ISO 17294-2 (E 29); 2005-02
5	Cadmium	DIN EN ISO 17294-2 (E 29); 2005-02
6	Epichlorohydrine	Not documented
7	Copper	DIN EN ISO 11885 (E 22); 1998-04
8	Nickel	DIN EN ISO 17294-2 (E 29); 2005-02
9	Nitrite	DIN EN ISO 13395 (D 28); 1996-12
10	Polycyclic aromatic hydrocarbons (PAH)	DIN EN ISO 17993 (F 18); 2004-03
11	Trihalomethanes	DIN EN ISO 10301 (F 4); 1997-08
12	Vinyl chloride	Not documented

ANNEX 3: INDICATOR PARAMETERS

PART I: General indicator parameters

No.	Parameter	Method
1	Aluminium	DIN EN ISO 11885 (E 22); 1998-04
2	Ammonia	DIN EN ISO 11732 (E 23); 2005-05
3	Chloride	DIN EN ISO 10304-1 (D 20); 2009-07
4	Clostridium perfringens (including spores)	Not documented
5	Coliform bacteria	Not documented
6	Iron	DIN EN ISO 11885 (E 22); 1998-04
7	Colour (spectral absorption coefficient Hg 436 nm)	DIN EN ISO 7887 (C 1); 2012-04
8	Odour	DEV B 1/2 part a; 1971
9	Taste	DEV B 1/2 part a; 1971
10	Colony count at 22 °C	Not documented
11	Colony count at 36 °C	Not documented
12	Electrical conductivity	DIN EN 27888 (C 8); 1993-11
13	Manganese	DIN EN ISO 11885 (E 22); 1998-04
14	Sodium	DIN EN ISO 11885 (E 22); 1998-04
15	Total organically bound carbon (TOC)	DIN EN 1484 (H 3); 1997-08
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 (C 2); 2000-04

No.	Parameter	Method
19	Hydrogen ion concentration	DIN EN ISO 10523; 2012-04
20	Calcite solubility	Not documented
21	Tritium	Not documented
22	Total indicative dose	Not documented

PART II: Special requirements for drinking water in drinking water installation facilities

Not documented

Parameters not included in Annex 1 to 3 of the Drinking Water Ordinance of 2001:

Other periodic tests

Parameter	Method
Calcium	DIN EN ISO 11885 (E 22); 1998-04
Potassium	DIN EN ISO 11885 (E 22); 1998-04
Magnesium	DIN EN ISO 11885 (E 22); 1998-04
Acid capacity	DIN 38409-H 7; 2005-12

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 physico-chemical parameters in drinking water and other water

DIN 38404-C 4 1976-12	Determination of Temperature (C4)	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
DIN EN ISO 9377-2 2001-07	Water quality – Determination of hydrocarbon oil index – Part 2: Method using solvent extraction and gas chromatography	IfB HM IfD HM
DIN ISO 17289 2014-12	Water quality – Determination of dissolved oxygen – Optical sensor method	IfB HM IfD HM

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DIN 38404-6 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 38407-42 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 11349 2015-12	Water quality – Determination of low-volatility lipophilic substances – Gravimetric method	IfB HM IfD HM

Remark: All drinking water methods described in 4.1 are also correspondingly accredited for other water and are not listed separately.

4.2 List of test methods for the technical module WATER
Version: LAWA of 03.09.2013

Subarea 1: Sampling and general parameters

Parameter	Method	WW	SW	GRW
Sampling waste water	DIN 38402-A 11: 1995-12	<input checked="" type="checkbox"/>		
	DIN 38402-A 11: 2009-02	<input checked="" type="checkbox"/>		
Sampling from running waters	DIN 38402-A 15: 1986-07		<input checked="" type="checkbox"/>	
	DIN 38402-A 15: 2010-04		<input checked="" type="checkbox"/>	
Sampling from aquifers	DIN 38402-A 13: 1985-12			<input type="checkbox"/>
Sampling from barrages and lakes	DIN 38402-A 12: 1985-06		<input checked="" type="checkbox"/>	
Homogenisation of samples	DIN 38402-A 30: 1998-07	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Temperature	DIN 38404-C 4: 1976-12	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
pH	DIN 38404-C 5: 1984-01	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	DIN 38404-C 5: 2009-07	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Conductivity (25°C)	DIN EN 27888: 1993-11 (C 8)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Odour	DIN EN 1622: 2006-10 (B 3) Annex C	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Colour	DIN EN ISO 7887: 1994-12 (C 1) Section 2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Turbidity	DIN EN ISO 7027: 2000-04 (C 2)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Parameter	Method	WW	SW	GRW
Oxygen	DIN EN 25814: 1992-11 (G 22)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Redox potential	DIN 38404-C 6: 1984-05			<input checked="" type="checkbox"/>

Subarea 2: Photometry, ion chromatography and volumetric analysis

Parameter	Method	WW	SW	GRW
UV absorption at 254 nm (SAC 254)	DIN 38404-C 3: 2005-07		<input checked="" type="checkbox"/>	<input type="checkbox"/>
UV absorption at 436 nm (SAC 436)	DIN EN ISO 7887: 1994-12 (C 1)		<input checked="" type="checkbox"/>	<input type="checkbox"/>
Ammonia nitrogen	DIN EN ISO 11732: 1997-09 (E 23)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	DIN EN ISO 11732: 2005-05 (E 23)	<input type="checkbox"/>	<input type="checkbox"/>	
	DIN 38406-E 5: 1983-10	<input type="checkbox"/>	<input type="checkbox"/>	
	DIN EN ISO 14911: 1999-12 (E 34)		<input type="checkbox"/>	<input type="checkbox"/>
Nitrite nitrogen	DIN EN 26777: 1993-04 (D 10)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 10304-1: 1995-04 (D 19)		<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 10304-1: 2009-07 (D 20)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 10304-2: 1996-11 (D 20)	<input type="checkbox"/>		
	DIN EN ISO 13395: 1996-12 (D 28)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Nitrate nitrogen	DIN EN ISO 10304-1: 1995-04 (D 19)		<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 10304-1: 2009-07 (D 20)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 10304-2: 1996-11 (D 20)	<input type="checkbox"/>		
	DIN EN ISO 13395: 1996-12 (D 28)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	DIN 38405-9-2 / 9-3: 1979-05	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN 38405-D 29: 1994-11	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total phosphorus	DIN EN 1189: 1996-12 (D 11)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 6878: 2004-09 (D 11)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 15681-1: 2005-05 (D 45)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 15681-2: 2005-05 (D 46)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Orthophosphate	DIN EN ISO 10304-1: 1995-04 (D 19)		<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 10304-1: 2009-07 (D 20)		<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN 1189: 1996-12 (D 11)		<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 6878: 2004-09 (D 11)		<input checked="" type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 15681-1: 2005-05 (D 45)		<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 15681-2: 2005-05 (D 46)		<input type="checkbox"/>	<input type="checkbox"/>
Fluoride (dissolved and total)	DIN 38405-D 4: 1985-07	<input checked="" type="checkbox"/>		<input type="checkbox"/>
	DIN EN ISO 10304-1: 1995-04 (D 19)			<input type="checkbox"/>
	DIN EN ISO 10304-1: 2009-07 (D 20)			<input type="checkbox"/>

Parameter	Method	WW	SW	GRW
Chloride	DIN 38405-D 1: 1985-12	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 10304-1: 1995-04 (D 19)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 10304-1: 2009-07 (D 20)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 10304-2: 1996-11 (D 20)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 10304-4: 1999-07 (D 25)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 15682: 2002-01 (D 31)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sulphate	DIN EN ISO 10304-1: 1995-04 (D 19)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 10304-1: 2009-07 (D 20)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 10304-2: 1996-11 (D 20)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN 38405-D 5: 1985-01	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cyanide (readily liberated)	DIN 38405-D 13-2: 1981-02	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	DIN 38405-D 14-2: 1988-12	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 14403: 2002-07 (D 6)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN 38405-D 7: 2002-04	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cyanide (total)	DIN 38405-D 13-1: 1981-02	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	DIN 38405-D 14-1: 1988-12	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 14403: 2002-07 (D 6)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN 38405-D 7: 2002-04	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chromium VI	DIN 38405-D 24: 1987-05	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 10304-3: 1997-11 (D 22), Section 5 (dissolved chromate)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sulphide (readily liberated)	DIN 38405-D 27: 1992-07	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Subarea 3: Elemental analysis

Parameter	Method	WW	SW	GRW
Aluminium	DIN EN ISO 11885: 1998-04 (E 22)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 11885: 2009-09 (E 22)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 12020: 2000-05 (E 25)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 17294-2: 2005-02 (E 29)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 15586: 2004-02 (E 4)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Arsenic	DIN EN ISO 11969: 1996-11 (D 18)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 11885: 1998-04 (E 22)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 11885: 2009-09 (E 22)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 17294-2: 2005-02 (E 29)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 15586: 2004-02 (E 4)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lead	DIN 38406-E 6: 1998-07	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Parameter	Method	WW	SW	GRW
	DIN EN ISO 11885: 1998-04 (E 22)	<input checked="" type="checkbox"/>		
	DIN EN ISO 11885: 2009-09 (E 22)	<input type="checkbox"/>		
	DIN 38406-E 16: 1990-03		<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 17294-2: 2005-02 (E 29)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 15586: 2004-02 (E 4)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cadmium	DIN EN ISO 5961: 1995-05 (E 19)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 11885: 1998-04 (E 22)	<input checked="" type="checkbox"/>		
	DIN EN ISO 11885: 2009-09 (E 22)	<input type="checkbox"/>		
	DIN 38406-E 16: 1990-03		<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 17294-2: 2005-02 (E 29)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 15586: 2004-02(E 4)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Calcium	DIN EN ISO 11885: 1998-04 (E 22)		<input checked="" type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 11885: 2009-09 (E 22)		<input type="checkbox"/>	<input type="checkbox"/>
	DIN 38406-E 3: 2002-03		<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 7980: 2000-07 (E 3a)		<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 17294-2: 2005-02 (E 29)		<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 14911: 1999-12 (E 34)		<input type="checkbox"/>	<input type="checkbox"/>
Chromium	DIN EN ISO 11885: 1998-04 (E 22)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 11885: 2009-09 (E 22)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN 1233: 1996-08 (E 10)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 17294-2: 2005-02 (E 29)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 15586: 2004-02 (E 4)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Iron	DIN EN ISO 11885: 1998-04 (E 22)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 11885: 2009-09 (E 22)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN 38406-E 1: 1983-05	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN 38406-E 32: 2000-05	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 15586: 2004-02 (E 4)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Potassium	DIN 38406-E 13: 1992-07		<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 11885: 1998-04(E 22)		<input checked="" type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 11885: 2009-09 (E 22)		<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 17294-2: 2005-02 (E 29)		<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 14911: 1999-12 (E 34)		<input type="checkbox"/>	<input type="checkbox"/>
Copper	DIN EN ISO 11885: 1998-04 (E 22)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 11885: 2009-09 (E 22)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN 38406-E 7: 1991-09	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN 38406-E 16: 1990-03	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Parameter	Method	WW	SW	GRW
	DIN EN ISO 17294-2: 2005-02 (E 29)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 15586: 2004-02 (E 4)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Manganese	DIN EN ISO 11885: 1998-04 (E 22)			<input type="checkbox"/>
	DIN EN ISO 11885: 2009-09 (E 22)			<input type="checkbox"/>
	DIN EN ISO 17294-2: 2005-02 (E 29)			<input type="checkbox"/>
	DIN 38406-E 33: 2000-06			<input type="checkbox"/>
	DIN EN ISO 15586: 2004-02 (E 4)			<input type="checkbox"/>
	DIN EN ISO 14911: 1999-12 (E 34)			<input type="checkbox"/>
Natrium	DIN 38406-E 14: 1992-07		<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 11885: 1998-04 (E 22)		<input checked="" type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 11885: 2009-09 (E 22)		<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 17294-2: 2005-02 (E 29)		<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 14911: 1999-12 (E 34)		<input type="checkbox"/>	<input type="checkbox"/>
Nickel	DIN EN ISO 11885: 1998-04 (E 22)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 11885: 2009-09 (E 22)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN 38406-E 11: 1991-09	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 17294-2: 2005-02 (E 29)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	DIN 38406-E 16: 1990-03	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 15586: 2004-02 (E 4)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mercury	DIN EN 1483: 1997-08 (E 12)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN 1483: 2007-07 (E 12)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	DIN EN 12338: 1998-10 (E 31)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN 13506: 2002-04 (E 35)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN 17852: 2008-04 (E 35)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Zinc	DIN EN ISO 11885: 1998-04 (E 22)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 11885: 2009-09 (E 22)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN 38406-E 8-1: 2004-10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN 38406-E 16: 1990-03	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 17294-2: 2005-02 (E 29)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 15586: 2004-02 (E 4)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Boron	DIN EN ISO 11885: 1998-04 (E 22)			<input type="checkbox"/>
	DIN EN ISO 11885: 2009-09 (E 22)			<input type="checkbox"/>
	DIN 38405-D 17: 1981-03			<input type="checkbox"/>
	DIN EN ISO 17294-2: 2005-02 (E 29)			<input type="checkbox"/>
Magnesium	DIN EN ISO 11885: 1998-04 (E 22)		<input checked="" type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 11885: 2009-09 (E 22)		<input type="checkbox"/>	<input type="checkbox"/>

Parameter	Method	WW	SW	GRW
	DIN 38406-E 3: 2002-03		<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 7980: 2000-07 (E 3a)		<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 17294-2: 2005-02 (E 29)		<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 14911: 1999-12 (E 34)		<input type="checkbox"/>	<input type="checkbox"/>
Phosphorus	DIN EN ISO 17294-2: 2005-02 (E 29)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 11885: 1998-04 (E 22)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 11885: 2009-09 (E 22)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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)	<input checked="" type="checkbox"/>		
	DIN EN 1899-2: 1998-05 (H 52)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Chemical oxygen demand (COD)	DIN 38409-H 41: 1980-12	<input checked="" type="checkbox"/>		
	DIN 38409-H 44: 1992-05	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	DIN ISO 15705: 2003-01 (H 45)	<input type="checkbox"/>	<input type="checkbox"/>	
Phenol index (with and without distillation)	DIN 38409-H 16: 1984-06	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 14402: 1999-12 (H 37)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Filterable matter	DIN 38409-H 2: 1987-03	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	DIN EN 872: 2005-04 (H 33)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Acid and base-neutralizing capacities	DIN 38409-H 7: 2005-12		<input type="checkbox"/>	<input type="checkbox"/>
Total organic carbon (TOC)	DIN EN 1484: 1997-08 (H 3)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Dissolved organic carbon (DOC)	DIN EN 1484: 1997-08 (H 3)			<input type="checkbox"/>
Total bound nitrogen (TN _b)	DIN ENV 12260: 1996-06 (H 34)	<input type="checkbox"/>	<input type="checkbox"/>	
	DIN EN 12260: 2003-12 (H 34)	<input type="checkbox"/>	<input type="checkbox"/>	
	DIN EN ISO 11905-1: 1998-08 (H 36)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Adsorbable organically bound halogens (AOX)	DIN EN 1485: 1996-11 (H 14)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 9562: 2005-02 (H 14)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN 38409-H 22: 2001-02	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Subarea 6: Gaschromatographic methods

Parameter	Method	WW	SW	GRW
Volatile halogenated hydrocarbons	DIN EN ISO 10301: 1997-08 (F 4)*	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 15680: 2004-04 (F 19)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Benzene and derivatives (BTEX)	DIN 38407-F 9: 1991-05*	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 15680: 2004-04 (F 19)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Parameter	Method	WW	SW	GRW
Organochlorine pesticides (OCP)	DIN EN ISO 6468: 1997-02 (F 1)*		<input type="checkbox"/>	<input type="checkbox"/>
	DIN 38407-F 2: 1993-02*		<input checked="" type="checkbox"/>	<input type="checkbox"/>
Polychlorinated biphenyls (PCB)	DIN EN ISO 6468: 1997-02 (F 1)*		<input type="checkbox"/>	<input type="checkbox"/>
	DIN 38407-F 2: 1993-02*		<input checked="" type="checkbox"/>	<input type="checkbox"/>
	DIN 38407-F 3: 1998-07		<input type="checkbox"/>	<input type="checkbox"/>
Mono-, dichlorobenzenes	DIN EN ISO 10301: 1997-08 (F 4)*		<input checked="" type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 15680: 2004-04 (F 19)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tri- to hexachlorobenzene	DIN EN ISO 6468: 1997-02 (F 1)*	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN 38407-F 2: 1993-02*	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Chlorophenols	DIN EN 12673: 1999-05 (F 15)		<input type="checkbox"/>	<input type="checkbox"/>
Organophosphorus and organonitrogen compounds	DIN EN ISO 10695: 2000-11 (F 6) *		<input type="checkbox"/>	<input type="checkbox"/>
Polycyclic aromatic hydrocarbons (PAH)**	DIN 38407-F 39: 2011-09	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Hydrocarbon index	DIN EN ISO 9377-2: 2001-07 (H 53)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
* Mass-spectrometric detection permitted				
** Subarea 6 is also completely fulfilled when PAH is analysed according to a procedure from Subarea 7				

Subarea 7: HPLC methods

Parameter	Method	WW	SW	GRW
Polycyclic aromatic hydrocarbons (PAH)**	DIN 38407-F 18: 1999-05	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 17993: 2004-03 (F 18)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Plant protection products and pesticides	DIN EN ISO 11369: 1997-11 (F 12) *		<input type="checkbox"/>	<input type="checkbox"/>
* Mass-spectrometric detection permitted				
** Subarea 7 is also completely fulfilled when PAH is analysed according to a procedure from Subarea 6				

Subarea 8: Microbiological methods

Not documented

Subarea 9.1: Biological methods, Biotests (Part 1)

Not documented

Subarea 9.2: Biological methods, Biotests (Part 2)

Not documented

**4.3 List of test methods for the technical module SOIL AND CONTAMINATED SITES,
Site: Hameln
Version: LABO of 16.08.2012**

Area of test 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 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		Worksheet for the investigation of soil samples, Extract 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	Worksheet for the investigation of soil samples, Extract from KA5, 2009 Pedological mapping guide 5th Edition (KA5): 2005 DIN 19682-2: 2007	<input checked="" type="checkbox"/>
Preservation and handling of samples on the site		DIN 19747: 2009 DIN ISO 10381-1: 2003 DIN ISO 10831-2: 2003 DIN ISO 18512: 2009	<input checked="" type="checkbox"/>
	Overlaying the soil with solvent in the investigation of volatile contaminants on site	DIN ISO 22155: 2006	

Subarea 1.2 Laboratory analysis or organic parameters

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

Analysis of inorganic parameters			
Test parameter	Methods/Notes	Procedure	
Aqua regia extract	Thermal, open vessel	DIN ISO 11466: 1997	<input type="checkbox"/>
	Microwave digestion	DIN EN 13657: 2003	<input checked="" type="checkbox"/>
Ammonium nitrate extract		DIN 19730: 2009	<input checked="" type="checkbox"/>
Alkaline digestion method - optional	Metaborate melt digestion for chromium(VI) analysis	DIN EN 15192: 2007	<input type="checkbox"/>

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	<input type="checkbox"/>
Arsenic (As) Antimony (Sb)	ICP-OES	DIN ISO 22036: 2009	<input type="checkbox"/>
	ICP-MS	DIN EN ISO 17294-2: 2005	<input checked="" type="checkbox"/>
	ET-AAS or hydride-AAS	DIN ISO 20280: 2010	<input type="checkbox"/>
Cadmium (Cd) Chromium (Cr), total Cobalt (Co) Copper (Cu) Nickel (Ni) Lead (Pb) Zinc (Zn)	ET-AAS	DIN ISO 11047: 2003	<input type="checkbox"/>
	ICP-OES	DIN ISO 22036: 2009	<input checked="" type="checkbox"/>
	ICP-MS	DIN EN ISO 17294-2: 2005	<input checked="" type="checkbox"/>
Mercury (Hg)	AAS	DIN EN 1483: 2007	<input checked="" type="checkbox"/>
	Cold vapour AAS or cold vapour AFS	DIN ISO 16772: 2005	<input type="checkbox"/>
Cyanides		DIN ISO 17380: 2011	<input type="checkbox"/>
		DIN ISO 11262: 2012	<input checked="" type="checkbox"/>
Chromium (VI) - optional	IC with photometric detection	DIN EN 15192: 2007	<input type="checkbox"/>
Molybdenum (Mo) Vanadium (V) – optional	ICP-OES	DIN ISO 22036: 2009	<input type="checkbox"/>
	ICP-MS	DIN EN ISO 17294-2: 2005	<input type="checkbox"/>
Selenium (Se) – optional	ICP-OES	DIN ISO 22036: 2009	<input type="checkbox"/>
	ICP-MS	DIN EN ISO 17294-2: 2005	<input type="checkbox"/>
	ET-AAS or hydride-AAS	DIN ISO 20280: 2010	<input type="checkbox"/>
Thallium (Tl) from the HNO ₃ /H ₂ O ₂ extract – optional	ET-AAS	DIN ISO 20279: 2006	<input type="checkbox"/>
	ICP-OES	DIN ISO 22036: 2009	<input type="checkbox"/>
	ICP-MS	DIN EN ISO 17294-2: 2005	<input type="checkbox"/>
Uranium (U) Tungsten (W) - optional	ICP-OES	DIN ISO 22036: 2009	<input type="checkbox"/>
	ICP-MS	DIN EN ISO 17294-2: 2005	<input type="checkbox"/>

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	<input checked="" type="checkbox"/>
Dry matter		DIN ISO 11465: 1996	<input type="checkbox"/>
		DIN EN 14346: 2007	<input checked="" type="checkbox"/>
Organic carbon and total organic carbon after dry combustion (TOC)	Soil samples dried in air	DIN ISO 10694: 1996	<input checked="" type="checkbox"/>
		DIN EN 13137: 2001	<input type="checkbox"/>
		DIN EN 15936: 2012	<input type="checkbox"/>
pH (CaCl ₂)		DIN ISO 10390: 2005	<input checked="" type="checkbox"/>
Bulk density – optional		DIN ISO 11272: 2001	<input type="checkbox"/>
Particle size distribution – optional	Pipette analysis	DIN ISO 11277: 2002	<input type="checkbox"/>
	Areometer method	DIN 18123: 2011 with LAGA PN98	<input type="checkbox"/>

Analysis of organic parameters			
Test parameter	Methods/Notes	Procedure	
Polycyclic aromatic hydrocarbons (PAH) 16 PAH (EPA)	GC-MS	DIN ISO 18287: 2006	<input checked="" type="checkbox"/>
	HPLC-UV/F Acenaphthylene cannot be determined with a fluorescence detector	DIN ISO 13877: 2000	<input type="checkbox"/>
		DIN 38414-23: 2002	<input type="checkbox"/>
Hexachlorobenzene	GC - ECD, GC - MS	DIN ISO 10382: 2006	<input checked="" type="checkbox"/>
Pentachlorophenol	GC - ECD, GC - MS	DIN ISO 14154: 2005	<input checked="" type="checkbox"/>
Aldrin, DDT, HCH mixture	GC - ECD, GC - MS	DIN ISO 10382: 2003	<input checked="" type="checkbox"/>
		DIN EN 15308: 2008	<input type="checkbox"/>
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	<input checked="" type="checkbox"/>
		DIN EN 15308: 2008	<input type="checkbox"/>
		DIN 38414-20: 1996	<input type="checkbox"/>
Explosive-typical compounds (HPLC) – optional	Extraction with methanol or acetonitrile and quantitation by HPLC-UV/DAD	E DIN ISO 11916-1: 2011	<input type="checkbox"/>

Analysis of organic parameters			
Test parameter	Methods/Notes	Procedure	
Explosive-typical compounds (HPLC) – optional	Extraction with methanol. Recrystallisation in toluene and quantitation by GC-ECD or GC-MS	E DIN ISO 11916-2: 2011	<input type="checkbox"/>
Mineral oil hydrocarbons (C ₁₀ -C ₄₀) – optional	GC-FID	DIN ISO 16703: 2005	<input checked="" type="checkbox"/>
		LAGA KW/04: 2009	<input type="checkbox"/>
BTEX aromatic compounds, volatile hydrocarbons – optional	Headspace, GC	DIN ISO 22155: 2006	<input checked="" type="checkbox"/>

Subarea 1.4: Analysis of dioxins and furans

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

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 ¹³ C ₁₂ marked standards of a congener	DIN 38414-24: 2000 Dioxin-like PCB: in consideration of DIN 38407-3: 1998	<input checked="" type="checkbox"/>

Area of test 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	<input checked="" type="checkbox"/>
Sampling of ground water	AQS-leaflet P 8/2: 1996	ISO 5667-11: 2009 DIN 38402-13: 1985 DVGW-worksheet W 112: 2011	<input type="checkbox"/>
Sampling of leachate		Currently no standardised method available; If applicable: E-DWA-M 905: 2008	<input checked="" type="checkbox"/>
Sampling from flowing waters	AQS-leaflet P 8/3: 1998	DIN 38402-15: 2010	<input checked="" type="checkbox"/>
Sampling from stagnant bodies of water		DIN 38402-12: 1985	<input checked="" type="checkbox"/>

on-site tests			
Test parameter	Methods/Notes	Procedure	
Colouring		DIN EN ISO 7887: 2012	<input checked="" type="checkbox"/>
Turbidity		DIN EN ISO 7027: 2000	<input checked="" type="checkbox"/>
Smell		DEV B1/2 1971	<input checked="" type="checkbox"/>
Temperature		DIN 38404-4: 1976	<input checked="" type="checkbox"/>
pH-value		DIN EN ISO 10523: 2012	<input checked="" type="checkbox"/>
Oxygen content		DIN EN 25814: 1992	<input checked="" type="checkbox"/>
Electrical conductivity		DIN EN 27888: 1993	<input checked="" type="checkbox"/>
Redox potential		DIN 38404-6: 1984	<input checked="" type="checkbox"/>
Presevation and handling of water samples		DIN EN ISO 5667-3: 2004	<input checked="" type="checkbox"/>

Subarea 2.2 Analysis of eluates/percolates for inorganic parameters

Eluates/Percolates			
Test parameter	Methods/Notes	Procedure	
Batch test – leaching behaviour of inorganic substances		DIN 19529: 2009	<input checked="" type="checkbox"/>

Eluates/Percolates			
Test parameter	Methods/Notes	Procedure	
Batch test – leaching behaviour of organic substances		DIN 19527: 2012	<input checked="" type="checkbox"/>
Batch test –leaching behaviour of inorganic substances - optional		DIN EN 12457-4: 2003	<input checked="" type="checkbox"/>
Percolation method for the joint examination of the leaching behaviour of inorganic and organic substances - optional		DIN 19528: 2009	<input type="checkbox"/>
Test of absorption availability - optional		DIN 19738: 2004	<input type="checkbox"/>

Analysis of inorganic parameters			
Test parameter	Methods/Notes	Procedure	
Antimony (Sb) Arsenic (As)	ICP-OES	DIN EN ISO 11885: 2009	<input type="checkbox"/>
	ICP-OES	DIN ISO 22036: 2009	<input type="checkbox"/>
	ICP-MS	DIN EN ISO 17294-2: 2005	<input checked="" type="checkbox"/>
	ET-AAS or Hydride AAS	DIN ISO 20280: 2010	<input type="checkbox"/>
Lead (Pb) Cadmium (Cd) Chromium (Cr) total Cobalt (Co) Copper (Cu) Molybdenum (Mo) Nickel (Ni) Zinc (Zn)	ET-AAS	DIN EN ISO 15586: 2004	<input type="checkbox"/>
	ICP-OES	DIN EN ISO 11885: 2009	<input checked="" type="checkbox"/>
	ICP-OES	DIN ISO 22036: 2009	<input checked="" type="checkbox"/>
	ICP-MS	DIN EN ISO 17294-2: 2005	<input checked="" type="checkbox"/>
Mercury(Hg)	AAS	DIN EN 1483: 2007	<input checked="" type="checkbox"/>
	Cold vapour AAS or cold vapour AFS	DIN ISO 16772: 2005	<input type="checkbox"/>
Cyanide (CN-), total Cyanide, easily liberatable	Spectral photometry	DIN EN ISO 14403: 2002	<input type="checkbox"/>
		DIN 38405-13: 2011	<input checked="" type="checkbox"/>
		DIN EN ISO 17380: 2011	<input type="checkbox"/>
Fluoride, chloride, sulphate	Ion chromatography	DIN EN ISO 10304-1:2009	<input checked="" type="checkbox"/>
	Individual methods	DIN 38405-1, -4, -5: 1985	<input type="checkbox"/>

Analysis of inorganic parameters			
Test parameter	Methods/Notes	Procedure	
Vanadium (V) - optional	ET-AAS	DIN EN ISO 15586: 2004	<input type="checkbox"/>
	ICP-OES	DIN EN ISO 11885: 2009	<input type="checkbox"/>
	ICP-OES	DIN ISO 22036: 2009	<input type="checkbox"/>
	ICP-MS	DIN EN ISO 17294-2: 2005	<input checked="" type="checkbox"/>
Uranium (U) – optional	ICP-MS	DIN EN ISO 17294-2: 2005	<input checked="" type="checkbox"/>
Tin (Sn) Thallium (Tl) Tungsten (W) - optional	ICP-OES	DIN EN ISO 11885: 2009	<input type="checkbox"/>
	ICP-OES	DIN ISO 22036: 2009	<input type="checkbox"/>
	ICP-MS	DIN EN ISO 17294-2: 2005	<input checked="" type="checkbox"/>
Selenium (Se) - optional	ET-AAS	DIN EN ISO 15586: 2004	<input type="checkbox"/>
	ICP-OES	DIN EN ISO 11885: 2009	<input type="checkbox"/>
	ICP-OES	DIN ISO 22036: 2009	<input type="checkbox"/>
	ICP-MS	DIN EN ISO 17294-2: 2005	<input type="checkbox"/>
	ET-AAS or hydride-AAS	DIN ISO 20280: 2010	<input checked="" type="checkbox"/>
Chromium (Cr VI)	Spectral photometry	DIN 38405-24: 1987	<input checked="" type="checkbox"/>
	Ion chromatography	DIN EN ISO 10304-3: 1997	<input type="checkbox"/>

Subarea 2.3 Laboratory analysis of eluates/percolates for organic parameters

Eluates/Percolates			
Test parameter	Methods/Notes	Procedure	
Batch test –leaching behaviour of inorganic substances		DIN 19529: 2009	<input checked="" type="checkbox"/>
Batch test –leaching behaviour of organic substances		DIN 19527: 2012	<input checked="" type="checkbox"/>
Batch test –leaching behaviour of inorganic substances - optional		DIN EN 12457-4: 2003	<input checked="" type="checkbox"/>
Percolation method for organic and inorganic substances - optional		DIN 19528: 2009	<input type="checkbox"/>

Eluates/Percolates			
Test parameter	Methods/Notes	Procedure	
Test of absorption availability - optional		DIN 19738: 2004	<input type="checkbox"/>

Analysis of organic parameters			
Test parameter	Methods/Notes	Procedure	
Aromatic compounds (BTEX)	Purge + trap/desorption, GC-MS	DIN EN ISO 15680: 2004	<input type="checkbox"/>
	Liquid extraction or Headspace, GC	DIN 38407-9: 1991	<input checked="" type="checkbox"/>
	Headspace-SPME, GC-MS	DIN 38407-41: 2011	<input type="checkbox"/>
Volatile halogenated hydrocarbons	Purge + Trap/Desorption, GC-MS	DIN EN ISO 15680: 2004	<input type="checkbox"/>
	Liquid extraction or Headspace, GC	DIN EN ISO 10301: 1997	<input checked="" type="checkbox"/>
	Headspace-SPME, GC-MS	DIN 38407-41: 2011	<input type="checkbox"/>
Aldrin	GC-ECD, GC-MS	DIN EN ISO 6468: 1997	<input type="checkbox"/>
		DIN 38407-2: 1993	<input type="checkbox"/>
Dichlorodiphenyltrichloroethane (DDT)	GC-ECD, GC-MS	DIN EN ISO 6468: 1997	<input type="checkbox"/>
		DIN 38407-2: 1993	<input type="checkbox"/>
Chlorophenols	GC-ECD, GC-MS	DIN EN 12673: 1999	<input type="checkbox"/>
Chlorobenzenes (Cl3-Cl6)	GC-ECD, GC-MS	DIN 38407-2: 1993	<input type="checkbox"/>
	Liquid extraction, GC-ECD, GC-MS	DIN EN ISO 6468: 1997	<input type="checkbox"/>
Chlorobenzenes (Cl1-Cl3)	Liquid extraction or Headspace, GC-ECD, possibly MS	DIN EN ISO 10301: 1997	<input checked="" type="checkbox"/>
Polychlorinated biphenyls (PCB)	GC-ECD, GC-MS The type of sum formation must be given (PCB6 /PCB7)	DIN 38407-2: 1993	<input type="checkbox"/>
		DIN 38407-3: 1998	<input type="checkbox"/>
16 PAH (EPA)	HPLC-F	DIN EN ISO 17993: 2004	<input type="checkbox"/>
	GC-MS	DIN 38407-39: 2011	<input checked="" type="checkbox"/>
Naphthalene	GC-FID, GC-MS	DIN EN ISO 15680: 2004	<input type="checkbox"/>
		DIN 38407-9: 1991	<input checked="" type="checkbox"/>

Analysis of organic parameters			
Test parameter	Methods/Notes	Procedure	
Mineral oil hydrocarbons (C ₁₀ -C ₄₀)	GC-FID	DIN EN ISO 9377-2: 2001	<input checked="" type="checkbox"/>
Explosive-typical compounds (HPLC) - optional	HPLC / UV detection	DIN EN ISO 22478: 2006	<input type="checkbox"/>
Explosive-typical compounds (GC) - optional	Determination of selected nitroaromatic compounds by GC	DIN 38407-17: 1999	<input type="checkbox"/>
Phenols- optional	GC-ECD, GC-MS	ISO 8165-2: 1999	<input type="checkbox"/>
		DIN EN 12673: 1999	<input type="checkbox"/>

Area of test 3 – Soil air and landfill gas

Subarea 3.1 Sampling and on-site tests

Not documented

Subarea 3.2 Analysis of soil air and landfill gas

Not documented

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

DepV, Annex. 4	Parameter	§ 8 Abs. 1, 3 und 5 DepV	
2	Sampling	LAGA PN 98 (December 2001)	<input checked="" type="checkbox"/>
3	Determination of total content in solids and of elutable		
3.1	Determination of total content in solids		
3.1.1	Sampling preparation	DIN 19747 (July 2009)	<input checked="" type="checkbox"/>
3.1.2	Degestionmethod (aqua regia)	DIN EN 13657 (January 2003)	<input checked="" type="checkbox"/>
3.1.3	Organic portion from dry residue of the original substance		
3.1.3.1	Loss on ignition	DIN EN 15169 (Mai 2007)	<input checked="" type="checkbox"/>
3.1.3.2	TOC (Total organic carbon)	DIN EN 13137 (December 2001)	<input checked="" type="checkbox"/>
3.1.4	BTEX (Benzene, Tolenel, Ethylbenzene, o-,	DIN 38407-F 9 (Mai 1991)	<input checked="" type="checkbox"/>

DepV, Annex. 4	Parameter	§ 8 Abs. 1, 3 und 5 DepV	
	m-, p-Xylene, Styrene, Cumene)	HLUG Contaminated Site Manual, Vol. 7, Part 4 (2000)	<input type="checkbox"/>
3.1.5	PCB (Polychlorinated biphenyls – sum of the 7 PCB-congeners, PCB-28, -52, -101, -118, -138, -153, -180)	DIN EN 15308 (Mai 2008)	<input checked="" type="checkbox"/>
3.1.6	Mineral oil hydrocarbons (C 10 - C40)	DIN EN 14039 (January 2005) in conjunction with LAGA KW/04 (December 2009)	<input checked="" type="checkbox"/>
3.1.7	PAH (Polycyclic aromatic hydrocarbons)	DIN ISO 18287 (Mai 2006)	<input checked="" type="checkbox"/>
3.1.8	Density	DIN 18125-2 (March 2011)	<input checked="" type="checkbox"/>
3.1.9	Calorific value	DIN EN 15170 (Mai 2009)	<input type="checkbox"/>
3.1.10	Cadmium, chrome, copper, nickel, lead, zinc	DIN ISO 11047 (Mai 2003)	<input type="checkbox"/>
		DIN ISO 22036 (June 2009)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (September 2009)	<input checked="" type="checkbox"/>
3.1.11	Mercury	DIN EN ISO 12846 (E 12) (August 2012)	<input checked="" type="checkbox"/>
		DIN EN ISO 17852 (E 35) (April 2008)	<input type="checkbox"/>
3.1.12	Extractable lipophilic substances	LAGA KW/04 (Dezember 2009)	<input checked="" type="checkbox"/>
3.2	Determination of the content from the eluate		
3.2.1	Preparation of the eluate		
3.2.1.1	Preparation of the eluate at a liquid to solid ratio of 10/1	DIN EN 12457-4 (Januar 2003)	<input checked="" type="checkbox"/>
3.2.1.2	Preparation of eluate with constant pH 4 and 11/ Acid neutralizing capacity	LAGA-Richtlinie EW 98 (2002)	<input type="checkbox"/>
3.2.2	Up-flow percolation test	DIN 19528 (January 2009)	<input type="checkbox"/>
		DIN CEN/TS 14405 (September 2004)	<input type="checkbox"/>
3.2.3	pH of the eluate	DIN 38404-5 (Juli 2009)	<input checked="" type="checkbox"/>

DepV, Annex. 4	Parameter	§ 8 Abs. 1, 3 und 5 DepV	
3.2.4	DOC (Dissolved organic carbon)		
3.2.4.1	DOC	DIN EN 1484 (H 3) (August 1997)	<input checked="" type="checkbox"/>
3.2.4.2	DOC atpH-between 7,5 and 8	LAGA-Richtlinie EW 98 (2002)	<input type="checkbox"/>
3.2.5	Phenole	DIN 38409-H 16 (June 1984)	<input checked="" type="checkbox"/>
		DIN EN ISO 14402 (H 37) (December 1999)	<input type="checkbox"/>
3.2.6	Arsenic	DIN EN ISO 11969 (D 18) (November 1996)	<input type="checkbox"/>
		DIN ISO 22036 (June 2009)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (September 2009)	<input type="checkbox"/>
		DIN EN ISO 15586 (E 4) (February 2004)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (February 2005)	<input checked="" type="checkbox"/>
3.2.7	Lead	DIN EN ISO 15586 (E 4) (February 2004)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (February 2005)	<input checked="" type="checkbox"/>
		DIN ISO 22036 (June 2009)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (September 2009)	<input checked="" type="checkbox"/>
3.2.8	Cadmium	DIN EN ISO 15586 (E 4) (February 2004)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (February 2005)	<input checked="" type="checkbox"/>
		DIN ISO 22036 (June 2009)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (September 2009)	<input checked="" type="checkbox"/>

DepV, Annex. 4	Parameter	§ 8 Abs. 1, 3 und 5 DepV	
3.2.9	Copper	DIN EN ISO 15586 (E 4) (February 2004)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (February 2005)	<input type="checkbox"/>
		DIN ISO 22036 (June 2009)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (September 2009)	<input checked="" type="checkbox"/>
3.2.10	Nickel	DIN EN ISO 15586 (E 4) (Februar 2004)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (Februar 2005)	<input checked="" type="checkbox"/>
		DIN ISO 22036 (Juni 2009)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (September 2009)	<input checked="" type="checkbox"/>
3.2.11	Mercury	DIN EN ISO 12846 (E 12) (August 2012)	<input checked="" type="checkbox"/>
		DIN EN ISO 17852 (E 35) (April 2008)	<input type="checkbox"/>
3.2.12	Zinc	DIN EN ISO 15586 (E 4) (February 2004)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (February 2005)	<input type="checkbox"/>
		DIN ISO 22036 (June 2009)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (September 2009)	<input checked="" type="checkbox"/>
3.2.13	Chloride	DIN EN ISO 10304-1 (D 20) (July 2009)	<input checked="" type="checkbox"/>
		DIN 38405-D 1 (December 1985)	<input type="checkbox"/>
		DIN EN ISO 15682 (D 31) (January 2002)	<input type="checkbox"/>

DepV, Annex. 4	Parameter	§ 8 Abs. 1, 3 und 5 DepV	
3.2.14	Sulfate	DIN EN ISO 10304-1 (D 20) (July 2009)	<input checked="" type="checkbox"/>
		DIN 38405-D 5 (January 1985)	<input type="checkbox"/>
3.2.15	Cyanide, easily liberatable	DIN 38405-D 13 (April 2011)	<input checked="" type="checkbox"/>
		In sulfidic waste : DIN ISO 17380 (May 2006)	<input type="checkbox"/>
		DIN EN ISO 14403-1 (D 2) (October 2012)	<input type="checkbox"/>
3.2.16	Fluoride	DIN 38405-D 4 (July 1985)	<input checked="" type="checkbox"/>
		DIN EN ISO 10304-1 (D 20) (July 2009)	<input type="checkbox"/>
3.2.17	Barium	DIN ISO 22036 (June 2009)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (September 2009)	<input checked="" type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (February 2005)	<input type="checkbox"/>
3.2.18	Chromium, total	DIN ISO 22036 (June 2009)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (September 2009)	<input checked="" type="checkbox"/>
		DIN EN ISO 15586 (E 4) (February 2004)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (February 2005)	<input checked="" type="checkbox"/>
3.2.19	Molybdenum	DIN ISO 22036 (June 2009)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (September 2009)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (February 2005)	<input checked="" type="checkbox"/>
3.2.20	Antimony	DIN ISO 22036 (June 2009)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (September 2009)	<input type="checkbox"/>

DepV, Annex. 4	Parameter	§ 8 Abs. 1, 3 und 5 DepV	
		DIN EN ISO 15586 (E 4) (February 2004)	<input type="checkbox"/>
		DIN 38405-E 32 (May 2000)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (Februar 2005)	<input checked="" type="checkbox"/>
3.2.21	Selenium	DIN ISO 22036 (Juni 2009)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (September 2009)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (February 2005)	<input checked="" type="checkbox"/>
3.2.22	Total dissolved solids (TDS)	DIN EN 15216 (January 2008)	<input type="checkbox"/>
		DIN 38409-H 1 (January 1987)	<input checked="" type="checkbox"/>
		DIN 38409-H 2 (March 1987)	<input type="checkbox"/>
3.2.23	electrical conductivity of the eluate	DIN EN 27888 (C 8) (November 1993)	<input checked="" type="checkbox"/>
3.2.24	determination of dry residue	DIN EN 14346 (March 2007)	<input checked="" type="checkbox"/>
3.3	Biological degradability of dry residue in original substancer		
3.3.1	Breathability over 4 days (AT ₄)		<input type="checkbox"/>
3.3.2	Rate of gas formation in the fermentation test over 21 days (GB ₂₁)		<input type="checkbox"/>

4.5 List of test methods for the technical module WASTE, Site: Hameln
Version: LAGA of August 2012

Area of test 1: Sewage sludge

	Subarea/ Parameter	Basis/ Procedure	
		AbfklärV	
1.1	Sampling	Annex 1 AbfklärV	<input checked="" type="checkbox"/>
1.2	Heavy metals	Article 3, Paragraph 5 AbfklärV	
	Aqua regia digestion	DIN 38414-7 (01.83)	<input type="checkbox"/>
		DIN EN 13346 (04.01)	<input type="checkbox"/>
		DIN EN 13657 (01.03)	<input checked="" type="checkbox"/>
	Lead (from aqua regia digestion)	DIN 38406-6 (05.81)	<input type="checkbox"/>
		DIN 38406-22 (03.88)	<input type="checkbox"/>
		DIN 38406-E 6 (07.98)	<input type="checkbox"/>
		DIN ISO 11047 (05.03)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (09.09)	<input checked="" type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/>
	Cadmium (from aqua regia digestion)	DIN 38406-19 (07.80)	<input type="checkbox"/>
		DIN 38406-22 (03.88)	<input type="checkbox"/>
		DIN ISO 11047 (05.03)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (09.09)	<input checked="" type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/>
		DIN EN ISO 5961 (E 19) (05.95)	<input type="checkbox"/>
	Chromium (from aqua regia digestion)	DIN 38406-10 (06.85)	<input type="checkbox"/>
		DIN 38406-22 (03.88)	<input type="checkbox"/>
		DIN EN 1233 (E 10) (08.96)	<input type="checkbox"/>
		DIN ISO 11047 (05.03)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (09.09)	<input checked="" type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/>
	Copper (from aqua regia digestion)	DIN 38406-22 (03.88)	<input type="checkbox"/>
		DIN 38406-E 7 (09.91)	<input type="checkbox"/>
		DIN ISO 11047 (05.03)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (09.09)	<input checked="" type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/>
	Nickel (from aqua regia digestion)	DIN 38406-22 (03.88)	<input type="checkbox"/>
		DIN 38406-E 11 (09.91)	<input type="checkbox"/>

	Subarea/ Parameter	Basis/ Procedure	
		DIN ISO 11047 (05.03)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (09.09)	<input checked="" type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/>
	Mercury (from aqua regia digestion)	DIN 38406-12 (07.80)	<input type="checkbox"/>
		DIN EN 1483 (E 12) (07.07)	<input checked="" type="checkbox"/>
		DIN EN ISO 17852 (E 35) (04.08)	<input type="checkbox"/>
	Zinc (from aqua regia digestion)	DIN 38406-8 (10.80)	<input type="checkbox"/>
		DIN 38406-22 (03.88)	<input type="checkbox"/>
		DIN 38406-E 8 (10.04)	<input type="checkbox"/>
		DIN ISO 11047 (05.03)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (09.09)	<input checked="" type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/>
1.3	Adsorbed organically bound halogens		
	AOX (from residue on ignition)	DIN 38414-S 18 (11.89)	<input checked="" type="checkbox"/>
1.4	Physical parameters, nutrients	Article 3, Paragraph 5 AbfklärV	
	Residue on ignition	DIN 38414-S 2 (11.85)	<input type="checkbox"/>
		DIN EN 12880 (S 2a) (02.01)	<input checked="" type="checkbox"/>
	Organic substance as ignition loss (from residue on ignition)	DIN 38414-S 3 (11.85)	<input type="checkbox"/>
		DIN EN 12879 (S 3a) (02.01)	<input checked="" type="checkbox"/>
	pH	DIN 38414-5 (09.81)	<input type="checkbox"/>
		DIN 38414-5 (07.09)	<input type="checkbox"/>
		DIN EN 12176 (S 5) (06.98)	<input checked="" type="checkbox"/>
	Aqua regia digestion	DIN 38414-7 (01.83)	<input type="checkbox"/>
		DIN EN 13346 (04.01)	<input type="checkbox"/>
		DIN EN 13657 (01.03)	<input checked="" type="checkbox"/>
	Alkaline substances as CaO	Annex 1 AbfklärV	<input checked="" type="checkbox"/>
		Calculation acc. to $\% \text{CaO} = (50-x-2y)^2 \cdot 1.402$	<input checked="" type="checkbox"/>
	Ammonia nitrogen (NH ₄ -N)	DIN 38406-E 5 (10.83)	<input checked="" type="checkbox"/>
	Total nitrogen (N _{tot})	DIN 19684-4 (02.77) Distillation method	<input checked="" type="checkbox"/>

² Correction to AbfklärV, Annex 1, Paragraph 1.3.2, No. VI –This source gives an incorrect formula for calculation.

	Subarea/ Parameter	Basis/ Procedure	
		DIN ISO 11261 (05.97)	<input checked="" type="checkbox"/>
		DIN EN 13342 (01.01)	<input type="checkbox"/>
	Phosphorus (P ₂ O ₅) (from aqua regia digestion)	DIN 38414-S 12 (11.86)	<input type="checkbox"/>
		DIN 38406-22 (03.88)	<input type="checkbox"/>
		DIN EN ISO 6878 (D 11) (09.04)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (09.09)	<input checked="" type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/>
	Potassium (K ₂ O) (from aqua regia digestion)	DEV E13 (5th delivery 68)	<input type="checkbox"/>
		DIN 38406- 22 (03.88)	<input type="checkbox"/>
		DIN 38406-E 13 (07.92)	<input type="checkbox"/>
		DIN ISO 9964-3 (E 27) (08.96)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (09.09)	<input checked="" type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/>
	Magnesium (MgO) (from aqua regia digestion)	DIN 38406-3 (09.82)	<input type="checkbox"/>
		DIN 38406-22 (03.88)	<input type="checkbox"/>
		DIN 38406-E 3 (03.02)	<input type="checkbox"/>
		DIN EN ISO 7980 (E 3a) (07.00)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (09.09)	<input checked="" type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/>
	Persistent organic pollutants	Article 3, Paragraph 6 AbfKlärV	
1.5	Polychlorinated biphenyls (PCB)	Annex 1, No. 1.3.3.1 AbfKlärV	<input type="checkbox"/>
		DIN 38414-S 20 (01.96)	<input checked="" type="checkbox"/>
1.6	Polychlorinated dibenzodioxines/-furans (PCDD/PCDF)	Annex 1 No. 1.3.3.2 AbfKlärV	<input type="checkbox"/>
		DIN 38414-S 24 (10.00)	<input checked="" type="checkbox"/>

Area of test 2: Soils

	Subarea/ Parameter	Basis/ Procedure	
		AbfKlärV and BioAbfV	
2.1	Sampling and sample preparation	Article 3, Paragraph 2 AbfKlärV and Article 9 BioAbfV	
	Sampling	Annex 1, No. 2.1 AbfKlärV	<input checked="" type="checkbox"/>
	Sample preparation	Annex 1, No. 2.1 AbfKlärV	<input checked="" type="checkbox"/>
2.2	Heavy metals, pH and soil type	Article 3, Paragraph 2	

Subarea/ Parameter	Basis/ Procedure	
	Article 9, Paragraph 2 BioAbfV	
Aqua regia digestion	DIN 38414-7 (01.83)	<input type="checkbox"/>
	DIN ISO 11466 (06.97)	<input type="checkbox"/>
	DIN EN 13346 (04.01)	<input type="checkbox"/>
	DIN EN 13657 (01.03)	<input checked="" type="checkbox"/>
Lead (from aqua regia digestion)	DIN 38406-22 (03.88)	<input type="checkbox"/>
	DIN 38406-E 6 (07.98)	<input type="checkbox"/>
	DIN ISO 11047 (05.03)	<input type="checkbox"/>
	DIN EN ISO 11885 (E 22) (09.09)	<input checked="" type="checkbox"/>
	DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/>
Cadmium (from aqua regia digestion)	DIN 38406-22 (03.88)	<input type="checkbox"/>
	DIN EN ISO 5961 (E 19) (05.95)	<input type="checkbox"/>
	DIN ISO 11047 (05.03)	<input type="checkbox"/>
	DIN EN ISO 11885 (E 22) (09.09)	<input checked="" type="checkbox"/>
	DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/>
Chromium (from aqua regia digestion)	DIN 38406-22 (03.88)	<input type="checkbox"/>
	DIN EN 1233 (E 10) (08.96)	<input type="checkbox"/>
	DIN ISO 11047 (05.03)	<input type="checkbox"/>
	DIN EN ISO 11885 (E 22) (09.09)	<input checked="" type="checkbox"/>
	DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/>
Copper (from aqua regia digestion)	DIN 38406-22 (03.88)	<input type="checkbox"/>
	DIN 38406-E 7 (09.91)	<input type="checkbox"/>
	DIN ISO 11047 (05.03)	<input type="checkbox"/>
	DIN EN ISO 11885 (E 22) (09.09)	<input checked="" type="checkbox"/>
	DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/>
Nickel (from aqua regia digestion)	DIN 38406-22 (03.88)	<input type="checkbox"/>
	DIN 38406-E 11 (09.91)	<input type="checkbox"/>
	DIN ISO 11047 (05.03)	<input type="checkbox"/>
	DIN EN ISO 11885 (E 22) (09.09)	<input checked="" type="checkbox"/>
	DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/>
Mercury (from aqua regia digestion)	DIN 38406-12 (07.80)	<input type="checkbox"/>
	DIN EN 1483 (E 12) (07.07)	<input checked="" type="checkbox"/>
	DIN EN ISO 17852 (E 35) (04.08)	<input type="checkbox"/>
Zinc (from aqua regia digestion)	DIN 38406-22 (03.88)	<input type="checkbox"/>
	DIN 38406-8 (10.80)	<input type="checkbox"/>
	DIN 38406-E 8 (10.04)	<input type="checkbox"/>

	Subarea/ Parameter	Basis/ Procedure	
		DIN EN ISO 11885 (E 22) (09.09)	<input checked="" type="checkbox"/>
		DIN ISO 11047 (05.03)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/>
	Soil type	DIN 18123 (04.83)	<input type="checkbox"/>
		DIN 18123 (04.11)	<input type="checkbox"/>
		VDLUFA Methods Manual I D 2.1	<input checked="" type="checkbox"/>
	pH	DIN 19684- 1 (02.77)	<input type="checkbox"/>
		DIN ISO 10390 (12.05)	<input type="checkbox"/>
		VDLUFA Methods Manual I A 5.1.1	<input checked="" type="checkbox"/>
2.3	Physical parameters, nutrients	Article 3, Paragraph 4 AbfklärV Article 9, Paragraph 2 BioAbfV	
	P _{CAL/DL}	VDLUFA Methods Manual A 6.2.1.1. and A 6.2.1.2	<input checked="" type="checkbox"/>
	K _{CAL/DL}	VDLUFA Methods Manual A 6.2.1.1. and A 6.2.1.2	<input checked="" type="checkbox"/>
	Mg _{CaCl2}	VDLUFA Methods Manual A 6.2.4.1	<input checked="" type="checkbox"/>
	pH	DIN 19684-1 (02.77)	<input type="checkbox"/>
		DIN ISO 10390 (12.05)	<input type="checkbox"/>
		VDLUFA Methods Manual I A 5.1.1	<input checked="" type="checkbox"/>
	Clay content / soil type	DIN 18123 (04.83)	<input type="checkbox"/>
		DIN 18123 (04.11)	<input type="checkbox"/>
		VDLUFA Methods Manual I D 2.1	<input checked="" type="checkbox"/>

Area of test 3: Biowaste

	Subarea/ Parameter	Basis/ Procedure	
		Article 4 BioAbfV	
3.1	Sampling and sample preparation	Article 4, Paragraph 9 BioAbfV, Annex 3 No. 1.1/1.2 BioAbfV	<input checked="" type="checkbox"/>

	Subarea/ Parameter	Basis/ Procedure	
3.2	Heavy metals	Article 4, Paragraph 5 BioAbfV	
	Aqua regia digestion	DIN EN 13650 (01.02)	<input type="checkbox"/>
		DIN EN 13657 (01.03)	<input checked="" type="checkbox"/>
		DIN EN 13346 (04.01)	<input type="checkbox"/>
	Lead (from aqua regia digestion)	DIN 38406-E 6 (07.98)	<input type="checkbox"/>
		DIN ISO 11047 (05.03)	<input type="checkbox"/>
		DIN EN ISO 11885 (04.98)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (09.09)	<input checked="" type="checkbox"/>
	Cadmium (from aqua regia digestion)	DIN EN ISO 5961 (E 19) (05.95)	<input type="checkbox"/>
		DIN ISO 11047 (05.03)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (04.98)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (09.09)	<input checked="" type="checkbox"/>
	Chromium (from aqua regia digestion)	DIN EN 1233 (E 10) (08.96)	<input type="checkbox"/>
		DIN ISO 11047 (05.03)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (04.98)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (09.09)	<input checked="" type="checkbox"/>
	Copper (from aqua regia digestion)	DIN 38406-E 7 (09.91)	<input type="checkbox"/>
		DIN ISO 11047 (05.03)	<input type="checkbox"/>
		DIN EN ISO 11885 (04.98)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (09.09)	<input checked="" type="checkbox"/>
	Nickel (from aqua regia digestion)	DIN 38406-E 11 (09.91)	<input type="checkbox"/>
		DIN ISO 11047 (05.03)	<input type="checkbox"/>
		DIN EN ISO 11885 (04.98)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (09.09)	<input checked="" type="checkbox"/>
	Mercury (from aqua regia digestion)	DIN EN 1483 (E 12) (07.07)	<input checked="" type="checkbox"/>
		DIN EN 12338 (E 31) (10.98)	<input type="checkbox"/>
	Zinc (from aqua regia digestion)	DIN 38406-E 8 (10.04)	<input type="checkbox"/>

	Subarea/ Parameter	Basis/ Procedure	
		DIN ISO 11047 (05.03)	<input type="checkbox"/>
		DIN EN ISO 11885 (04.98)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (09.09)	<input checked="" type="checkbox"/>
3.3	Physical parameters, foreign substances	Article 4, Paragraph 5 BioAbfV	
	Residue on ignition	DIN EN 13040 (02.07)	<input type="checkbox"/>
		DIN EN 13040 (01.08)	<input type="checkbox"/>
	pH	DIN EN 13037 (02.00)	<input type="checkbox"/>
		DIN EN 13037 (01.12)	<input type="checkbox"/>
	Salt content	DIN EN 13038 (02.00)	<input type="checkbox"/>
		DIN EN 13038 (01.12)	<input type="checkbox"/>
	Organic substance as ignition loss (from residue on ignition)	DIN EN 13039 (02.00)	<input type="checkbox"/>
	Fruit stones and foreign substances	Annex 3 BioAbfV, No. 1.3.3 Compost Methods Manual of the Bundesgütegemeinschaft Kompost e.V.	<input type="checkbox"/>
3.4	Process validation³	Article 3, Paragraph 4 BioAbfV	
	- Determination of minimum retention time		
	Tracer tests with spores of Bacillus globigii	Annex 2 No. 4.1.1 BioAbfV	<input type="checkbox"/>
	Tracer tests with lithium	Annex 2 No. 4.1.2 BioAbfV	<input type="checkbox"/>
	- Epidemiological hygiene Salmonella senftenberg W 775 (H ₂ S-neg.)	Annex 2 No. 4.2.1 BioAbfV	<input type="checkbox"/>
	- Phytohygiene Plasmodiophora brassicae (clubroot)		<input type="checkbox"/>
	Tomato seeds	Annex 2 No. 4.3.1 BioAbfV	<input type="checkbox"/>
	Tobacco mosaic virus (TMV)		<input type="checkbox"/>
3.5	Testing of hygienic biowaste³	Section 3, Paragraph 4 BioAbfV	
	- Epidemiological hygiene Salmonella	Annex 2 No. 4.2.2 BioAbfV	<input type="checkbox"/>

³ Deviation from Part II, No. 4.1 of the technical module waste – The proof of qualification for sub-areas 3.4 and 3-5 can be shown for each separate parameter.

	Subarea/ Parameter	Basis/ Procedure	
	- Phytohygiene Germinable seed material and plants capable of producing shoots	Annex 2 No. 4.3.2 BioAbfV	<input type="checkbox"/>

Area of test 4: Old oil and insulating fluid

Not documented

Area of test 5: Waste for deposition

	Subarea/ Parameter	Basis/ Procedure	
		§ 8 Abs. 1, 3 und 5 DepV	
5.1	Sampling, sample preparation	Annex 4, No. 2 and No. 3.1.1 DepV	<input checked="" type="checkbox"/>
5.2	Sample preparation – general parameters	Annex 4 No. 3 DepV	
	Digestion method (aqua regia)	DIN EN 13657 (01.03)	<input checked="" type="checkbox"/>
	Preparation of eluates/percolates	Annex 4, No. 3.2.1 and No. 3.2.2 DepV	<input checked="" type="checkbox"/>
	pH of the eluate	DIN 38404-5 (07.09)	<input checked="" type="checkbox"/>
	Conductivity of the eluate	DIN EN 27888 (C 8) (11.93)	<input checked="" type="checkbox"/>
	Total content of dissolved solid matter	DIN EN 15216 (01.08)	<input type="checkbox"/>
		DIN 38409-H 1 (01.87)	<input checked="" type="checkbox"/>
		DIN 38409-H 2 (03.87)	<input type="checkbox"/>
	Loss on ignition	DIN EN 15169 (05.07)	<input checked="" type="checkbox"/>
	Cyanides, readily liberated (from the eluate)	DIN 38405-14 (12.88)	<input type="checkbox"/>
		DIN 38405-D 13 (04.11)	<input checked="" type="checkbox"/>
		For wastes containing sulphides: DIN ISO 17380 (05.06)	<input type="checkbox"/>
		DIN EN ISO 14403 (D 6) (07.02)	<input type="checkbox"/>
	Fluoride (from the eluate)	DIN 38405-D 4 (07.85)	<input checked="" type="checkbox"/>
		DIN EN ISO 10304-1 (D 20) (07.09)	<input type="checkbox"/>
	Chloride (from the eluate)	DIN EN ISO 10304-1 (D 20) (07.09)	<input checked="" type="checkbox"/>
		DIN 38405-D 1 (12.85)	<input type="checkbox"/>
		DIN EN ISO 15682 (D 31) (01.02)	<input type="checkbox"/>
	Sulphate (from the eluate)	DIN EN ISO 10304-1 (D 20) (07.09)	<input checked="" type="checkbox"/>

	Subarea/ Parameter	Basis/ Procedure	
		DIN 38405-D 5 (01.85)	<input type="checkbox"/>
	Density	DIN 18125-2 (08.99)	<input checked="" type="checkbox"/>
		DIN 18125-2 (03.11)	<input type="checkbox"/>
	Calorific value	DIN EN 15170 (05.09)	<input type="checkbox"/>
5.3	Elements	Article 4, No. 3 DepV	
	Cadmium, chromium, copper, nickel, lead and zinc	DIN ISO 11047 (05.03)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (09.09)	<input checked="" type="checkbox"/>
		DIN ISO 22036 (06.09)	<input type="checkbox"/>
	Mercury	DIN EN 1483 (E 12) (07.07)	<input checked="" type="checkbox"/>
		DIN EN 12338 (E 31) (10.98)	<input type="checkbox"/>
		DIN EN ISO 17852 (E 35) (04.08)	<input type="checkbox"/>
	Arsenic (from the eluate)	DIN EN ISO 11969 (D 18) (11.96)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (09.09)	<input type="checkbox"/>
		DIN ISO 22036 (06.09)	<input type="checkbox"/>
		DIN EN ISO 15586 (E 4) (02.04)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (02.05)	<input checked="" type="checkbox"/>
	Lead (from the eluate)	DIN EN ISO 15586 (E 4) (02.04)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (02.05)	<input checked="" type="checkbox"/>
		DIN EN ISO 11885 (E 22) (09.09)	<input checked="" type="checkbox"/>
		DIN ISO 22036 (06.09)	<input type="checkbox"/>
	Cadmium (from the eluate)	DIN EN ISO 15586 (E 4) (02.04)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (02.05)	<input checked="" type="checkbox"/>
		DIN EN ISO 11885 (E 22) (09.09)	<input checked="" type="checkbox"/>
		DIN ISO 22036 (06.09)	<input type="checkbox"/>
	Copper (from the eluate)	DIN EN ISO 15586 (E 4) (02.04)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (09.09)	<input checked="" type="checkbox"/>
		DIN ISO 22036 (06.09)	<input type="checkbox"/>
	Nickel (from the eluate)	DIN EN ISO 15586 (E 4) (02.04)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (02.05)	<input checked="" type="checkbox"/>
		DIN EN ISO 11885 (E 22) (09.09)	<input checked="" type="checkbox"/>
		DIN ISO 22036 (06.09)	<input type="checkbox"/>
	Mercury (from the eluate)	DIN EN 1483 (E 12) (07.07)	<input checked="" type="checkbox"/>
		DIN EN ISO 17852 (E 35) (04.08)	<input type="checkbox"/>
	Zinc (from the eluate)	DIN EN ISO 15586 (E 4) (02.04)	<input type="checkbox"/>

	Subarea/ Parameter	Basis/ Procedure	
		DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (09.09)	<input checked="" type="checkbox"/>
		DIN ISO 22036 (06.09)	<input type="checkbox"/>
	Barium (from the eluate)	DIN ISO 22036 (06.09)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (09.09)	<input checked="" type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/>
	Chromium, total (from the eluate)	DIN ISO 22036 (06.09)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (09.09)	<input checked="" type="checkbox"/>
		DIN EN ISO 15586 (E 4) (02.04)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (02.05)	<input checked="" type="checkbox"/>
	Molybdenum (from the eluate)	DIN ISO 22036 (06.09)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (09.09)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (02.05)	<input checked="" type="checkbox"/>
	Antimony (from the eluate)	DIN ISO 22036 (06.09)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (09.09)	<input type="checkbox"/>
		DIN EN ISO 15586 (E 4) (02.04)	<input type="checkbox"/>
		DIN 38405-E 32 (05.00)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (02.05)	<input checked="" type="checkbox"/>
	Selenium (from the eluate)	DIN ISO 22036 (06.09)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (09.09)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (02.05)	<input checked="" type="checkbox"/>
5.4	Group and sum parameters	Annex 4, No. 3 DepV	
	Total organic carbon (TOC)	DIN EN 13137 (12.01)	<input checked="" type="checkbox"/>
	Dissolved organic carbon (DOC)	DIN EN 1484 (H 3) (08.97)	<input checked="" type="checkbox"/>
	Extractable lipophilic substances in the original substance	LAGA KW/04 (12.09)	<input checked="" type="checkbox"/>
	Phenols (from the eluate)	DIN 38409-H 16 (06.84)	<input checked="" type="checkbox"/>
		DIN EN ISO 14402 (H 37) (12.99)	<input type="checkbox"/>
	Mineral oil hydrocarbons	DIN EN 14039 (01.05) in conjunction with LAGA KW/04 (12.09)	<input checked="" type="checkbox"/>
5.5	Individual organic substances	Annex 4, No. 3 DepV	
	Polycyclic aromatic hydrocarbons (PAH)	DIN ISO 18287 (05.06)	<input checked="" type="checkbox"/>
	Benzene and derivatives (BTEX)	DIN 38407-F 9 (05.91)	<input checked="" type="checkbox"/>

	Subarea/ Parameter	Basis/ Procedure	
		HLUG Contaminated Site Manual, Vol. 7, Part 4 (08.00)	<input type="checkbox"/>
	Polychlorinated biphenyls(PCB)	DIN EN 15308 (05.08)	<input checked="" type="checkbox"/>
5.6	Biological degradability	Annex 4, No. 3 DepV	
	Breathability over 4 days (AT ₄)	Annex 4, No. 3.3.1 DepV	<input type="checkbox"/>
	Rate of gas formation in the fermentation test over 21 days (GB ₂₁)	Annex 4, No. 3.3.2 DepV	<input type="checkbox"/>

Area of test 6: Waste wood

Not documented

4.6 Tests of agricultural and horticultural soils and fertiliser, including secondary raw material fertilisers

All methods described in the technical modules are also accredited for a corresponding matrix outside of the technical module and are not listed separately here.

4.6.1 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
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 19761 sheet 1 1964-05	Soil drilling equipment for rural land improvement – Groove burrs, tubular drills	IfB HM IfD HM
BioAbfV Annex 3 No. 1.1 1998	Test of treated and untreated biowaste – Sampling	IfB HM IfD HM
VDLUFA I, A 1 2007	Sample taking, transport and preparation of samples	IfB HM IfD HM

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VDLUFA I, A 1.2.1 2007	Sampling for the test of nutrients accessible to plants in agrarian and horticultural soils (Modification: <i>also for deeper layers (5 m)</i>)	IfB HM IfD HM
VDLUFA I, A 1.2.2 1997	Sampling for the N _{min} method	IfB HM IfD HM
4.6.2 Sample preparation		
DIN 38414-S 4 1984-10	Determination of leachability by water	IfB HM IfD HM
DIN 38414-S 7 1983-01	German standard methods for the examination of water, waste water and sludge; Sludge and sediments (Group S); Digestion using aqua regia for subsequent determination of the acid-soluble portion of metals (S7)	IfB HM IfD HM
DIN 19682-2 2007-11	Field tests – Determination of soil texture	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 FRESINIUS-NEUBAUER extraction	IfB HM IfD HM
VDLUFA II.1, 4.1.7 1995	Extraction of water-soluble phosphate – Extraction	IfB HM IfD HM
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 1995	Determination of calcium which is soluble in mineral acid – Preparation of the analytical solution	IfB HM IfD HM
VDLUFA II.1, 6.1.3 1995	Determination of water – soluble calcium in mineral fertilisers – Preparation of the analytical solution	IfB HM IfD HM
VDLUFA VII, 2.1.3 4th edition 2011	Microwave-heated pressure digestion	IfB HM IfD HM
EU 3.1.3 VO 2003/2003 EU	Extraction of phosphorus soluble in 2% citric acid (20 g per litre)	IfB HM IfD HM

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EU 3.1.4 VO 2003/2003 EU	Extraction of phosphorus which is soluble in neutral ammonium citrate	IfB HM IfD HM
EU 3.1.6 VO 2003/2003 EU	Extraction of water soluble phosphorus	IfB HM IfD HM
EU 4.1 VO 2003/2003 EU	Determination of water soluble potassium content	IfB HM IfD HM
EU 8.3 VO 2003/2003 EU	Extraction of water soluble calcium, magnesium, sodium and sulphur (in the form of sulphates)	IfB HM IfD HM
EU 9.2 VO 2003/2003 EU	Extraction of water soluble micro-nutrients (boron, cobalt, copper, iron, manganese, molybdenum and zinc)	IfB HM IfD HM

4.6.3 Gravimetric methods

DIN 38414-S 22 2000-09	Determination of dry residue by freezing and preparation of the freeze dried mass of sludge (S 22)	IfB HM IfD HM
DIN ISO 11465 1996-12	Soil quality – Determination of dry matter and water content on a mass basis – Gravimetric method	IfB HM IfD HM
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
BGK Methods Manual Chapter II C 1 2015-12	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 1995	Determination of screening stage of lime (dry method)	IfB HM IfD HM

LUFA Nord-West AA4/1A-030 2014-09	Soil quality – Determination of particle size distribution in mineral soils – Screening and sedimentation method following removal of soluble salts, organic substance and carbonates	IfB HM IfD HM
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4.6.4 Volumetric, titrimetric and potentiometric methods

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
VDLUFA II, 6.3 1995	Determination of alkaline components in lime fertilisers	IfB HM IfD HM
VDLUFA II, 6.4 1995	Determination of reactivity of carbonated limes	IfB HM IfD HM
VDLUFA VII, 2.2.2.11 2011	Determination of fluorine in plants and animal feedstuff by the ion-selective electrode method	IfB HM IfD HM

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

DIN 38405-D 23 1994-10	Determination of selenium by atomic absorption spectrometry (D 23) (Deviation: <i>Determination from aqua regia digestion</i>)	IfB HM IfD HM
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 ISO 11885 (E 22) 2009-09	Water quality – Determination of selected elements by inductively coupled plasma optical emission spectrometry (ICP-OES) (Deviation: <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

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DIN EN ISO 11732 (E 23) 2005-05	Water quality – Determination of ammonium nitrogen – Method by flow analysis (CFA and FIA) and spectrometric detection <i>(Deviation: Matrix test of agricultural and horticultural soils and fertilisers, including secondary raw material fertilisers)</i>	IfB HM IfD HM
DIN EN ISO 17294-2 (E 29) 2005-02	Water quality – Application of inductively coupled plasma mass spectrometry (ICP-MS) – Part 2: Determination of 62 elements <i>(Deviation: Determination from aqua regia digestion and determination from water soluble extracts)</i>	IfB HM IfD HM
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 6.3.1 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

4.6.6 Chromatographic methods (GC, HPLC)

DIN ISO 16703 2005-12	Soil quality – Determination of content of hydrocarbon in the range C10 to C40 by gas chromatography	IfB HM IfD HM
DIN EN ISO 22155 2013-05	Soil quality – Gas chromatographic quantitative determination of volatile aromatic and halogenated hydrocarbons and selected ethers – Static headspace method	IfB HM IfD HM
DIN 38414-14 2011-08	Determination of selected polyfluorinated compounds (PFC) in sludge, compost and soil – Method using high performance liquid chromatography and mass spectrometric detection (HPLC-MS/MS)	IfB HM IfD HM
ASU L 00.00-113 2015-03	Determination of pesticide residues in foods of plant origin using LC-MS/MS following methanol extraction and clean-up using diatomaceous earth <i>(Deviation: here in soils and fertilisers)</i>	IfB HM IfD HM

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ASU L 00.00-115 2014-02	Determination of pesticide residues in foods of plant origin using GC-MS and/or LC-MS/MS following acetonitrile extraction/partitioning and clean-up by dispersive SPE (QuEChERS) (Deviation: <i>here in soils and fertilisers</i>)	IfB HM IfD HM
VDLUFA II.1, 3.9.2 1995	Determination of biuret in urea – HPLC method (Deviation: <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 (Deviation: <i>also for dust</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, 3.3.2.6 4th edition 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
VDLUFA VII, 3.3.6.1 2011	Determination of phenols in soils, sewage sludge, composts, plant material and water by gas chromatography with mass-spectrometric detection (Deviation: <i>also for consumer goods made of plant material</i>)	IfB HM IfD HM
LUFA Nord-West AA 4/1C-043 2015-03	Determination of di(2-ethylhexyl)phthalate in Sewage sludge and soils by GC-MS measurement	IfB HM IfD HM
4.6.7 Other methods		
DIN ISO 10694 1996-08	Determination of organic and total carbon after dry combustion (elementary analysis)	IfB HM IfD HM
VDLUFA II.1, 3.5.2.7 1995	Determination of total nitrogen – Combustion method	IfB HM IfD HM

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

4.7.1 Sample preparation

VDLUFA VII, 2.1.3 4th edition 2011	Microwave-heated pressure digestion	IfB HM IfD HM
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4.7.2 Gravimetric methods

VDLUFA III, 3.1 1983	Determination of moisture	IfB HM IfD HM
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4.7.3 Volumetric, titrimetric and potentiometric methods

VDLUFA VII, 2.2.2.11 2011	Determination of fluorine in plants and animal feedstuff by the ion-selective electrode method	IfB HM IfD HM
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4.7.4 Spectroscopic methods (AAS, ICP)

DIN 38405-D 23 1994-10	Determination of selenium by atomic absorption spectrometry <i>(Deviation for foodstuffs from microwave pressure digestion)</i>	IfB HM IfD HM
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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) <i>(Deviation: Determination for microwave pressure digestion (here for: animal feedstuffs and foodstuffs, harvested crops and plants))</i> <i>(Restriction: only Cu, Zn, Na, Fe, Al, Ca, Mg, P, K, S, Mn and B)</i>	IfB HM IfD HM
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DIN EN ISO 17294-2 (E 29) 2005-02	Water quality – Application of inductively coupled plasma mass spectrometry (ICP-MS) – Part 2: Determination of 62 elements <i>(Deviation: Determination for microwave pressure digestion (here for: animal feedstuffs and foodstuffs, harvested crops and plants))</i> <i>(Restriction: only Pb, Cd, As, Cr, Ni, U and Sn)</i>	IfB HM IfD HM
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DIN EN 1483 2007-07	Water quality – Determination of mercury – Method using atomic absorption spectrometry <i>(Deviation: Determination for microwave pressure digestion (here for: animal feedstuffs and foodstuffs, harvested crops and plants))</i>	IfB HM IfD HM
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DIN EN 15111 2007-06	Foodstuffs – Determination of trace elements – Determination of iodine by ICP-MS	IfB HM IfD HM
VDLUFA VII, 2.2.2.3 3rd edition 2008	Determination of extractable iodine content in animal feedstuffs by inductively coupled plasma with mass- spectrometric detection (ICP-MS)	IfB HM IfD HM

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

ASU L 00.00-113 2015-03	Determination of pesticide residues in foods of plant origin using LC-MS/MS following methanol extraction and clean-up using diatomaceous earth	IfB HM IfD HM
ASU L 00.00-115 2014-02	Determination of pesticide residues in foods of plant origin using GC-MS and/or LC-MS/MS following acetonitrile extraction/partitioning and clean-up by dispersive SPE (QuEChERS)	IfB HM IfD HM
VDLUFA VII, 3.3.2.5 4th edition 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 2015-04	Determination of mycotoxins in foodstuffs and animal feedstuffs by LC-MS/MS	IfB HM IfD HM

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

ASU L 00.00-34 2010-09	Modular multi-method for the determination of plant protection product residues in foodstuffs (extended revision of DFG method S19)	IfB HM IfD HM
ASU L 00.00-115 2014-02	Determination of pesticide residues in foods of plant origin using GC-MS and/or LC-MS/MS following acetonitrile extraction/partitioning and clean-up by dispersive SPE (QuEChERS)	IfB HM IfD HM

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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
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VDLUFA VII, 3.3.3.2 2011	Determination of polycyclic aromatic hydrocarbons (PAC) in plant material	IfB HM IfD HM
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4.7.7 Determination of residues and contaminants in animal feedstuffs and foodstuffs of vegetable origin 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 <i>(also applies to foodstuffs of vegetable origin)</i>	IfB HM IfD HM
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4.7.8 Determination of residues and contaminants in animal feedstuffs and foodstuffs of animal origin by liquid chromatography with mass-selective detectors (MS-, MS/MS-detector) *

ASU L 00.00-113 2015-03	Determination of pesticide residues in foods of plant origin using LC-MS/MS following methanol extraction and clean-up using diatomaceous earth	IfB HM IfD HM
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ASU L 00.00-115 2014-02	Determination of pesticide residues in foods of plant origin using GC-MS and/or LC-MS/MS following acetonitrile extraction/partitioning and clean-up by dispersive SPE (QuEChERS)	IfB HM IfD HM
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VDLUFA VII, 3.3.2.5 4th edition 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
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LUFA Nord-West AA 4/1C-049 2015-04	Determination of mycotoxins in foodstuffs and animal feedstuffs by LC-MS/MS	IfB HM IfD HM
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4.7.9 Determination of residues and contaminants in animal feedstuffs and foodstuffs of animal origin by gas chromatography with mass-selective detectors (MS-, MS/MS-detector) *

ASU L 00.00-34 2010-09	Modular multi-method for the determination of plant protection product residues in foodstuffs (extended revision of DFG method S19)	IfB HM IfD HM
ASU L 00.00-115 2014-02	Determination of pesticide residues in foods of plant origin using GC-MS and/or LC-MS/MS following acetonitrile extraction/partitioning and clean-up by dispersive SPE (QuEChERS)	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 (PAC) in plant material	IfB HM IfD HM

4.7.10 Determination of residues and contaminants in animal feedstuffs and foodstuffs of animal origin 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 <i>(also applies to foodstuffs of animal origin)</i>	IfB HM IfD HM
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4.7.11 Photometric methods

ASU L 00.00-49/1 1999-11	Low-fat foodstuffs – Determination of dithiocarbamate and thiouramdisulphide residues – Part 1: Spectrophotometric method	IfB HM IfD HM
ASU L 26.00-2 2001-07	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 <i>(Deviation: also for consumer goods)</i>	IfB HM IfD HM

4.8 Differentiation between agricultural crops

LUFA Nord-West AA 4/2C-001 2015-01	Preparation of reference pressed juices for potato electrophoresis	IfD HM
LUFA Nord-West AA 4/2C-002 2015-01	Differentiation of potatoes by electrophoresis of potato proteins	IfD HM
LUFA Nord-West AA 4/2C-003 2010-01	Differentiation of wheat by electrophoresis of seed proteins	IfD HM
LUFA Nord-West AA 4/2C-004 2010-01	Differentiation of barley by electrophoresis of seed proteins	IfD HM
LUFA Nord-West AA 4/2C-005 2007-10	Differentiation of oat by electrophoresis of seed proteins	IfD HM
LUFA Nord-West AA 4/2C-006 2010-01	Differentiation of triticale Differentiation of barley by electrophoresis of seed proteins	IfD HM

The methods described in **1.6.2** correspond to the requirements of the "special proof of competence in the area of immission control" ("Module Immission Control") in the version of 15th September, 2011.

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.

For the module IMMISSION CONTROL the following persons are entitled to sign test reports:

1) Technically responsible:	Areas:
Lars Broer, Certified environmental engineer	Group I Nr. 1: G, P, O Group IV: O
Deputy representatives ad 1):	Areas:
Thorsten Becker, Graduate engineer – environmental technology (university of applied sciences)	Group I Nr. 1: G, P, O
Künnemann, Ralf, Graduate landscape ecologist	Group IV: O

The following persons are entitled to sign the test reports of *all* testing areas described for the respective site (exemplary mention of the persons responsible for the respective entire institute):

Site 1, IfF- Oldenburg, Jägerstraße 23 - 27

Dr. rer. nat. Michael Egert Graduate biologist
Dr. rer. nat. Hartwig Wellmann Graduate chemist

Site 1, IfB- Oldenburg, Jägerstraße 23 - 27

Dr. rer. nat. Manfred Bischoff Graduate chemist

Site 2, IfT- Oldenburg, Ammerländer Heerstraße 123

Dr. med. vet. Katrin Beckmann Veterinarian
Dr. med. vet. Babett Ahrens-Flegel Veterinarian

Site 3, IfL - Oldenburg, Ammerländer Heerstraße 115-117

Dr.-Ing. Helmut Steinkamp Graduate engineer
Dr. rer. nat. Stefan Kroll Food analyst

Site 4, IfB - Hameln, Finkenborner Weg 1a

Dr. rer. nat. Helmut Appuhn Graduate chemist

Site 4, IfD - Hameln, Finkenborner Weg 1a

Dr. rer. nat. Helmut Appuhn Graduate chemist
Dr. rer. nat. Andreas Hoffmann Graduate chemist

Abbreviation 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)
BGBl	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)

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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)
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)
IAG	Internationale Arbeitsgemeinschaft (International Association)
IDF	International Dairy Federation
IMV	Internationaler Milchwirtschaftsverband (International Dairy Farming Association)
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)

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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)
RIA	Radioimmunoassay
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)