Deutsche Akkreditierungsstelle GmbH

Annex to the Accreditation Certificate D-PL-14170-01-00 according to DIN EN ISO/IEC 17025:2005

Period of validity: 07.11.2018 to 19.11.2022 Date of issue: 28.12.2018

Holder of certificate:

GBA Gesellschaft für Bioanalytik mbH

at the locations

Goldtschmidtstraße 5, 21073 Hamburg
Bruchstraße 5c, 45883 Gelsenkirchen
Flensburger Straße 15, 25421 Pinneberg
Brekelbaumstraße 1, 31789 Hameln
Daimlerring 37, 31135 Hildesheim
Meißner Ring 3, 09599 Freiberg
Im Emscherbruch 11, 45699 Herten
Glückaufstraße 56, 45896 Gelsenkirchen (Scholven)

Tests in the fields:

physical, physico-chemical and chemical analysis of water, waste water, groundwater, surface water, running water, seepage water, bottled water, mineral water, swimming pool and bathing pool water, sewage sludge, sludges, waste, soils, compost, sediments, biota, chemical products (wood, chemical raw materials, intermediate and end products, mineral and synthetic building materials, flame retardants, gypsum, joint sealant, specific consumer products, salts, wax, acids), soil gas, room air, dust, insulating and waste oil, fuels, commodities, carbon dioxide, feedstuffs and foodstuffs;
selected sensory analysis of water, waste water, groundwater, surface water, seepage water, drinking water, carbon dioxide (gas), foodstuffs and feedstuffs;
microbiological analysis of water, waste water, groundwater, surface water, running water, seepage water, bottled water, raw and drinking water, water from recooling systems, foodstuffs and feedstuffs;
selected molecular biological and immunological analysis of foodstuffs and feedstuffs;
ecotoxicological analysis of water, waste water, groundwater, surface water, running water, seepage water, waste and compost;
selected cultural plant-based analysis of biowaste;

sampling of raw and drinking water, waste water, swimming pool and bathing pool water, surface water, water from aquifers, mineral springs and spas, sludges, sewage sludge, soils, soil gas, sediments, fuels, compost and waste;
analysis in accordance with the German Drinking Water Ordinance with the exception of radioactive substances;
analysis of industrial water in accordance with the German Ordinance on evaporative cooling systems, cooling towers and wet separators – 42nd BImSchV Section 3 (8) of 12 July 2017;
specialist modules for water, soil, contaminated sites and waste;
medicinal products and active ingredients;
Test areas: chemical, physico-chemical and biological analysis of medicinal products, active ingredients and excipients

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Abbreviations used: see last page

The test methods are marked with the following symbols for the locations at which they are carried out:

HH = Hamburg
GE = Gelsenkirchen
PI = Pinneberg
HM = Hameln
HI = Hildesheim
FG = Freiberg
HE = Herten
SV = Scholven

The testing laboratories are 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, with the exception of all sampling methods, the specialist modules for water, soil, contaminated sites and waste.

Within the given testing fields, the testing laboratory is permitted, without being required to inform and obtain prior approval from DAkkS, the following:
***) the free choice of standard or equivalent testing methods.**
****) the modification, development and refinement of testing methods.**
The listed testing methods are exemplary.

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

The following table provides a clear overview of the matrices and types of test for which there is a flexible scope at the various locations.

Matrix	Type of test	Location
Water, drinking water and mineral bottled water, in sludge, biowaste, soil, specific consumer products and carbon dioxide, medicinal products and active ingredients	Determination of elements by inductively coupled plasma atomic emission spectrometry (ICP-OES) and inductively coupled plasma mass spectrometry (ICP-MS)	PI*
Dust, natural building materials and inorganic chemicals	Bromide, chloride and sulphate from soda extract by ion chromatography and fluoride from soda extract by ion-selective electrode	PI*
Sludge, sediment, biota	Freeze-drying	PI*
Commodities and foodstuffs	Gas chromatography with conventional detectors (GC-ECD, FID) of hydrocarbons: MOSH/MOAH and POSH/PAO	HH**

1 Environmental Analysis

1.1 Water and Eluates (Waste Water, Surface Water, Groundwater, Raw Water, Seepage Water and Aqueous Eluates and Water from Recooling Systems)

1.1.1 Sampling of Water (WA, WW, SW, GW, RW, WRS, SW) and Eluates

ISO 5667-11 2009-04	Water quality - Sampling - Part 11: Guidance on the sampling of groundwaters	GE, HI, PI
DIN EN ISO 5667-1 (A 4) 2007-04	Water quality - Sampling - Part 1: Guidance on the design of sampling programmes and sampling techniques	GE, PI
DIN EN ISO 5667-3 (A 21) 2013-03	Water quality - Sampling - Part 3: Preservation and handling of water samples	FG, GE, HI, PI
DIN EN ISO 5667-6 2016-12	Water quality – Sampling – Part 6: Guidance on sampling of rivers and streams	GE, HI, PI

DIN ISO 5667-5 (A 14) 2011-02	Water quality - Sampling - Part 5: Guidance on sampling of drinking water from treatment works and piped distribution systems	FG, GE, HI, PI
DIN EN ISO 19458 (K 19) 2006-12	Water quality - Sampling for microbiological analysis (deviation*: FG, HI, PI matrix also water from recooling systems*)	FG, GE, HI, PI, SV
DIN 38402-A 11 2009-02	Sampling of waste water (Deviation*: Matrix also seepage water*)	GE, HI, PI, FG, SV
DIN 38402-A 12 1985-06	Sampling from barrages and lakes	GE, HI, PI
DIN 38402-A 13 1985-12	Sampling from aquifers	GE, HI, PI
DIN 38402-A 15 2010-04	Sampling from running waters (*standard withdrawn*)	GE, HI, PI
DIN 38402-A 18 1991-05	Sampling of water from mineral springs and spas	GE, HI, PI
DIN 38402-A 30 1998-07	Pretreatment, homogenisation and aliquotation of non-homogeneous water samples	FG, GE, HI, PI
Data Sheet 4 on quality assurance of FHH-UB 1999-10	Sampling of groundwater	HI, PI
LUA Data Sheet No. 31 2001-04	Guideline on the implementation of waste water sampling in NRW	GE
DVGW Data Sheet W 112 2011-10	Principles of groundwater sampling from groundwater monitoring wells	GE, PI
DVGW Data Sheet W 115 2008-07	Drilling for the investigation, observation and extraction of groundwater	PI
DVWK Rule 128 1992	Scope of sampling and examination of groundwater samples (*rule withdrawn*)	GE, PI

DVWK Data Sheet 245 1997	Depth-oriented sampling from groundwater monitoring wells	GE, PI
LAWA Gauge Regulation Annex D 1998	Guideline on the measurement and determination of drainage and flow rates	PI
VDI 2047 Blatt 2 2015-01	Open recooler systems - Securing hygienically sound operation of evaporative cooling systems (VDI Cooling Tower Code of Practice) (Deviation: implementation of sampling only)	FG, HI, PI
DWA-A 909 2011-12	Principles of groundwater sampling from groundwater monitoring wells	GE, PI

1.1.2 Pretreatment of Samples of Water (WA, WW, SW, GW, RW, SW) and Eluates

DIN EN ISO 15587-2 (A 32) 2002-07	Water quality - Digestion for the determination of elements in water - Part 2: Nitric acid digestion	PI

1.1.3 Sensory Analysis of summary Indices of Actions and Substances and Odour in Water (WA, WW, SW, GW, RW, SW) and Eluates

DEV-B1/2 6. Version 1971	Odour, qualitative (also on site)	GE, HI, PI
DEV H 22	Determination of putrefactiveness - Test with methylene blue *(proposal withdrawn)*	GE, PI
DIN EN 1622 (B 3) 2006-10	Water quality - Determination of the threshold odour number (TON) and threshold flavour number (TFN) (Deviation: Only odour threshold)	PI

1.1.4 Atomic and Mass Spectrometry of Elements in Water (WA, WW, SW, GW, RW, SW) and Eluates

1.1.4.1 Atomic Absorption Spectrometry (K-AAS) of Mercury

DIN EN ISO 12846 (E 12) 2012-08	Water quality - Determination of mercury - Method using atomic absorption spectrometry (AAS) with and without enrichment (Deviation*: PI Without enrichment*)	PI, SV
ASTM D6722 2011	Standard Test Method for Total Mercury in Coal and Coal Combustion Residues by Direct Combustion Analysis (Deviation*: Only halogenated water samples*)	HE

1.1.4.2 Inductively Coupled Plasma Atomic Emission Spectrometry (ICP-OES)

DIN EN ISO 11885 (E 22) 2009-09	Water quality - Determination of selected elements by inductively coupled plasma optical emission spectroscopy (ICP-OES)	PI

1.1.4.3 Inductively Coupled Plasma Mass Spectrometry (ICP-MS)

DIN EN ISO 17294-2 (E 29) 2017-01	Water quality - Application of inductively coupled plasma mass spectrometry (ICP-MS) - Part 2: Determination of selected elements including uranium isotopes	PI

1.1.5 Methods of Calculation of Organic Compounds in Water (WA, WW, SW, GW, RW, SW) (PI *)

DIN 38404-C 10 2012-12	Calcit saturation of water	GE, PI
DIN 38405-D 8 1971-1975	Carbonic acid chemistry: Calculation of dissolved carbon dioxide (of free carbonic acid), carbonate and hydrogen carbonate ion (*standard withdrawn*)	FG, GE, PI
DIN 38409-H 6 1986-01	Water hardness (H 6) (Deviation: *Measurement of Ca and Mg by ICP*)	PI
DEV H 12	Nitrogen (total), calculation	GE

1.1.6 Electrode Measurement of Physical, Physico-chemical Parameters, summary Indices of Actions and Substances, Anions and Dissolved Gases in Water (WA, WW, SW, GW, RW, SW) and Eluates (PI *)

DIN EN 1899 (H 51) 1998-05	Water quality D Determination of biochemical oxygen demand after n days (BODn) - Part 1: Dilution and seeding method with allylthiourea acid addition	GE
DIN EN ISO 5814 2013-02	Water quality - Determination of dissolved oxygen - Electrochemical probe method	FG, GE, HI, PI
DIN EN ISO 10523 (C 5) 2012-04	Water quality - Determination of pH	FG, GE, HI, PI, SV
DIN EN 27888-C 8 1993-11	Water quality - Determination of electrical conductivity	FG, GE, HI, PI, SV
DIN 38404-C 4 1976-12	Determination of temperature	FG, GE, HI, PI
DIN 38404-C 6 1984-05	Determination of the oxidation reduction (redox) potential	FG, GE, HI, PI
DIN 38405-D 4-1 1985-07	Determination of fluoride	FG, HE, PI
DIN 38408-G 23 1987-11	Oxygen saturation index (*standard withdrawn*)	FG, PI

1.1.7 Elemental Analysis of Summary Indices of Actions and Substances in Water (WA, WW, SW, GW, RW, SW) and Eluates (PI *)

DIN EN 1484 (H 3) 1997-08	Water analysis - Guidelines for the determination of total organic carbon (TOC) and dissolved organic carbon (DOC)	GE, PI, SV
DIN EN 1485 (H 14) 1996-11	AOX: Adsorbable organically bound halogens, method: Batch and column tests (*standard withdrawn*)	GE
DIN EN ISO 9562 (H 14) 2005-02	Water quality - Determination of adsorbable organically bound halogens (AOX)	GE

DIN 38409-H 8 1984-09	Determination of extractable organically bonded halogens; (Deviation*: Combustion in an oxygen stream*) (*standard withdrawn*)	GE, PI
DIN 38409-H 22 2001-02	Determination of dissolved adsorbable and organically bound halogens in salt loaded water after solid-phase enrichment (SPE-AOX) (H 22) (*standard withdrawn*)	GE
DIN EN 12260 (H 34) 2003-12	Water quality - Determination of nitrogen - Determination of bound nitrogen (TNb), following oxidation to nitrogen oxides	GE

1.1.8 Liquid Chromatography of Organic Compounds in Water (WA, WW, SW, GW, RW, SW) and Eluates

1.1.8.1 Liquid Chromatography with Conventional Detectors (HPLC-DAD, HPLC-UV)

In-house method PI-MA-M 02-002 2017-02	Determination of aldehydes in water and eluates	PI

1.1.8.2 Liquid Chromatography with Mass Selective Detectors (LC-MS/MS) (PI *)

ISO 16308 2014-09	Water quality - Determination of glyphosate and AMPA - Method using high performance liquid chromatography (HPLC) with tandem mass spectrometric detection (Deviation*: Measurement using LC-MS/MS, additional glufosinate*)	PI
DIN EN ISO 22478 (F 21) 2006-07	Water quality - Determination of certain explosives and related compounds - Method using HPLC with UV detection (Deviation*: MS/MS detection and processing by SPE or analytics by direct injection*)	PI
DIN 38407-35 (F 35) 2010-10	Determination of selected phenoxyalkyl carbonic acids and further acid plant treatment agents - Method using high performance liquid chromatography and mass spectrometric detection (HPLC-MS/MS)	PI
DIN 38407-36 (F 36) 2014-09	Determination of selected active substances of plant protection products and other organic substances in water - Method using high performance liquid chromatography and mass spectrometric detection after direct injection	PI

DIN 38407-F 42 2011-03	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	PI
DIN 38413-6 (P 6) 2007-02	Determination of waste water and sludge - Single components (group P) - Part 6: Determination of acrylamide - Method using high performance liquid chromatography with mass spectrometric detection (HPLC-MS/MS) (P6)	PI
DIN 38407-F 47 2017-07	Determination of selected active pharmaceutical ingredients and other organic substances in water and waste water - Method using high performance liquid chromatography and mass spectrometric detection (HPLC-MS/MS or HRMS) after direct injection GBA: Measurement using HPLC-MS/MS	PI
In-house method PI-MA-M 02-008 2017-02	Determination of benzotriazoles in water by LC-MS/MS	PI
In-house method PI-MA-M 02-009 2017-02	Bisphenols by LC-MS/MS in water and eluates	PI
In-house method PI-MA-M 02-019 2016-11	Determination of selected heterocycles by HPLC-MS/MS in water and soil	PI
In-house method PI-MA-M 02-024 2017-02	Determination of selected active substances of plant protection products by LC-MS/MS in water and soil	PI
In-house method PI-MA-M 02-027 2017-02	Determination of polar nitrogen compounds in soil and water by LC-MS/MS	PI
In-house method PI-MA-M 02-031 2017-02	Determination of X-ray contrast media by HPLC-MS/MS	PI
In-house method PI-MA-M 02-036 2017-02	Determination of tetracyclines in water by LC-MS/MS	PI

1.1.9 Gas Chromatography of Organic Compounds in Water (WA, WW, SW, GW, RW, SW) and Eluates

1.1.9.1 Gas Chromatography with Conventional Detectors (GC-FID, GC-ECD, GC-FPD) (PI *)

DIN EN ISO 9377-2 (H 53) 2001-07	Water quality - Determination of hydrocarbon oil index - Part 2: Method using solvent extraction and gas chromatography (Deviation *PI: Additional evaluation after Petrol Pack*)	GE, HI, PI
DIN EN ISO 17353 (F 13) 2005-11	Water quality - Determination of selected organotin compounds - Gas chromatographic method	PI
DIN 38407-F 3 1998-07	Jointly determinable substances (group F) - Part 3: Gas chromatographic determination of polychlorinated biphenyls (GC-MSD or ECD)	GE
In-house method HI-MA-M 03-019 # 1 2017-03	Alkanes, volatile C1 to C4 using GC-FID	HI

1.1.9.2 Gas Chromatography with Mass Selective Detectors (GC-MS, GC-MS/MS, GC-MIMS) (PI *)

ISO 8165-2 1999-07	Water quality - Determination of selected phenols - Part 2: Method by derivatisation and gas chromatography (analysis using GC-MSD)	PI
ISO 17858 2007-02	Water quality - Determination of dioxin-like polychlorinated biphenyls - Method using gas chromatography / mass spectrometry (determination of WHO-PCBs: PCB 77, PCB 81, PCB 105, PCB 114, PCB 118, PCB 123, PCB 126, PCB 156, PCB 157, PCB 167, PCB 169, PCB 189) using GC-MSD	PI
DIN EN ISO 6468 (F 1) 1997-02	Water quality - Determination of certain organochlorine insecticides, polychlorinated biphenyls and chlorobenzenes - Gas chromatographic method after liquid-liquid extraction - here for: PCB: 6 Ballschmiter polychlorinated biphenyls using GC-MSD: PCB 28, PCB 52, PCB 101, PCB 138, PCB 153, PCB 180) (Deviation*: Additionally PCB 118, measurement with GC-MSD or GC-MS/MS*)	PI

DEV-F33 (blueprint) 52nd Delivery 2002	Determination of polychlorinated dibenzodioxins (PCDD) and polychlorinated dibenzofurans (PCDF) - here for: PCDD/F: 17 polychlorinated dibenzodioxins and furans using GC-MSD	PI
DIN EN ISO 10301 (F 4) 1997-08	Water quality - Determination of highly volatile halogenated hydrocarbons - Gas chromatographic methods or GC-MSD	GE, HI, PI
DIN EN ISO 10695 (F 6) 2000-11	Water quality - Determination of selected organic nitrogen and phosphorus compounds - Gas chromatographic method (GC-MSD) (Deviation*: Here for pesticides in accordance with Swedish EPA, neutral reconditioning (GC Method 2)*)	PI
DIN EN ISO 12010 (H 47) 2014-07	Water quality - Determination of short-chain polychlorinated alkanes (SCCPs) in water - Method using gas chromatography-mass spectrometry (GC-MS) and negative-ion chemical ionisation (NCI) (Deviation*: Additional determination of the MCCPS, modular clean-up, modified quantification, detector GC-MSD*	PI
DIN EN 12673 (F 15) 1999-05	Water quality - Gas chromatographic determination of some selected chlorophenols in water using GC-MSD (Deviation*: Additional determination of phenol, cresols and xylenols, and also of triclosan and bisphenol A in PI*	PI
DIN EN 12766-3 2005-02	Petroleum products and used oils - Determination of PCBs and related products - Part 3: Determination and quantification of polychlorinated terphenyls (PCT) and polychlorinated benzyl toluenes (PCBT) content by gas chromatography (GC) using an electron capture detector (ECD) (Deviation*: Matrix water, measurement using GC-MS, liquid/liquid extraction*)	PI
DIN EN 14207 (P 9) 2003-09	Water quality - Determination of epichlorohydrin	PI
DIN EN ISO 15680 (F 19) 2004-04	Water quality - Gas chromatographic determination of a number of monocyclic aromatic hydrocarbons, naphthalene and several chlorinated compounds using purge and trap and thermal desorption (Deviation *PI: Only trap function*)	GE, PI

DIN EN ISO 16588 (P 10) 2004-02	Water quality - Determination of six complexing agents, EDTA, NTA, etc. - Gas chromatographic method (GC-MSD) (Deviation*: Additional matrices (soil and cleaning agents) after aqueous eluate preparation*)	PI
DIN EN ISO 18856 (F 26) 2005-11	Water quality - Determination of selected phthalates using gas chromatography/mass spectrometry liquid-liquid extraction	PI
DIN EN ISO 18857-1 (F 31) 2007-02	Water quality - Determination of selected alkylphenols - Part 1: Method for non-filtered samples using liquid-liquid extraction and gas chromatography with mass selective detection (Deviation*: Additional determination of octylphenols and ethoxylates; extraction with hexane and different clean-up*)	PI
DIN EN ISO 18857-2 (F 32) 2012-01	Water quality - Determination of selected alkylphenols - Part 2: Gas chromatographic-mass spectrometric determination of alkylphenols, their ethoxylates and bisphenol A in non-filtered samples following solid-phase extraction and derivatisation	PI
DIN EN ISO 22032 (F 28) 2009-07	Water quality - Determination of selected polybrominated diphenyl ethers in sediment and sewage sludge - Method using extraction and gas chromatography/mass spectrometry - here for: Polybrominated diphenyl ethers (PBDE), polybrominated biphenyls (PBB), tetrabromobisphenol A (TBBP-A), hexabromocyclododecane (HBCD), tribromoanisole (TBA) (Deviation*: Liquid-liquid extraction with water samples, other internal standards*)	PI
DIN EN ISO 23631 (F 25) 2006-05	Water quality - Determination of dalapon, trichloroacetic acid and selected haloacetic acids - Method using gas chromatography (GC-ECD and/or GC-MS detection) after liquid-liquid extraction and derivatisation (Deviation*: Exchange of diazomethane, only mono, di and trichloroacetic acids*)	PI
DIN ISO 28540 (F 40) 2014-05	Water quality - Determination of 16 polycyclic aromatic hydrocarbons (PAH) in water - Method using gas chromatography with mass spectrometric detection (GC-MS)	PI
DIN 38407-F 2 1993-02	Determination of low volatile halogenated hydrocarbons by gas chromatography (Deviation*: GE: In combination with DIN 51527 T1 (only PCBs)*) (*standard withdrawn*)	GE, PI

DIN 38407-F 3 1998-07	Gas chromatographic determination of polychlorinated biphenyls (GC-MSD or ECD)	GE, PI
DIN 38407-F9-1 1991-05	Determination of benzene and some of its derivatives by gas chromatography using headspace analysis (HS-GC) BTEX: Benzene and some derivatives, naphthalene, mono and dichlorobenzene by GBA-PI: In addition, aliphates C5-C10, diethylbenzenes (*standard withdrawn*)	GE, HI, PI
DIN 38407-F 14 1994-10	Determination of phenoxyalkyl carbonic acids by gas chromatography and mass-spectrometric detection after solid-liquid-extraction and derivatisation	PI
DIN 38407-F 17 1999-02	Determination of selected nitroaromatic compounds by gas chromatography (GC-MSD)	PI
DIN 38407-F 27 2012-10	Determination of selected phenols in groundwater and seepage water, aqueous eluates and percolates (F 27)	PI
DIN 38407-F 30 2007-12	Determination of trihalogenmethanes in bathing water and pool water with headspace-gas chromatography	PI
DIN 38407-F 37 2013-11	Determination of organochlorine pesticides, polychlorinated biphenyls and chlorobenzene in water - Method using gas chromatography and mass spectrometric detection (GC-MS) after liquid-liquid extraction (Deviation*: Measurement also with GC-MS/MS; additional analysis of cypermethrin, permethrin, cyhalothrin and deltamethrin*)	PI
DIN 38407-F 39 2011-09	Water quality - Determination of selected polycyclic aromatic hydrocarbons (PAH) - Method using gas chromatography with mass spectrometric detection (GC-MS) (F 39)	GE, PI
DIN 38407-F 43 2014-10	Determination of selected easily volatile organic compounds in water - Method using gas chromatography and mass spectrometry by static headspace technique (HS-GC-MS) (F 43)	PI, GE, HI
DIN 38413-P 2 1988-05	Determination of vinyl chloride (chloroethene) by headspace gas chromatography (*standard withdrawn*)	HI
EPA 524.2 1995	Purge + trap measurement of purgeable organic compounds in water by capillary column gas chromatography/mass spectrometry	GE

In-house method PI-MA-M 03-006 2017-02	Screening of water and soil	PI
In-house method PI-MA-M 03-077 2015-02	Glycols (ethylene, di and triethylene, propylene glycol) in water, soil and air using GC-MSD	PI
In-house method PI-MA-M 3-079 2012-06	Organophosphorus flame retardants: TCPP, TCEP, TDCP after solvent extraction and measurement using GC-MS	PI
In-house method PI-MA-M 03-081 2012-06	Musk compounds in water and solids using GC-MSD	PI
In-house method PI-MA-M 03-086 2017-02	Terpenes in water using GC-MSD	PI
In-house method PI-MA-M 03-098 2017-02	Selected heterocyclic compounds by Kora list in waters and eluates using GC-MSD	PI
In-house method PI-MA-M 03-112 2017-02	Estrogens, estrogen metabolites and sitosterol in water and soil samples	PI
In-house method PI-MA-M 03-113 2015-02	PFT in water using GC-MSD	PI
In-house method HI-MA-M 03-022 # 1 2017-03	Determination of organic acids (C1-C5) in water after derivatisation by HS-GC-MSD	HI
In-house method HI-MA-M 03-024 # 1 2017-03	Determination of furan, thiophene, 3-methylthiophene and 2,5 dimethylthiophene (heterocyclic compounds) in water by HS-GC-MSD	HI
In-house method HI-MA-M 03-060 # 1 2017-03	Determination of excess nitrogen by nitrogen/argon using GC MIMS - (Deviation: *Matrix only groundwater*)	HI

1.1.10 Gravimetric Measurement of Physical, Physico-chemical Parameters, Summary Indices of Actions and Substances in Water (WA, WW, SW, GW, RW, SW) and Eluates (PI *)

DIN EN 872 (H 33) 2005-04	Water quality - Determination of suspended solids - Method by filtration through glass fibre filters	GE, HI, PI
DIN ISO 11349 (H 56) 2015-12	Water quality - Determination of low-volatility lipophilic substances - Gravimetric method	GE, HI, PI
DIN EN 15216 2008-01	Characterisation of waste - Determination of total dissolved solids (TDS) in water and eluates (Deviation: *Matrix here water*)	GE, HI, PI
DIN 38409-H 1 1987-01	Determination of total dry residue, filtrate dry residue and residue on ignition	FG, GE, HI, PI
DIN 38409-H 2-2/3 1987-03	Determination of filterable matter and the residue on ignition (H 2)	FG, GE, HI, PI
DEV C 9 1974	Determination of density	HE, PI, SV

1.1.11 Ion Chromatography of Anions and Cations in Water (WA, WW, SW, GW, RW, SW) and Eluates (PI *)

DIN EN ISO 10304-1 (D 20) 2009-07	Water quality - Determination of dissolved anions bromide, fluoride, chloride nitrate, orthophosphate and sulphate and additionally nitrite by liquid chromatography of ions - Part 1: Method for weakly contaminated water; *(PI: No determination of nitrite and phosphate*)	HE, PI, SV
DIN EN ISO 10304-3 (D 22) 1997-11	Water quality - Determination of dissolved anions by liquid chromatography of ions - Part 3: Determination of chromate, iodide, sulphite, thiocyanate and thiosulphate HE: Only iodide, sulphite, thiosulphate	HE
DIN EN ISO 10304-4 (D 25) 1999-07	Water quality - Determination of dissolved anions by liquid chromatography of ions - Part 4: Determination of chlorate, chloride and chlorite in water with low contamination	PI
DIN EN ISO 14911 1999-12	Water quality - Determination of dissolved Li^+, Na^+, NH_4^+, K^+, Mn^{2+}, Ca^{2+}, Mg^{2+}, Sr^{2+} and Ba^{2+} using ion chromatography - Method for water and waste water (Deviation: *only NH4+*)	SV

1.1.12 Microbiological Analysis - Detection of Bacteria by Cultural Bacteriological Analysis in Water (WA, WW, SW, GW, RW, WRS, SW) and Eluates (HH *)

ISO 11731 2017-05	Water quality - Enumeration of legionella	HH
DIN EN ISO 14189 (K 24) 2016-11	Water quality - Enumeration of Clostridium perfringens - Method using membrane filtration	HH
DIN EN ISO 6222 (K 5) 1999-07	Water quality - Enumeration of culturable micro-organisms - Colony count by inoculation in a nutrient agar culture medium	HH
DIN EN ISO 7899-2 (K 15) 2000-11	Water quality - Detection and enumeration of intestinal enterococci - Part 2: Membrane filtration method	HH
DIN EN ISO 9308-1 (K 12) 2017-09	Water quality - Enumeration of Escherichia coli and coliform bacteria - Part 1: Membrane filtration method for waters with low bacterial background flora	HH
DIN EN ISO 9308-2 (K6-1) 2014-06	Water quality - Enumeration of Escherichia coli and coliform bacteria - Part 2: Most probable number method	HH
DIN EN ISO 11731-2 (K 22) 2008-06	Water quality - Detection and enumeration of Legionella - Part 2: Direct membrane filtration method with low bacterial counts (Deviation*: Matrix only SPW (Swimming pool water)*) (*withdrawn standard*)	HH
DIN EN ISO 11731 2018-03	Water quality - Enumeration of legionella	HH
DIN EN ISO 16266 (K 11) 2008-05	Water quality - Detection and enumeration of Pseudomonas aeruginosa - Membrane filtration method	HH
TrinkwV § 15 section (1c)	Enumeration of culturable micro-organisms - Colony count by inoculation in a nutrient agar culture medium (colony count at 22 °C and 36 °C)	HH
UBA recommendation of 2012-08	Systemic examination of drinking water installations for Legionella in accordance with TrinkwV (Deviation*: Matrix SPW (Swimming pool water)*)	HH

UBA recommendation of 2017-06	Recommendation of the German Federal Environmental Agency for the sampling and detection of legionella in evaporative cooling systems, cooling towers and wet seperators	HH

1.1.13 Photometry of Physico-chemical Parameters, Summary Indices of Actions and Substances, Anions, Cations, Dissolved Gases, Hydrazine and Surfactants in Water (WA, WW, SW, GW, RW, SW)

1.1.13.1 Photometry (PI *)

DIN EN ISO 6878 (D 11) 2004-09	Water quality - Determination of phosphorus - Ammonium molybdate photometric method	PI, SV
DIN EN ISO 7027 (C 2) 2000-04	Water quality - Determination of turbidity	GE, PI
DIN EN ISO 7393-2 (G 4) 2000-04	Water quality - Determination of free chlorine and total chlorine - Part 2: Colorimetric method using N,N-diethyl-1,4-phenylenediamine, for routine control purposes	PI
DIN EN ISO 7887 (C 1) 2012-04	Water quality - Examination and determination of colouring GE: Only Method A	GE, PI
DIN EN ISO 11905-1 (H 36) 1998-08	Water quality - Determination of nitrogen - Part 1: Method using oxidative digestion with peroxodisulphate	PI
DIN ISO 15705 (H 45) 2003-01	Water quality - Determination of the chemical oxygen demand index (ST-COD) - Small-scale sealed tube method	FG, GE, HI, PI
DIN ISO 17289 (G 25) 2014-12	Water quality - Determination of dissolved oxygen - Optical sensor method (also on site)	GE, PI
DIN EN ISO 18412 (D40) 2007-02	Water quality - Determination of chromium(VI) - Photometric method for weakly contaminated water	PI
DIN EN 26777 (D 10) 1993-04	Water quality - Determination of nitrite; spectrometric method	PI
DIN 38404-C 3 2005-07	Determination of absorption in the range of UV radiation, spectral absorption coefficient	PI

DIN 38405-D 13 2011-04	Determination of cyanides	PI
DIN 38405-D 14 1988-12	Determination of cyanides in drinking water, and in groundwater and surface water with low pollution levels: Cyanide (total and readily liberated) after the separation process (*standard withdrawn*)	PI
DIN 38405-D 26 1989-04	Photometric determination of dissolved sulphide (*standard withdrawn*)	GE, PI
DIN 38405-D 27 1992-07	Determination of readily liberated sulfphide	GE, PI
DIN 38405-D 24 1987-05	Photometric determination of chromium(VI) using 1,5-diphenylcarbonohydrazide (D 24) GE: Also from eluates	GE, PI
DIN 38406-E 1 1983-05	Determination of iron	PI
DIN EN 38409 (H 23) 1980-05	Determination of methylene blues and bismut active substances (H 23) (*standard withdrawn*)	GE
DIN 38409-H 16-2 1984-06	Determination of the phenol index after distillation and colourant extraction	PI
DIN 38409-H 16-3 1984-06	Determination of the phenol index after distillation	PI
DIN 38413-P 1 1982-03	Determination of hydrazine	PI
VBG - analyse handbook Nr. 3.3.1.1 1986-02	Determination of dissolved molybdenum active silicic acid	SV
In-house method PI-MA-M 06-101 2016-08	Humic substances in water	PI

1.1.13.2 Photometry with Flow and Flow Rate Analysis (PI *)

DIN EN ISO 11732 (E 23) 2005-05	Water quality - Determination of ammonium nitrogen - Method by flow analysis (CFA and FIA) and spectrometric detection	GE, PI
DIN EN ISO 13395 (D 28) 1996-12	Water quality - Determination of nitrite nitrogen and nitrate nitrogen and the sum of both by flow analysis (CFA and FIA) and spectrometric detection	PI
DIN EN ISO 14402 (H 37) 1999-12	Water quality - Determination of phenol index by flow analysis (FIA and CFA)	PI
DIN EN ISO 14403-2 (D 3) 2012-10	Water quality - Determination of total cyanide and free cyanide using flow analysis (FIA and CFA) - Part 2: Method using continuous flow analysis (CFA)	PI
DIN EN ISO 15681-2 (D 46) 2005-05	Water quality - Determination of orthophosphate and total phosphorus contents by flow analysis (FIA and CFA) - Part 2: Method using continuous flow analysis (CFA)	PI

1.1.14 Ecotoxicological Analysis of Summary Degradation Parameters in Water (WA, WW, SW, GW, RW, SW)

DIN EN ISO 9888 (L 25) 1999-11	Water quality - Evaluation of ultimate aerobic biodegradability of organic compounds in aqueous medium - Static test (Zahn-Wellens method)	GE
DIN EN ISO 11348-2 (L 51) 2009-05	Water quality - Determination of the inhibitory effect of water samples on the light emission of Vibrio fischeri - Part 2: Method using liquid-dried bacteria	GE
DIN 38412-L 30 1989-03	Determination of the tolerance of Daphnia to the toxicity of waste water by way of a dilution series (L 30)	GE

1.1.15 Titrimetric Analysis of Summary Indices of Actions and Substances in Water (WA, WW, SW, GW, RW, SW) (PI *)

DEV-D15	Determination of thiosulfate ion by titrimetry (proposal withdrawn)	PI
DIN EN ISO 8467 (H 5) 1995-05	Water quality - Determination of permanganate index	FG, PI

DIN EN ISO 9963-1 (C 23) 1996-02	Water quality - Determination of alkalinity - Part 1: Determination of total and composite alkalinity	PI
DIN EN 25663 (H 11) 1993-11	Water quality - Determination of Kjeldahl nitrogen; method after digestion with selenium	PI
DIN 38409-H 7 2005-12	Determination of acid and base-neutralising capacities (H 7)	FG, GE, PI, SV
DIN 38409-H 28 1992-04	Nitrogen (bound); method after reduction with Devarda's alloy and catalytic digestion (*standard withdrawn*)	PI
DIN 38409-H 41 1980-12	Determination of chemical oxygen demand (COD) in the range over 15 mg/l	PI
Swedish Standard SS 02 81 01 1992	Nitrogen content of water - Determination with Kjeldahl method after reduction with Devarda's alloy	PI

1.1.16 Volumetric Analysis of Summary Indices of Actions and Substances in Water (WA, WW, SW, GW, RW, SW)

DIN 38409-H 9-2 1980-07	Determination of the settleable matter by volume in water and waste water(H 9); volume fraction GE, FG with a sample volume of 2 l	FG, GE, HI, PI, SV

1.1.17 Individual Test Types - Analysis of Density and Concrete Aggressivity in Water (WA, WW, SW, GW, RW, SW)

DIN EN ISO 12185 1997-11	Crude petroleum and petroleum products - Determination of density - Oscillating U-tube method (Deviation: Here for water)	HE
DIN 4030-2 2008-6	Assessment of water, soil and gases for their aggressiveness to concrete - Part 2: Sampling and analysis of water and soil samples - here for: Odour, pH, potassium permanganate consumption, lime-dissolving capacity as Heyer marble test, hardness (Deviation *PI: Measurement of elements by ICP-OES), ammonium by CFA, sulphate and chloride by IC*)	FG, PI

1.2 Drinking Water

1.2.1 Sampling of Drinking Water

ISO 5667-11 2009-04	Water quality - Sampling - Part 11: Guidance on the sampling of groundwaters	GE, HI, PI
DIN EN ISO 5667-3 (A 21) 2013-03	Water quality - Sampling - Part 3: Preservation and handling of water samples	FG, GE, HI, PI
DIN 38402-A 30 1998-07	Pretreatment, homogenisation and aliquotation of non-homogeneous water samples	FG, GE, HI, PI
Data Sheet 4 on quality assurance of FHH-UB 1999-10	Sampling of groundwater	HI, PI

1.2.2 Sensory Analysis of Drinking Water

DEV-B1/2 6. Version 1971	Odour, qualitative (also on site) and flavour	GE, HI, PI
DIN EN 1622 (B 3) 2006-10	Water quality - Determination of the threshold odour number (TON) and threshold flavour number (TFN) *(*Deviation*: Only odour threshold)* Replacement for DIN EN 1622-B3 1997-10	PI

1.2.3 Atomic and Mass Spectrometry of Cations in Drinking Water

1.2.3.1 Inductively Coupled Plasma Atomic Emission Spectrometry (ICP-OES)

DIN EN ISO 11885 (E 22) 2009-09	Water quality - Determination of selected elements by inductively coupled plasma optical emission spectroscopy (ICP-OES)	PI

1.2.3.2 Inductively Coupled Plasma Mass Spectrometry (ICP-MS)

DIN EN ISO 17294-2 (E 29) 2017-01	Water quality - Application of inductively coupled plasma mass spectrometry (ICP-MS) - Part 2: Determination of selected elements including uranium isotopes	PI

1.2.4 Methods of Calculation of Inorganic Compounds in Drinking Water (PI *)

DEV H 12	Nitrogen (total), calculation	GE
DIN 38404-C 10 2012-12	Calcit saturation of water	GE, PI
DIN 38409-H 6 1986-01	Water hardness (H 6) - Measurement of Ca and Mg using ICP	PI

1.2.5 Electrode Measurement of Anions and Physico-chemical Indicators, Elements and Anions in Drinking Water (PI *)

DIN EN ISO 5814 (G 22) 2013-02	Water quality - Determination of dissolved oxygen - Electrochemical probe method	FG, GE, HI, PI
DIN EN ISO 10523 (C 5) 2012-04	Water quality - Determination of pH (C 5)	FG, GE, HI, PI
DIN 38404-C 4 1976-12	Determination of temperature (C 4)	FG, GE, HI, PI
DIN 38405-D 4-1 1985-07	Determination of fluoride	FG, HE, PI
DIN 38408-G 23 1987-11	Oxygen saturation index (*standard withdrawn*)	FG, PI

1.2.6 Liquid chromatography of Organic Compounds of Drinking Water

1.2.6.1 Liquid Chromatography with Mass Selective Detectors (LC-MS/MS) (PI *)

ISO 16308 2014-09	Water quality - Determination of glyphosate and AMPA - Method using high performance liquid chromatography (HPLC) with tandem mass spectrometric detection (Deviation*: Measurement using LC-MS/MS, additional glufosinate*)	PI
DIN 38407-35 (F 35) 2010-10	Determination of selected phenoxyalkyl carbonic acids and further acid plant treatment agents - Method using high performance liquid chromatography and mass spectrometric detection (HPLC-MS/MS)	PI

DIN 38407-36 (F 36) 2014-09	Determination of selected active substances of plant protection products and other organic substances in water - Method using high performance liquid chromatography and mass spectrometric detection after direct injection	PI
DIN 38407-F 42 2011-03	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	PI
DIN 38413 -6 (P 6) 2007-02	Determination of acrylamide - Method using high performance liquid chromatography with mass spectrometric detection (HPLC-MS/MS) (P 6)	PI
In-house method PI-MA-M 02-031 2017-02	Determination of X-ray contrast media by HPLC-MS/MS	PI
In-house method PI-MA-M 02-032 2016-08	Determination of sweeteners in water after enrichment using SPE	PI
In-house method PI-MA-M 02-036 2017-02	Determination of tetracyclines in water by LC-MS/MS	PI

1.2.7 Gas chromatography of Organic Compounds of Drinking Water

1.2.7.1 Gas chromatography with conventional detectors (GC-FID, GC-ECD, GC-FPD) (PI *)

DIN EN ISO 17353 (F 13) 2005-11	Water quality - Determination of selected organotin compounds - Gas chromatographic method	PI
DIN 38407-F 2 1993-02	Determination of low volatile halogenated hydrocarbons by gas chromatography (Deviation*: GE: In combination with DIN 51527 T1 (only PCBs)*) (*standard withdrawn*)	GE
DIN 38407-F 3 1998-07	Gas chromatographic determination of polychlorinated biphenyls (GC-MSD or ECD)	GE

1.2.7.2 Gas chromatography with Mass Selective Detectors (GC-MS, GC-MS/MS, GC-MIMS) (PI *)

ISO 8165-2 1999-07	Water quality - Determination of selected phenols - Part 2: Method by derivatisation and gas chromatography - Analysis using GC-MSD	PI
ISO 17858 2007-02 an. DEV-F33 (blueprint) 52nd Delivery 2002	Water quality - Determination of dioxin-like polychlorinated biphenyls - Method using gas chromatography / mass spectrometry (determination of WHO-PCBs: PCB 77, PCB 81, PCB 105, PCB 114, PCB 118, PCB 123, PCB 126, PCB 156, PCB 157, PCB 167, PCB 169, PCB 189) using GC-MSD	PI
DIN EN ISO 6468 (F 1) 1997-02	Water quality - Determination of certain organochlorine insecticides, polychlorinated biphenyls and chlorobenzenes - Gas chromatographic method after liquid-liquid extraction (PCB): 6 Ballschmiter polychlorinated biphenyls using GC-MSD: PCB 28, PCB 52, PCB 101, PCB 138, PCB 153, PCB 180) plus PCB 118, measurement with GC-MSD or GC-MS/MS	PI
DIN EN ISO 10301 (F 4) 1997-08	Water quality - Determination of highly volatile halogenated hydrocarbons - Gas chromatographic methods or GC-MSD *(standard withdrawn)*	GE, PI
DIN EN ISO 12010 (H 47) 2014-07	Water quality - Determination of short-chain polychlorinated alkanes (SCCPs) in water - Method using gas chromatography-mass spectrometry (GC-MS) and negative-ion chemical ionisation (NCI) Additional determination of the MCCPS, modular clean-up, modified quantification, detector GC-MSD	PI
DIN EN 12673 (F 15) 1999-05	Water quality - Gas chromatographic determination of some selected chlorophenols in water using GC-MSD Additional determination of phenol, cresols and xylenols, and also of triclosan and bisphenol A in PI	PI
DIN EN 14207 (P 9) 2003-09	Water quality - Determination of epichlorohydrin	PI
DIN EN ISO 18857-1 (F 31) 2007-02	Water quality - Determination of selected alkylphenols - Part 1: Method for non-filtered samples using liquid-liquid extraction and gas chromatography with mass selective detection. Additional determination of octylphenols and ethoxylates; extraction with hexane and different clean-up	PI

DIN ISO 28540 (F 40)	Water quality - Determination of 16 polycyclic aromatic hydrocarbons (PAH) in water - Method using gas chromatography with mass spectrometric detection (GC-MS)	PI
DIN 38407-F 2 1993-02	Jointly determinable substances (group F); determination of low volatile halogenated hydrocarbons by gas chromatography (Deviation*: GE: In combination with DIN 51527 T1 (only PCBs)*) (*standard withdrawn*)	GE, PI
DIN 38407-F 3 1998-07	Jointly determinable substances (group F) - Part 3: Gas chromatographic determination of polychlorinated biphenyls (GC-MSD or ECD)	GE, PI
DIN 38407-F 9-1 1991-05	Determination of benzene and some of its derivatives by gas chromatography using headspace analysis (HS-GC) BTEX - here for: Benzene and some derivatives, naphthalene, mono and dichlorobenzene (Deviation*: PI: In addition, SPIMFAB, aliphatics C5-C10, diethylbenzenes*) (*standard withdrawn*)	GE, PI
DIN 38407-F 14 1994-10	Determination of phenoxyalkyl carbonic acids by gas chromatography and mass-spectrometric detection after solid-liquid-extraction and derivatisation	PI
DIN 38407-F 27 2012-10	German standard methods for the examination of water, waste water and sludge - Jointly determinable substances (group F) - Part 27: Determination of selected phenols in groundwater and seepage water, aqueous eluates and percolates	PI
DIN 38407-F 37 2013-11	Determination of organochlorine pesticides, polychlorinated biphenyls and chlorobenzene in water - Method using gas chromatography and mass spectrometric detection (GC-MS) after liquid-liquid extraction (Deviation*: Measurement also with GC-MS/MS*) (Deviation *PI: Additional analysis of cypermethrin, permethrin, cyhalothrin and deltamethrin*)	PI
DIN 38407-F 39 2011-09	Jointly determinable substances (group F) - Part 39: Water quality - Determination of selected polycyclic aromatic hydrocarbons (PAH) - Method using gas chromatography with mass spectrometric detection (GC-MS)	GE,PI

DIN 38407-F 43 2014-10	German standard methods for the examination of water, waste water and sludge - Jointly determinable substances (group F) - Part 43: Determination of selected easily volatile organic compounds in water - Method using gas chromatography and mass spectrometry by static headspace technique (HS-GC-MS) (F 43)	GE, PI
In-house method PI-MA-M 03-113 2015-02	PFT in water using GC-MSD	PI

1.2.8 Gravimetric Analysis of Physico-chemical Indicators and Summary Indices of Actions and Substances in Drinking Water (PI *)

DIN EN 872 (H 33) 2005-04	Water quality - Determination of suspended solids - Method by filtration through glass fibre filters	GE, HI, PI
DIN 38409-H 1 1987-01	Determination of total dry residue, filtrate dry residue and residue on ignition	FG, GE, HI, PI

1.2.9 Ion Chromatography of Anions in Drinking Water (PI *)

DIN EN ISO 10304-1 (D 20) 2009-07	Water quality - Determination of dissolved anions bromide, fluoride, chloride, nitrate, orthophosphate and sulphate and additionally nitrite by liquid chromatography of ions - Part 1: Method for weakly contaminated water (Deviation *PI: No determination of nitrite and phosphate*)	HE, PI
DIN EN ISO 10304-2 (D 20) 1996-11	Water quality - Determination of dissolved anions by liquid chromatography of ions - Part 2: Determination of bromide, chloride, nitrate, nitrite, orthophosphate and sulphate in waste water (Deviation *PI: No determination of nitrite and phosphate) (standard withdrawn*)	HE, PI
DIN EN ISO 10304-4 (D 25) 1999-07	Water quality - Determination of dissolved anions by liquid chromatography of ions - Part 4: Determination of chlorate, chloride and chlorite in water with low contamination	PI

1.2.10 Microbiological Analysis - Detection of Bacteria by Cultural Bacteriological Analysis in Drinking Water (HH *)

DIN EN ISO 9308-1 (K 12) 2017-09	Water quality - Enumeration of Escherichia coli and coliform bacteria - Part 1: Membrane filtration method for waters with low bacterial background flora	HH
DIN EN ISO 9308-2 (K 6-1) 2014-06	Water quality - Enumeration of Escherichia coli and coliform bacteria - Part 2: Most probable number method	HH
DIN EN ISO 14189 2016-11	Water quality - Enumeration of Clostridium perfringens - Method using membrane filtration	HH

1.2.11 Photometry of Physico-chemical Indicators, Summary Indices of Actions and Substances, Anions, Cations, Hydrazine and Oxygen in Drinking Water

1.2.11.1 Photometry (PI *)

DIN EN ISO 7027 (C 2) 2000-04	Water quality - Determination of turbidity (also on site) (Deviation *GE: On-site measurements only*)	GE, PI
DIN ISO 17289 (G 25) 2014-12	Water quality - Determination of dissolved oxygen - Optical sensor method (also on site)	GE, PI
DIN EN ISO 18412 (D 40) 2007-02	Water quality - Determination of chromium(VI) - Photometric method for weakly contaminated water	PI
DIN EN 26777 (D 10) 1993-04	Water quality - Determination of nitrite; spectrometric method	PI
DIN 38404-C 3 2005-07	Determination of absorption in the range of UV radiation, spectral absorption coefficient	PI
DIN 38405-D 26 1989-04	Photometric determination of dissolved sulphide (*standard withdrawn*)	GE, PI
DIN 38405-D 24 1987-05	Photometric determination of chromium(VI) using 1,5-diphenylcarbonohydrazide (D 24)	GE, PI
DIN 38406-E 1 1983-05	Determination of iron	PI

DIN 38409-H 16-3 1984-06	Determination of the phenol index after distillation	PI
DIN 38413-P 1 1982-03	Determination of hydrazine	PI

1.2.11.2 Photometry with Flow and Flow Rate Analysis

DIN EN ISO 15681-2 (D 46) 2005-05	Water quality - Determination of orthophosphate and total phosphorus contents by flow analysis (FIA and CFA) - Part 2: Method using continuous flow analysis (CFA)	PI

1.2.12 Titrimetric Analysis of Physico-chemical Indicators, Summary Indices of Actions and Substances and Anions in Drinking Water (PI *)

DEV-D 15	Thiosulfate (*standard withdrawn)*	PI
DIN EN ISO 9963-1 (C 23) 1996-02	Water quality - Determination of alkalinity - Part 1: Determination of total and composite alkalinity	PI
DIN EN 25663 (H 11) 1993-11	Water quality - Determination of Kjeldahl nitrogen; method after digestion with selenium	PI

1.2.13 Volumetric Analysis of Summary Indices of Actions and Substances in Drinking Water

DIN 38409-H9-2 1980-07	Determination of the settleable matter by volume in water and waste water(H 9); volume fraction GE, FG with a sample volume of 2 l	FG, GE, HI, PI

1.3 Soil, Sewage Sludge, Sludge, Sediment

1.3.1 Sampling of Soil, Sewage Sludge, Sludge, Sediment

DIN EN 932-1 1996-11	Test for general properties of aggregates - Part 1: Methods for sampling (Deviation*: Matrix only soil*)	PI

DIN EN ISO 5667-13 (S 1) 2011-08	Water quality - Sampling - Part 13: Guidance on sampling of sludges (Deviation*: Matrix only sludge and sewage sludge*) (*standard withdrawn*)	GE, HI, PI
DIN ISO 10381-2 2003-08	Soil quality - Sampling - Part 2: Guidance on sampling techniques (Deviation*: Matrix only soil*)	PI
DIN ISO 10381-7 2007-10	Soil quality - Sampling - Part 7: Guidance on sampling of soil gas (Deviation*: Only variant c in developed borewells*) (Deviation*: Matrix only soil*)	GE, HI, PI
DIN 19698-1 2014-05	Characterisation of solids - Sampling of solid and semi-solid materials - Part 1: Guidance for the segmental sampling of stockpiles of unknown composite (Deviation*: Matrix only soil*)	FG, GE, HI, PI
DIN 38414-S 11 1987-08	Sampling of sediments using gouges, box corers, Van Veen grabs, soil pipes (Deviation*: Matrix only sediment*)	GE, PI
LAGA Guideline EW 98 2002 /2012-11	Guideline on procedures for the physical and chemical examination of waste, contaminated soils and materials from brownfields (Deviation*: Matrix only soil*)	FG, GE, HI, PI
LAGA Guideline PN 98 2002	Guideline on procedures for physical, chemical and biological examination in connection with the recycling/disposal of waste (Deviation*: Matrix only soil*)	FG, GE, HI, PI

1.3.2 Pretreatment of Samples of Soil, Sewage Sludge, Sludge, Sediment

DIN V 19736 1998-10	Derivation of concentrations of organic pollutants in soil water (*standard withdrawn*)	HI
DIN ISO 11277 2002-08	Soil quality - Determination of particle size distribution in mineral soil material - Method by sieving and sedimentation (Deviation*: Matrix only soil*)	PI

DIN ISO 11464 2006-07	Soil quality - Pretreatment of samples for physico-chemical analysis (Deviation*: Matrix only soil*) (*standard withdrawn*)	FG, GE, HI, PI
DIN ISO 11466 1997-06	Soil quality - Extraction of trace elements soluble in aqua regia (Deviation*: Matrix only soil*) (*standard withdrawn*)	HI, PI
DIN EN 12457-1 2003-01	Characterisation of waste - Leaching of granular waste and sludges - Part 1: One stage batch test at a liquid to solid ratio of 2 l/kg with particle size below 4 mm (without or with size reduction) (Deviation*: Matrix only sludge and sediments*)	FG, GE, HI, PI
DIN EN 12457-2 2003-01	Characterisation of waste - Leaching of granular waste and sludges - Part 2: One stage batch test at a liquid to solid ratio of 10 l/kg with particle size below 4 mm (without or with size reduction) (Deviation*: Matrix only sludge and sediments*)	FG, GE, HI, PI
DIN EN 12457-3 2003-01	Characterisation of waste - Leaching of granular waste and sludges - Part 3: Two stage batch test at a liquid to solid ratio of 2 l/kg and 8 l/kg for materials with high solid content with particle size below 4 mm (without or with size reduction) (Deviation*: Matrix only sludge and sediments*)	FG, GE, HI, PI
DIN EN 12457-4 2003-01	Leaching of granular waste materials and sludges - Part 4: One stage batch test at a liquid to solid ratio of 10 l/kg for materials with particle size below 10 mm (without or with size reduction) (Deviation*: Matrix only sludge and sediments*)	FG, GE, HI, PI
DIN EN 13346-S7a 2001-04	Characterisation of sludges - Extraction of trace elements and phosphorus with aqua regia method A (reflux) and method C: (microwave)	HI, PI
DIN EN 13657 2003-01	Characterisation of waste - Digestion for subsequent determination of aqua regia soluble portion of elements in waste (Deviation*: Matrix only soil and sewage sludge*)	HI, PI
DIN ISO 14507 2004-07	Soil quality - Pretreatment of samples for determination of organic contaminants in soils (Deviation*: Matrix only soil*) (*standard withdrawn*)	FG, GE, HI, PI

DIN EN 16173 2012-11	Sludge, treated biowaste and soil - Digestion of nitric acid soluble fractions of elements (Deviation*: Matrix only soil*)	PI
DIN EN 16174 2012-11	Sludge, treated biowaste and soil - Digestion of aqua regia soluble fractions of elements (Deviation*: Matrix only soil and sludge*)	HI, PI
DIN EN 16179 2012-11	Sludge, treated biowaste and soil - Guidance for sample pretreatment (Deviation*: Matrix only soil and sludge*)	GE, HI, PI
DIN EN ISO 17892-4 2017-04	Geotechnical investigation and testing - Laboratory testing of soil - Part 4: Determination of particle size distribution (Deviation*: Matrix only soil*)	GE, PI
DIN 18123 2011-04	Soil, investigation and testing - Determination of grain-size distribution (Deviation*: Matrix only soil*) (*standard withdrawn*)	GE, PI
DIN 19527 2012-08	Leaching of solid materials - Batch test for the examination of the leaching behaviour of organic substances at a liquid to solid ratio of 2 l/kg (Deviation*: Matrix only soil*) (*standard withdrawn*)	GE, HI
DIN 19528 2009-01	Leaching of solid materials - Percolation method for the joint examination of the leaching behaviour of inorganic and organic substances (Deviation*: Matrix only soil and sediment*)	HI
DIN 19529 2015-12	Leaching of solid materials - Batch test for the examination of the leaching behaviour of inorganic and organic substances at a liquid to solid ratio of 2 l/kg (Deviation *PI: Only inorganic substances*)	GE, HI, PI
DIN ISO 19730 2009-07	Soil quality - Extraction of trace elements using ammonium nitrate solution (Deviation*: Matrix only soil*) (*standard withdrawn*)	HI, PI
DIN 19738 2017-06	Absorption availability of organic and inorganic pollutants from contaminated soil material (Deviation*: Matrix only soil*)	HI

DIN 19747 2009-07	Investigation of solids - Pretreatment, preparation and processing of samples for chemical, biological and physical analysis (*replacement for DIN ISO 11464 2006-07*)	FG, GE, HI, PI
DIN 38414-S 4 1984-10	Determination of leachability with water (S4) (*standard withdrawn*)	FG, GE, HI, PI
LAGA EW 98 S 2002	Determination of leachability with water in batch test (*guideline withdrawn*)	FG, GE, HI, PI
VDLUFA Methoden handbuch I A 6.2.1.1 1991	Extract with calcium acetate lactate (CAL) for the determination of phosphorus and potassium (Deviation*: Matrix only soil*)	HI, PI
VDLUFA Methoden handbuch I A 6.2.1.2 1991	Determination of phosphorus and potassium in double lactate (DL extract) (Deviation*: Matrix only soil*)	PI
VDLUFA Methoden handbuch I A 6.2.4.1 1991	Extract with calcium chloride (CaCl2) for the determination of plant available magnesium (Deviation*: Matrix only soil*)	HI, PI
BBodSchV Annex 1, 3.1.2 1999-07	Leaching methods - Soil saturation extract (Deviation*: Matrix only soil*)	HI, PI
LUA Data Sheet No. 20 2000-03	Recommendations for the implementation and evaluation of column tests in accordance with BBodSchV (Deviation*: Matrix only soil*)	HI
LAGA Guideline EW 98 p 2002/2012-11	Determination of leachability with water at constant pH (pH-stat method) (Deviation*: Matrix only soil*)	FG
AbfKlärV 1992 Annex 1 No. 1.2	Sample preparation: Homogenisation, centrifugation, freeze-drying (Deviation*: Matrix only sludge and sewage sludge*)	PI
OFD-H-BAM 2008-10	Requirements for sampling, sample pretreatment and analysis methods on state-owned properties (Deviation*: Matrix only soil*)	GE, PI

1.3.3 Atomic Spectrometry of Elements in Soil, Sewage Sludge, Sludge, Sediment

1.3.3.1 Atomic Absorption Spectrometry – Determination of Mercury (K-AAS)

DIN ISO 16772 2005-06	Soil quality - Determination of mercury in aqua regia soil extracts with cold-vapour atomic spectrometry or cold-vapour atomic fluorescence spectrometry (Deviation*: Matrix only soil, sewage sludge, sludge*)	PI
ASTM D 6722 2011	Standard Test Method for Total Mercury in Coal and Coal Combustion Residues by Direct Combustion Analysis (Deviation SV*: extra matrix power plant water*)	SV

1.3.3.2 Inductively Coupled Plasma Atomic Emission Spectrometry (ICP-OES) (PI *)

DIN ISO 22036 2009-06	Soil quality - Determination of trace elements in soil extracts using inductively coupled plasma atomic emission spectrometry (ICP-AES) Determination of As, B, Ca, Cd, Co, Cr, Cu, Fe, K, Mg, Mn, Mo, Na, Ni, P, Pb, Sb,Sn, Te, Ti, V, Zn, Te, Tl	PI
LAGA Guideline SM 2/79 1983-12	Heavy metals using ICP-OES - Cd, Cr, Cu, Hg, Ni, Pb, Zn (Deviation*: Matrix only sludge*) *(guideline withdrawn)*	PI

1.3.3.3 Inductively Coupled Plasma Mass Spectrometry (ICP-MS)

DIN EN 16171 2017-01	Sludge, treated biowaste and soil - Determination of elements using inductively coupled plasma mass spectrometry (ICP-MS)	PI

1.3.4 Biological activity in soil, sewage sludge, sludge and sediment

Bundesgütegemeinschaft Kompost e.V. Methodenbuch zur Analyse, Section IV A1 2006-09	Determination of degree of decomposition in self-heating test (Deviation*: Matrix only soil*)	GE
Bundesgütegemeinschaft Kompost e.V. Methodenbuch zur Analyse, Section IV A3 2006-09	Plant tolerance in seed planting test with spring barley (Deviation: *Matrix only soil*)	GE

Bundesgütegemeinschaft Kompost e.V. Methodenbuch zur Analyse, Section IV A5 2006-09	Stability of the nitrogen balance of organic materials (Deviation: *Measurement of ammonium with CFA and measurement of nitrate with IC; matrix only soil)*	GE

1.3.5 Electrode Measurement of Physical and Physico-chemical Indicators and Summary Indices of Actions and Substances in Soil, Sewage Sludge, Sludge, Sediment (PI *)

DIN ISO 10390 2005-12	Soil quality - Determination of pH (H_2O, $CaCl_2$, KCl) (Deviation*: Matrix only soil*) (*standard withdrawn*)	FG, GE, HI, PI
DIN ISO 11265 1997-06	Soil quality - Determination of specific electrical conductivity (Deviation*: Matrix only soil*)	FG, GE, HI, PI
DIN EN 12176 (S 5) 1998-06	Characterisation of sludge - Determination of pH (H_2O) (Deviation*: Matrix only sewage sludge and sludge*) (*standard withdrawn*)	FG, GE, HE, HI, PI
DIN EN 15933 2012-11	Sludge, treated biowaste and soil - Determination of pH (Deviation*: Matrix only soil and sludge*)	FG, GE, HI, PI
DIN CEN/TS 15937 2013-08 DIN SPEC 91202	Sludge, treated biowaste and soil - Determination of specific electrical conductivity (Deviation*: Matrix only soil*)	GE, PI
In-house method PI-MA-M 07-031 2012-05	Oxygen consumption in sediments as specified by the BfG (Deviation*: Matrix only sediment*)	PI

1.3.6 Elemental Analysis of Elements and Summary Indices of Actions and Substances in Soil, Sludge, Sewage Sludge and Sediment (PI *)

DIN ISO 10694 1996-08	Soil quality - Determination of organic carbon and total carbon after dry combustion (elemental analysis) (Deviation*: Matrix only soil*) (*standard withdrawn*)	GE, PI

DIN ISO 13878 1998-11	Soil quality - Determination of total nitrogen content after dry combustion (elemental analysis) (Deviation*: Additionally carbon, hydrogen, sulphur, oxygen; matrix only soil*) (*standard withdrawn*)	GE
DIN ISO 15178 2001-02	Soil quality - Determination of total sulphur content after dry combustion (elemental analysis) (Deviation*: Matrix only soil*)	GE
DIN EN 13137 2001-12	Characterisation of waste - Determination of total organic carbon (TOC) in waste, sludges and sediments (Deviation*: Matrix only sludge and sediment*)	GE, PI
DIN EN 15936 2012-11	Sludge, treated biowaste, soil and waste - Determination of total organic carbon (TOC) by dry combustion (Deviation*: Matrix only soil*)	PI
DIN 19539 2016-12	Investigation of solids - Temperature-dependent differentiation of total carbon (TOC400, ROC, TIC900)	GE
DIN 38414-17 (S 17) 2014-04	Determination of the organically bound halogens amenable to extraction (S 17) (Deviation GE: Matrix only soil and sludge) (Deviation PI: Extraction with cyclohexane, n-hexane and acetone by ultrasonic shaking method) (*standard withdrawn*)	GE, PI
VGB-B 401, Blatt 4.4.2.1 1992-07	Residual carbon content (Deviation*: Matrix only soil*)	GE

1.3.7 Liquid Chromatography of Organic Compounds in Soil, Sewage Sludge, Sludge, Sediment

1.3.7.1 Liquid Chromatography with Conventional Detectors (HPLC-DAD)

In-house method PI-MA-M 02-003 2017-02	Determination of aldehydes in solids by HPLC-DAD	PI

1.3.7.2 Liquid Chromatography with Mass Selective Detectors (LC-MS/MS) (PI *)

ISO 16308 2014-09	Water quality - Determination of glyphosate and AMPA - Method using high performance liquid chromatography (HPLC) with tandem mass spectrometric detection (Deviation*: Additionally glufosinate, additional matrix soil*)	PI
DIN EN ISO 11369 (F 12) 1997-11	Water quality - Determination of selected plant treatment agents - Method using high performance liquid chromatography with UV detection after solid-liquid extraction (Deviation*: Measurement LC-MS/MS with PI-MA-M 02-024,* matrices *soil, sewage sludge, sludge, sediment*)	PI
DIN ISO 11916-1 2014-11	Soil quality - Determination of selected explosives - Part 1: Method using high-performance liquid chromatography (HPLC) with UV detection (Deviation: *MS/MS detection and processing by SPE or analysis by direct injection*)	PI
DIN 38413 -P 6 2007-02	Determination of acrylamide - Method using high performance liquid chromatography with mass spectrometric detection (HPLC-MS/MS) (P6) (Deviation*: Additionally matrix soil*)	PI
DIN 38414-S 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)	PI
In-house method PI-MA-M 02-007 2017-02	Selected medicinal substances from water using solid-liquid extraction and LC-MS/MS (Deviation*: Matrix only soil and sediment*)	PI
In-house method PI-MA-M 02-024 2017-02	Determination of selected active substances of plant protection products by LC-MS/MS in water and soil	PI
In-house method PI-MA-M 02-027 2017-02	Determination of polar nitrogen compounds in soil and water by LC-MS/MS	PI

1.3.8 Gas chromatography of Organic Compounds in Soil, Sewage Sludge, Sludge, Sediment

1.3.8.1 Gas Chromatography with Conventional Detectors (GC-FID, GC-ECD, GC-FPD) (PI *)

DIN EN ISO 10301 (F 4) 1997-08	Water quality - Determination of highly volatile halogenated hydrocarbons - Gas chromatographic methods (Deviation: *Here matrices soil, sewage sludge, sludge, sediment*)	GE
DIN EN 14039 2005-01	Characterisation of waste - Determination of hydrocarbon content in the range of C10 to C40 by gas chromatography (GC-FID) (Deviation*: Matrix only soil*)	GE, HI, PI
DIN ISO 16703 2011-09	Soil quality - Determination of content of hydrocarbon in the range C10 to C40 PI: Additional analysis after petrol pack	GE, HI, PI
DIN EN ISO 22155 2016-07	Soil quality - Gas chromatographic determination of volatile aromatic and halogenated hydrocarbons and selected ethers - Static headspace method	GE
DIN EN ISO 23161 2011-10	Soil quality - Determination of selected organotin compounds - Gas chromatographic method	PI
DIN 38407-F 9-1 1991-05	Determination of benzene and some of its derivatives by gas chromatography using headspace analysis (HS-GC) BTEX: Benzene and some derivatives, naphthalene, mono and dichlorobenzene by GBA-PI: In addition, aliphates C5-C10, diethylbenzenes (Deviation*: Matrix only soil; elutriation with water*) (*standard withdrawn*)	GE
DIN 38414-S 20 1996-01	Sludge and sediments (group S) - Part 20: Determination of 6 polychlorinated biphenyls (PCB) Drying at 105 °C, 3 h Soxhlet extraction, implementation in conjunction with LUA Data Sheet 6 (1996)	GE
LUA NRW Data Sheet 6 1996	PCB: 6 polychlorinated biphenyls using GC-MSD or ECD PCB 28, PCB 52, PCB 101, PCB 138, PCB 153, PCB 180 (Deviation*: Matrix only soil*)	GE

1.3.8.2 Gas chromatography with Mass Selective Detectors (GC-MS, GC-MS/MS, GC-MIMS) (PI *)

ISO 17858 2007-02	Water quality - Determination of dioxin-like polychlorinated biphenyls - Method using gas chromatography / mass spectrometry (determination of WHO-PCBs: PCB 77, PCB 81, PCB 105, PCB 114, PCB 118, PCB 123, PCB 126, PCB 156, PCB 157, PCB 167, PCB 169, PCB 189) using GC-MSD (Deviation*: After Soxhlet extraction in accordance with DIN 38414-24 (2000-10), measurement with triple quad, matrices soil, sewage sludge, sludge, sediment*)	PI
DIN EN ISO 10301 (F 4) 1997-08	Water quality - Determination of highly volatile halogenated hydrocarbons - Gas chromatographic methods or GC-MSD (Deviation: *Matrices soil, sewage sludge, sludge, sediment*)	GE, HI, PI
DIN ISO 10382 2003-05	Soil quality - Determination of organochlorine pesticides and polychlorinated biphenyls - Gas chromatographic method with electron capture detection (chlorobenzenes, organochlorine pesticides and PCBs: Ballschmiter polychlorinated biphenyls: PCB 28, PCB 52, PCB 101, PCB 138, PCB 153, PCB 180, additionally: PCB 118) (Deviation*: Matrix only sludge and sediment*); (Deviation*: Reconditioning from freeze-dried sample after Soxhlet extraction and clean-up with silica gel (in accordance with DIN 38407-F 3); measurement using GC-MS or MS/MS, analysis using GC-MSD)*	HI, PI
DIN EN ISO 10695 (F 6) 2000-11	Water quality - Determination of selected organic nitrogen and phosphorus compounds - Gas chromatographic method (GC-MSD) Pesticides SWE-EPA, neutral reconditioning (GC Method 2) BO: Extraction in ultrasonic bath and enrichment by concentration (Deviation*: Matrix only soil*)	PI
DIN ISO 11916-2 2014-11	Soil quality - Determination of selected explosives - Part 2: Method using gas chromatography (GC) and electron capture detection (ECD) or mass spectrometric detection (MS) (Deviation*: Matrix only soil*)	PI
DIN EN 12673 (F 15) 1999-05	Water quality - Determination of selected chlorophenols (chlorophenols, PCP, phenols, cresols and xylenols) Additional determination of triclosan and bisphenol A (Deviation*: Matrix only soil and sediment*)	PI

DIN EN 12766-3 2005-02	Petroleum products and used oils - Determination of PCBs and related products - Part 3: Determination and quantification of polychlorinated terphenyls (PCT) and polychlorinated benzyl toluenes (PCBT) content by gas chromatography (GC) using an electron capture detector (ECD) Measurement using GC-MS, liquid-liquid extraction with water samples, additional matrices (solids): Ultrasound extraction (Deviation*: Matrix only soil*)	PI
DIN ISO 14154 2005-12	Soil quality - Determination of selected chlorophenols - Gas chromatographic method with electron capture (Deviation*: Matrix only soil, PI: Determination using GC-MS*)	PI
DIN EN 15527 2008-09	Characterisation of waste - Determination of polycyclic aromatic hydrocarbons (PAH) in waste using gas chromatography mass spectrometry (GC/MS) Different solvent mixture (Deviation*: Matrix only soil and sludge*)	GE, HI, PI
DIN EN 16167 2012-11	Sludge, treated biowaste and soil - Determination of polychlorinated biphenyls (PCB) by gas chromatography with mass spectrometry (GC-MS)	HI, PI
DIN CEN/TS 16181; DIN SPEC 91243: 2013-12	Sludge, treated biowaste and soil - Determination of polycyclic aromatic hydrocarbons (PAH) by gas chromatography (GC)	HI, PI
DIN CEN/TS 16182; DIN SPEC 91262 2012-05	Sludge, treated biowaste and soil - Determination of nonylphenols (NP) and nonylphenol-mono and diethoxylates by gas chromatography with mass selective detection (GC-MS)	PI
DIN CEN/TS 16183; DIN SPEC 91265 2012-05	Sludge, treated biowaste and soil - Determination of selected phthalates using GC-MS	PI
DIN EN ISO 16588 (P 10) 2004-02	Water quality - Determination of six complexing agents, EDTA, NTA, etc. - Gas chromatographic method (GC-MSD) (Deviation*: Matrix only soil after aqueous eluate preparation*)	PI
DIN ISO 18287 2006-05	Soil quality - Determination of polycyclic aromatic hydrocarbons (PAH) - Gas chromatographic method with mass spectrometric detection (GC-MS) Different solvent mixture	GE, HI, PI

DIN EN ISO 18635 2016-10	Water quality - Determination of short-chain polychlorinated alkanes (SCCPs) in sediment, sewage sludge and suspended (particulate) matter - Method using gas chromatography mass spectrometry (GC-MS) and electron capture negative ionization (ECNI) (Deviation*: Additionally MCCP, matrices soil, sewage sludge, sludge, sediment*)	PI
DIN EN ISO 18857-2 (F 32) 2012-01	Water quality - Determination of selected alkylphenols - Part 2: Gas chromatography-mass spectrometric determination of alkylphenols, their ethoxylates and bisphenol A for non-filtered samples following solid phase extraction and derivatisation; Here only for alkylphenols and their ethoxylates; applied only for measurement, different internal standards, additional analytes: OP3EO and NP3EO (Deviation*: Matrix only soil and sediment*)	PI
DIN 19742 2014-08	Soil quality - Determination of selected phthalates in sludge, sediment, solid waste and soil after extraction and determination using gas chromatography mass spectrometry (GC-MS) Additional analytes: Dimethyl, diethyl, dipropyl, diisobutyl, dipentyl, benzyl butyl, dicyclohexyl, dioctyl, diisononyl, diisodecyl phthalate	PI
DIN EN ISO 22032 (F 28) 2009-07	Water quality - Determination of selected polybrominated diphenyl ethers in sediment and sewage sludge - Method using extraction and gas chromatography/mass spectrometry: Polybrominated diphenyl ethers (PBDE), polybrominated biphenyls (PBB), tetrabromobisphenol A (TBBP-A), hexabromocyclododecane (HBCD), tribromoanisole (TBA) (Deviation*: Ultrasonic extraction, other internal standards, matrices soil, sewage sludge, sludge, sediment*)	PI
DIN EN ISO 22155 2016-07	Soil quality - Gas chromatographic determination of volatile aromatic and halogenated hydrocarbons and selected ethers - Static headspace method	GE,HI, PI

DIN 38407-F 9-1 1991-05	Determination of benzene and some of its derivatives by gas chromatography using headspace analysis (HS-GC) BTEX: Benzene and some derivatives, naphthalene, mono and dichlorobenzene by GBA-PI: In addition, aliphates C5-C10, diethylbenzenes (Deviation*: Matrix only soil, analysis also using GC-MSD; elutriation with water*) (*standard withdrawn*)	GE, HI, PI
DIN 38413-P 2 1988-05	Determination of vinyl chloride (chloroethene) by headspace gas chromatography (Deviation*: Matrix only soil*) (*standard withdrawn*)	HI
DIN 38414-S 20 1996-01	Sludge and sediments (group S) - Part 20: Determination of 6 polychlorinated biphenyls (PCB) PI: Sediments are freeze-dried and extracted for 8 h as per Soxhlet, measurement using GC-MS GE: Drying at 105 °C, 3 h Soxhlet extraction, implementation in conjunction with LUA Data Sheet 6 (1996)	GE, HI, PI
DIN 38414-S 24 2000-10	Determination of polychlorinated dibenzodioxins (PCDD) and polychlorinated dibenzofurans (PCDF) (S 24) (Deviation*: Matrix only sludge and sediment*)	PI
HLUG, Handbuch Altlasten Volume 7, Part 4 2000	BTEX/VOC: Benzene and some of its derivatives using GC-MS after overcoating with methanol (Deviation*: Matrix only soil*)	GE, HI
HLUG, Handbuch Altlasten Volume 7, Part 5, 2004	Nitro aromatic compounds using GC-MSD (Deviation*: Matrix only soil*)	PI
LUA NRW Data Sheet 1 1994	PAH: 16 polycyclic aromatic hydrocarbons in accordance with EPA/TVO including methylnaphthaline PI: Including benzo[e]pyrene using GC-MSD; reconditioning of sludge, sediment from freeze-dried sample	GE, HI, PI
LUA NRW Data Sheet 6 1996	PCB: 6 polychlorinated biphenyls using GC-MSD or ECD PCB 28, PCB 52, PCB 101, PCB 138, PCB 153, PCB 180 (Deviation*: Matrix only soil*)	GE
Nonylphenol standard - Horizontal - 13.1 2006	Soils sludges and treated biowaste - Organic constituents - Nonylphenols (NP) and nonylphenol-mono and diethoxylates by gas chromatography with mass selective detection (GC-MS) Applied only for extraction	PI

In-house method HI-MA-M 03-022 # 1 2017-03	Determination of organic acids (C1-C5) in water after derivatisation by HS-GC-MSD (Deviation*: Matrix only sludge*)	HI
In-house method PI-MA-M 03-006 2017-02	Screening of water and soil	PI
In-house method PI- MA-M 03-077 2015-02	Glycols (ethylene, di and triethylene, propylene glycol) in water, soil and air using GC-MSD (Deviation*: Matrix only soil*)	PI
In-house method PI-MA-M 03-081 2012-06	Musk compounds in water and solids using GC-MSD (Deviation*: Matrix only soil and sediment*)	PI
In-house method PI-MA-M 03-106 2017-02	Terpenes in soil using GC-MSD	PI
In-house method PI-MA-M 03-112 2017-02	Estrogens, estrogen metabolites and sitosterol in water and soil samples	PI

1.3.9 Gravimetric Analysis of Physical, Physico-chemical Indicators and Summary Indices of Actions and Substances in Soil, Sewage Sludge, Sludge and Sediment (PI *)

DIN EN ISO 11272 2017-07	Soil quality - Determination of dry bulk density (Deviation*: Matrix only soil*)	GE
DIN ISO 11349 (H 56) 2015-12	Water quality - Determination of low-volatility lipophilic substances - Gravimetric method	GE, HI, PI
DIN ISO 11465 1996-12	Soil quality - Determination of dry matter and water content on a mass basis – Gravimetric method (Deviation*: Matrix only soil*) (*standard withdrawn*)	FG, GE, HI, PI
DIN EN 12879 (S 3a) 2001-02	Characterisation of sludges - Determination of loss on ignition of dry mass (*standard withdrawn*) (Deviation*: Matrix only sewage sludge, sludge*)	FG, GE, HI, PI

DIN EN 12880 S 2a 2001-02	Characterisation of sludges - Determination of dry residue and water content (Deviation*: Matrix only soil, sludge, sewage sludge*)	FG, GE, HI, PI
DIN EN 15169 2007-05	Characterisation of waste - Determination of loss on ignition in waste, sludge and sediments (Deviation*: Matrix only sludge, sediments*)	FG, GE, HI, PI
DIN EN 15934 2012-11	Sludge, treated biowaste, soil and waste - Calculation of dry matter fraction after determination of dry residue or water content (Deviation: *Matrix only soil*)	FG, GE, PI, SV
DIN EN 15935 2012-11	Sludge, treated biowaste, soil and waste - Determination of loss on ignition (Deviation*: Matrix only soil and sludge*)	FG, GE, HI, PI
DIN EN ISO 16720 2007-06	Soil quality - Pretreatment of samples by freeze-drying for subsequent analysis (Deviation*: Matrix only soil*)	PI
DIN 18121-2 2012-02	Soil, investigation and testing - Water content - Part 2: Determination by rapid methods (Deviation*: Matrix only soil*)	FG, GE, PI
DIN 18125-2 2011-03	Soil, investigation and testing - Determination of density of soil - Part 2: Field tests (Deviation*: Matrix only soil*) (*standard withdrawn*)	GE
DIN 18128 2002-12	Soil, investigation and testing - Determination of loss on ignition (Deviation*: Matrix only soil*)	HI
DIN 19684-2 1977-02	Determination of humus content in soil (Deviation*: Matrix only soil*) (*standard withdrawn*)	GE
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 (Deviation*: Matrix only soil*) (*standard withdrawn*)	FG, GE, HI, PI

DIN 38409-H 1 1987-01	Determination of total dry residue, filtrate dry residue and residue on ignition (H 1) (Deviation*: Matrix only soil*)	GE, HI, PI
DIN 38414-S 22 2000-09	Determination of dry residue by freezing and preparation of the freeze-dried mass of sludge (Deviation*: Matrix only sludge and sediment*)	PI
DIN 38414-S 3 1985-11	Determination of loss on ignition and residue on ignition of the dry matter of a sludge	FG, GE, HI, PI
LAGA KW/04 Section 6.8 2004-11	Sum of extractable lipophilic substances (Deviation*: Matrix only soil*)	GE, HI, PI

1.3.10 Photometry of Anions, Cations and Summary Indices of Actions and Substances in Soil, Sewage Sludge, Sludge and Sediment

1.3.10.1 Photometry of Anions

DIN EN 16318 2016-07	Fertilizers and liming materials - Determination of chromium(VI) by photometry (method A) and by ion chromatography with spectrophotometric detection (method B) (Deviation:*method only A*)	PI, GE

1.3.10.2 Photometry of Anions, phenol index with Flow and Flow Rate Analysis (PI *)

DIN ISO 11262 2012-04	Soil quality - Determination of total cyanide (Deviation: *Matrix only soil*)	PI
DIN EN ISO 17380 2013-10	Soil quality - Determination of total cyanide and easily liberatable cyanide - Continuous flow analysis method (Deviation*: Matrix only soil*)	PI
DIN 38409-H 16-2 1984-06	Determination of the phenol index after distillation and colourant extraction (Deviation: *Matrix only soil; measurement with CFA)*	PI

1.3.11 Physical Analysis of Physical Parameters in Soil

DIN 4096 1980-05	Vane testing - Dimensions of apparatus, mode of operation, evaluation (Deviation*: Matrix only soil*) (*standard withdrawn*)	GE
DIN 18136 1996-08	Soil - Investigation and testing - Unconfined compression test (Deviation*: Matrix only soil*) (*standard withdrawn*)	GE

1.3.12 X-ray Fluorescence Analysis (XRF) for the Determination of Elements in Soil

DIN EN 15309 2007-08	Characterisation of waste and soil - Determination of elemental composition using X-ray fluorescence analysis, Only loose bulk and pellet (Deviation*: Matrix only soil*)	HE

1.3.13 Titrimetric Analysis of Physico-chemical Indicators, Summary Indices of Actions and Substances and Anions (PI *)

DIN ISO 11261 1997-05	Soil quality - Determination of total nitrogen - Modified Kjeldahl method (Deviation: Matrix only soil and sediment) (*standard withdrawn*)	PI
DIN EN 13342 2001-01	Characterisation of sludges - Determination of Kjeldahl nitrogen (Deviation: *Matrix only sludge and sewage sludge*)	PI
DIN EN 16502 2014-11	Test method for the determination of the degree of soil acidity according to Baumann-Gully	PI
DIN 38409-H28 1992-04	Determination of bound nitrogen; Method after reduction with Devarda's alloy and catalytic mineralisation (H 28)	PI
DIN 38406-E 5-2 1983-10	Determination of ammonium nitrogen (E 5) Also from soil (Deviation*: Matrix only soil*)	PI
DIN EN 16169 2012-11	Sludge, treated biowaste and soil - Determination of Kjeldahl nitrogen Replaces DIN ISO 11261 (1997-05) (Deviation: *Matrix only soil and sediment*)	PI

VDLUFA Methodenhandbuch II.2 Methode 4.5.1 2008	Analysis of alkaline operant components in slag lime, Konverterkalk and lime fertilizer of [...] organic and organic-mineral fertilizer	PI
Bundesgütegemeinschaft Kompost e.V. Methodenbuch zur Analyse, Section III, B 2.1 2006-09	Alkaline agents	PI
AbfKlärV 1992 BGBl. P. 912, Annex 1	Determination of ammonium nitrogen (E 5) Also from soil (Deviation: *Matrix only soil and sludge*)	PI

1.3.14 Volumetric Analysis of Anions in Soil and Sediment (PI *)

DIN 19684-5 1977-02	Determination of carbonate content in soil, (Deviation: *Matrix only soil*) (*standard withdrawn*)	PI
Bundesgütegemeinschaft Kompost e.V. Methodenbuch zur Analyse, Section III B 2.2 2006-09	Scheibler carbonate (gas volumetric) (Deviation*: Matrix only soil and sediment*)	GE, PI
VDLUFA Methodenbuch zur Bodenuntersuchung Volume I, A 5.3.1 1991	Gas volumetric determination of carbonates (Deviation*: Matrix only soil and sediment*)	GE, PI

1.3.15 Analysis of Concrete Aggressivity in Soil, Sludge, Sewage Sludge and Sediment

DIN 4030-2 2008-6	Assessment of water, soil and gases for their aggressiveness to concrete - Part 2: Sampling and analysis of water and soil samples - here for: Odour, pH, potassium permanganate consumption, lime-dissolving capacity as Heyer marble test, hardness (Deviation *PI: Matrix only soil, sulphate, chloride, sulphide after aqueous elution using IC*)	FG, PI

1.4 Waste, Biowaste/Compost

1.4.1 Sampling of Waste, Biowaste/Compost

DIN EN ISO 5667-13 2011-08	Water quality - Sampling - Part 13: Guidance on sampling of sludge (Deviation: *Matrix bio-waste*)	GE, PI
DIN EN 12579 2000-01	Soil improvers and growing media – Sampling (*standard withdrawn)*	GE, PI
DIN 19698-1 2014-05	Characterisation of solids - Sampling of solid and semi-solid materials - Part 1: Guidance for the segmental sampling of stockpiles of unknown composite (Deviation*: Matrix only waste*)	FG, GE, HI, PI
DIN 51750-1 1990-12	Sampling of petroleum products; general information (Deviation: *Matrix bio-waste*)	GE, PI
DIN 51750-2 1990-12	Sampling of liquid petroleum products (Deviation: *Matrix bio-waste*)	GE, PI
LAGA Guideline PN 98 2002	Guideline on procedures for physical, chemical and biological examination in connection with the recycling/disposal of waste (Deviation*: Matrix only waste*)	FG, GE, HI, PI
LAGA Guideline EW 98 2002 /2012-11	Guideline on procedures for the physical and chemical examination of waste, contaminated soils and materials from brownfields (Deviation*: Matrix only waste*)	FG, GE, HI, PI

1.4.2 Sample Pretreatment of Waste, Biowaste/Compost

DIN EN 1744-3 2002-11	Tests for chemical properties of aggregates - Part 3: Preparation of eluates by leaching of aggregates (Deviation*: Matrix only waste*)	HI, PI
DIN ISO 11466 1997-06	Soil quality - Extraction of trace elements soluble in aqua regia (Deviation*: Matrix only waste*) (*standard withdrawn*)	HI, PI

DIN EN 12457-1 2003-01	Characterisation of waste - Leaching of granular waste and sludges - Part 1: One stage batch test at a liquid to solid ratio of 2 l/kg with particle size below 4 mm (without or with size reduction) (Deviation*: Matrix only waste*)	FG, GE, HI, PI
DIN EN 12457-2 2003-01	Characterisation of waste - Leaching of granular waste and sludges - Part 2: One stage batch test at a liquid to solid ratio of 10 l/kg with particle size below 4 mm (without or with size reduction) (Deviation*: Matrix only waste*)	FG, GE, HI, PI
DIN EN 12457-3 2003-01	Characterisation of waste - Leaching of granular waste and sludges - Part 3: Two stage batch test at a liquid to solid ratio of 2 l/kg and 8 l/kg for materials with high solid content with particle size below 4 mm (without or with size reduction) (Deviation*: Matrix only waste*)	FG, GE, HI, PI
DIN EN 12457-4 2003-01	Leaching of granular waste materials and sludges - Part 4: One stage batch test at a liquid to solid ratio of 10 l/kg for materials with particle size below 10 mm (without or with size reduction) (Deviation*: Matrix only waste*)	FG, GE, HI, PI
DIN EN 13346 (S 7a) 2001-04	Characterisation of sludges - Extraction of trace elements and phosphorus with aqua regia method A (reflux) and method C: (microwave)	HI, PI
DIN EN 13657 2003-01	Digestion for subsequent determination of aqua regia soluble portion of elements in waste	HI, PI
DIN EN 16174 2012-11	Sludge, treated biowaste and soil - Digestion of aqua regia soluble fractions of elements (Deviation*: Matrix only waste*)	HI, PI
DIN EN 16179 2012-11	Sludge, treated biowaste and soil - Guidance for sample pretreatment (Deviation*: Matrix only waste*)	GE, HI, PI
DIN 19528 2009-01	Leaching of solid materials - Percolation method for the joint examination of the leaching behaviour of inorganic and organic substances (Deviation*: Matrix only waste*)	HI

DIN 19529 2015-12	Leaching of solid materials - Batch test for the examination of the leaching behaviour of inorganic and organic substances at a liquid to solid ratio of 2 l/kg, (Deviation *PI: Only inorganic substances*)	GE, HI, PI
BioAbfV Annex 3 No. 1.2 1998	Sample preparation and partial sampling, sieving < 10 mm, crushing < 0.25 mm (Deviation*: Matrix only biowaste*)	GE, HI, PI
FGSV No. 642 2001	Guidelines for the environmentally friendly use of industrial by-products and recycled building materials in road construction (RuA-StB 01)	GE, HI, PI
LAGA Guideline EW 98T 2012-11	Determination of leachability with water in trough test (Deviation*: Matrix only waste*)	GE, HI, PI
Bundesgütegemeinschaft Kompost e.V. Methodenbuch zur Analyse, Section II C 1-3 2006-09	Stones and foreign matter (glass, plastics, metals) (Deviation*: Matrix only biowaste*)	GE, PI
BioAbfV Annex 3 No. 1.3.3 - 1998	Stones and foreign matter (glass, plastics, metals) (Deviation*: Matrix only biowaste*)	GE, PI
DepV Annex 4 No. 3.1.1 2002	Sample preparation: Reduction, crushing and grinding of solid samples for laboratory sample (Deviation*: Matrix only waste*)	FG, GE, HI, PI
DepV Annex 4 No. 3.1.1 2002	Sample preparation: Reduction, milling of pasty and sludgy samples for laboratory sample (Deviation*: Matrix only waste*)	GE
LAGA Guideline EW 77 1977	Guideline on procedures for physical and chemical examination in connection with the disposal of waste; determination of leachability of solid and sludgy waste with water (Deviation*: Matrix only waste*) *(guideline withdrawn)*	FG, GE, PI

1.4.3 Atomic and Mass Spectrometry of Cations in Waste, Biowaste/Compost

1.4.3.1 Inductively Coupled Plasma Atomic Emission Spectrometry (ICP-OES) (PI *)

DIN ISO 22036 2009-06	Soil quality - Determination of trace elements in soil extracts using inductively coupled plasma atomic emission spectrometry (ICP-AES) Determination of As, B, Ca, Cd, Co, Cr, Cu, Fe, K, Mg, Mn, Mo, Na, Ni, P, Pb, Sb,Sn, Te, Ti, V, Zn, Te, Tl (Deviation*: Matrix only biowaste*)	PI
LAGA Guideline SM 2/79 1983-12	Heavy metals using ICP-OES Cd, Cr, Cu, Hg, Ni, Pb, Zn (Deviation*: Matrix only waste*) (guideline withdrawn)	PI

1.4.3.2 Inductively Coupled Plasma Mass Spectrometry (ICP-MS)

DIN EN 16171 2017-01	Sludge, treated biowaste and soil - Determination of elements using inductively coupled plasma mass spectrometry (ICP-MS)	PI

1.4.4 Biological Analysis of Biowaste

Bundesgütegemeinschaft Kompost e.V. Methodenbuch zur Analyse, Section IV B1 2006-09	Content of viable seeds and parts of plants capable of producing shoots (Deviation*: Matrix only biowaste*)	GE
Bundesgütegemeinschaft Kompost e.V. Methodenbuch zur Analyse, Section IV A4 2006-09	Gaseous phytotoxen in seed planting test with cress (Deviation*: Matrix only biowaste*)	GE

1.4.5 Methods of Calculation of Inorganic Compounds in Biowaste

BioAbfV Annex 3 1998	Salt content, calculation as potassium chloride after conductivity measurement (Deviation*: Matrix only biowaste*)	GE, HI, PI

1.4.6 Electrode Measurement of pH Values in Waste, Biowaste/Compost (PI *)

DIN ISO 10390 2005-12	Soil quality - Determination of pH (H_2O, $CaCl_2$, KCl) (*standard withdrawn*)	FG, GE, HI, PI
DIN EN 15933 2012-11	Sludge, treated biowaste and soil - Determination of pH	FG, GE, PI, HI

1.4.7 Elemental Analysis of Elements and Summary Indices of Actions and Substances in Waste, Biowaste/Compost (PI *)

DIN EN 13137 2001-12	Characterisation of waste - Determination of total organic carbon (TOC) in waste, sludges and sediments (Deviation*: Matrix only waste*)	GE, PI
DIN 19539 2016-12	Investigation of solids - Temperature-dependent differentiation of total carbon (TOC400, ROC, TIC900)	GE
VGB-B 401, Blatt 4.4.2.1 1992-07	Residual carbon content (Deviation*: Matrix only waste*)	GE

1.4.8 Gas Chromatography of Organic Compounds in Waste, Biowaste/Compost

1.4.8.1 Gas Chromatography with Conventional Detectors (GC-FID, GC-ECD, GC-FPD, GC-MIMS) (PI *)

DIN EN ISO 10301 (F 4) 1997-08	Water quality - Determination of highly volatile halogenated hydrocarbons - Gas chromatographic methods (Deviation*: Matrix only waste*)	GE
DIN EN 14039 2005-01	Characterisation of waste - Determination of hydrocarbon content in the range of C10 to C40 by gas chromatography (GC-FID) (Deviation*: Matrix only waste*)	GE, HI, PI
DIN EN 15308 2008-05	Characterisation of waste - Determination of selected polychlorinated biphenyls (PCB) in solid waste by using capillary gas chromatography with electron capture or mass spectrometric detection (Deviation*: Matrix only waste*) (*standard withdrawn*)	GE

DIN 38407-F 9-1 1991-05	Determination of benzene and some of its derivatives by gas chromatography using headspace analysis (HS-GC) BTEX: Benzene and some derivatives, naphthalene, mono and dichlorobenzene by GBA-PI: In addition, aliphates C5-C10, diethylbenzenes (Deviation*: Elutriation with water; matrix only waste*) (*standard withdrawn*)	GE
LAGA Guideline KW/04 2004-11	Hydrocarbons in waste using GC-FID (Deviation*: Matrix only waste*)	GE, HI, PI

1.4.8.2 Gas Chromatography with Mass Selective Detectors (GC-MS; GC-MS/MS) (PI *)

DIN EN ISO 10301 (F 4) 1997-08	Water quality - Determination of highly volatile halogenated hydrocarbons - Gas chromatographic methods or GC-MSD (Deviation: *Matrix only waste*)	GE, HI, PI
DIN EN 15308 2008-05	Characterisation of waste - Determination of selected polychlorinated biphenyls (PCB) in solid waste by using capillary gas chromatography with electron capture or mass spectrometric detection (Deviation*: Matrix only waste*)	GE, PI
DIN EN 15527 2008-09	Characterisation of waste - Determination of polycyclic aromatic hydrocarbons (PAH) in waste using gas chromatography mass spectrometry (GC/MS) Different solvent mixture (Deviation*: Matrix only waste*)	GE, HI, PI
DIN EN 16167 2012-11	Sludge, treated biowaste and soil - Determination of polychlorinated biphenyls (PCB) by gas chromatography with mass spectrometry (GC-MS)	HI, PI
DIN CEN/TS 16181 DIN SPEC 91243 2013-12	Sludge, treated biowaste and soil - Determination of polycyclic aromatic hydrocarbons (PAH) by gas chromatography (GC)	HI, PI
DIN CEN/TS 16183 DIN SPEC 91265 2012-05	Sludge, treated biowaste and soil - Determination of selected phthalates using GC-MS (Deviation*: Matrix only waste*)	PI

DIN 19742 2014-08	Soil quality - Determination of selected phthalates in sludge, sediment, solid waste and soil after extraction and determination using gas chromatography mass spectrometry (GC-MS) Additional analytes: Dimethyl, diethyl, dipropyl, diisobutyl, dipentyl, benzyl butyl, dicyclohexyl, dioctyl, diisononyl, diisodecyl phthalate (Deviation*: Matrix only waste*)	PI
DIN 38407-F 9-1 1991-05	Determination of benzene and some of its derivatives by gas chromatography using headspace analysis (HS-GC) BTEX: Benzene and some derivatives, naphthalene, mono and dichlorobenzene by GBA-PI: In addition, aliphates C5-C10, diethylbenzenes (Deviation*: Analysis also using GC-MSD and elutriation with water; matrix only waste*) (*standard withdrawn*)	GE, HI, PI
DIN 38414-S 20 1996-01	PCB: 6 polychlorinated biphenyls using GC-MSD or ECD PCB 28, PCB 52, PCB 101, PCB 138, PCB 153, PCB 180 (Deviation*: Matrix only waste*)	GE, HI, PI

1.4.9 Gravimetric Analysis of Physico-chemical Indicators and Summary Indices of Actions and Substances in Waste, Biowaste/Compost (PI *)

DIN ISO 11349 (H 56) 2015-12	Water quality - Determination of low-volatility lipophilic substances - Gravimetric method	GE, HI, PI
DIN ISO 11465 1996-12	Soil quality - Determination of dry matter and water content on a mass basis - Gravimetric method (Deviation*: Matrix only soil*) (*standard withdrawn*)	FG, GE, HI, PI
DIN ISO 14346 2007-03	Characterisation of waste - Calculation of dry matter by determination of dry residue or water content	FG, GE, HI, PI
DIN EN 15169 2007-05	Characterisation of waste - Determination of loss on ignition in waste, sludge and sediments (Deviation*: Matrix only waste*)	GE, HI, PI
DIN EN 15934 2012-11	Sludge, treated biowaste, soil and waste - Calculation of dry matter fraction after determination of dry residue or water content	FG, GE, HI, PI

DIN EN 15935 2012-11	Sludge, treated biowaste, soil and waste - Determination of loss on ignition (Deviation*: Matrix only waste*)	FG, GE, HI, PI
DIN EN 17828 2016-05	Solid biofuels - Determination of bulk density	HE
DIN 38409-H 1 1987-01	Determination of total dry residue, filtrate dry residue and residue on ignition (H 1) (Deviation*: Matrix only waste*)	GE, HI, PI
LAGA KW/04 Section 6.8 2004-11	Sum of extractable lipophilic substances (Deviation*: Matrix only waste*)	GE, HI, PI
DEV C 9 1974	Determination of density (Deviation*: Matrix only waste*)	PI
DepV 2009 as amended by Annex 4 No. 1.2 2012	Lipophilic substances, total extractable (Deviation*: Matrix only waste*)	GE, HI, PI
In-house method HE-MA M-U 11-7 2013-06	Determination of the solids content > 1 mm from liquid samples (Deviation*: Matrix only waste*)	HE
House procedure HE-MA M-U 11-9 2013-06	Determination of the solids content of liquid and pasty samples (Deviation*: Matrix only waste*)	HE

1.4.10 Ion Chromatography of Anions in Waste, Biowaste/Compost

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 (Deviation*: Only matrix waste in soda digestion*) (Deviation *PI: No determination of nitrite and phosphate*)	HE, PI

1.4.11 Calorimetry of Elements in Waste

DIN EN 14582 2016-12	Characterisation of waste - Halogen and sulphur content - Oxygen combustion in closed systems and determination methods	HE

1.4.12 X-ray Fluorescence Analysis (XRF) of Elements of Waste, Biowaste/Compost

DIN EN 15309 2007-08	Characterisation of waste and soil - Determination of elemental composition using X-ray fluorescence analysis, Only loose bulk and pellet (Deviation*: Matrix only waste*)	HE

1.4.13 Ecotoxicological Analysis of Waste, Biowaste/Compost

1.4.13.1 Ecotoxicological Analysis of Biodegradability

DIN 38414- S 8 1985-06	Determination of the amenability to anaerobic digestion (S 8)	GE
DepV 2009 in the valid version of 2013 Annex 4 No. 3.3.1	Breathability over 4 days (AT 4) (Deviation*: Matrix only waste*)	GE
DepV 2009 2013 Annex 4 No. 3.3.2	Gas formation, determined over 21 days in laboratory test (GB21)	GE
VDI 4630 2016-11	Fermentation of organic materials - Characterisation of the substrate, sampling, collection of material data, fermentation tests	GE

1.4.14 Photometry of Anions in Waste, Biowaste/Compost

1.4.14.1 Photometry

LAGA Guideline CN 1/75 1975	Cyanide, total and readily liberated *(guideline withdrawn)* (Deviation*: Matrix only waste*)	PI

1.4.14.2 Photometry with Flow and Flow Rate Analysis in Waste

LAGA Guideline CN 1/75 1975	Cyanide, total and readily liberated *(guideline withdrawn)* (Deviation*: Matrix only waste*)	PI

1.4.15 Physical Analysis of Physical Indicators in Waste, Biowaste/Compost

DIN EN ISO 2431 2012-03	Paints and varnishes - Determination of flow time by use of flow cups (Deviation*: Matrix only waste*)	HE
DIN 4096 1980-05	Vane testing - Dimensions of apparatus, mode of operation, evaluation (Deviation*: Matrix only waste*) (*standard withdrawn*)	GE
DIN 18136 1996-08	Unconfined compression test (Deviation*: Matrix only waste*) (*standard withdrawn*)	GE
ASTM D56 2010	Standard Test Method for Flash Point by Tag Closed Cup Tester	HE

1.4.16 Titrimetric Analysis of Physico-chemical Indicators, Summary Indices of Actions and Substances and Anions in Waste, Biowaste/Compost (PI *)

DIN ISO 11261 1997-05	Soil quality - Determination of total nitrogen - Modified Kjeldahl method Also from biota samples (Deviation*: Matrix only biowaste*) (*standard withdrawn*)	PI
DIN CEN/TS 15364 2006-07	Leaching behaviour tests - Acid and base neutralisation capacity test (Deviation*: Matrix only waste*)	FG
DIN EN 16169 2012-11	Sludge, treated biowaste and soil - Determination of Kjeldahl nitrogen (Deviation*: Matrix only biowaste*)	PI
VDLUFA Methodenbuch zur Bodenuntersuchung, Volume 1 A 2.2.1 1991	Determination of total Kjeldahl nitrogen (Deviation*: Matrix only biowaste*)	PI

VDLUFA Methodenhandbuch Volume II.2 Method 4.5.1 2008	Analysis of alkaline operant components in slag lime, converter fertilizer and lime fertilizer of [...] organic and organic-mineral fertilizer	PI
Bundesgütegemeinschaft Kompost e.V. Methodenbuch zur Analyse, Section III, B 2.1 2006-09	Alkaline agents	PI

1.5 Biota - Analysis of Bioindicators

1.5.1 Liquid Chromatography of Organic Compounds in Biota with Mass Selective Detector (LC-MS/MS)

In-house method PI-MA-M 02-028 2017-01	Determination of selected PFAS in water, solids and biota by LC-MS/MS after solid phase extraction	PI

1.5.2 Gas Chromatography of Organic Compounds

1.5.2.1 Gas Chromatography with Conventional Detectors (GC-FPD)

ASU L 10.00-9 2002-12	Examination of food - Gas chromatographic determination of organotin compounds in fish and mussels (determination of mono, di, tri and tetrabutyltin, mono and dioctyltin, tricyclic hexyltin, mono, di and triphenyltin using GC-FPD in biota)	PI

1.5.2.2 Gas Chromatography with Mass Selective Detectors (GC-MS; GC-MS/MS) (PI *)

DIN EN ISO 22032 (F 28) 2009-07	Water quality - Determination of selected polybrominated diphenyl ethers in sediment and sewage sludge - Method using extraction and gas chromatography/mass spectrometry: Polybrominated diphenyl ethers (PBDE), polybrominated biphenyls (PBB), tetrabromobisphenol A (TBBP-A), hexabromocyclododecane (HBCD), tribromoanisole (TBA) (Deviation*: Ultrasonic extraction, other internal standards here matrix biota*)	PI

ASU L 00.00-34 2010-09	Examination of foodstuffs - Modular multi-method for the determination of plant protection product residues in foodstuffs (PAH and PCB: 16 polycyclic aromatic hydrocarbons in accordance with EPA; 6 Ballschmiter polychlorinated biphenyls, in addition: PCB 118; tetra to hexa chlorobenzenes and organochlorine pesticides after reconditioning and measurement using GC-MSD) Clean-up in accordance with 64 LFGB L 00.00-38/1-4 *(*Deviation*: here matrix biota)*	PI
In-house method PI-MA-M 03-081 2012-06	Musk compounds in water and solids using GC-MSD (Deviation*: Matrix biota*)	PI

1.5.3 Gravimetric Analysis of Physico-chemical Indicators in Biota

DIN 38414-S 22 2000-09	Determination of dry residue by freezing and preparation of the freeze-dried mass of sludge *(*Deviation*: Matrix here biota)*	PI

1.5.4 Titrimetric Analysis of Summary Indices of Actions and Substances in Biota (*: PI)

DIN ISO 11261 1997-05	Soil quality - Determination of total nitrogen - Modified Kjeldahl method Also from biota samples (*standard withdrawn*) (Deviation: Matrix here biota)	PI
DIN EN 16169 2012-11	Sludge, treated biowaste and soil - Determination of Kjeldahl nitrogen Replaces DIN ISO 11261 (1997-05) (Deviation: Matrix here biota)	PI

1.6 Air

1.6.1 Sampling of Air

VDI 3860 Blatt 4 2012-06	Measurement of landfill gases - Underground measurements	PI, GE
VDI 3865 Blatt 2 1998-01	Techniques for active sampling of soil gas (Deviation*: Only variant c in developed borewells*)	GE, HI, PI

1.6.2 Liquid Chromatography with Conventional Detectors (HPLC-DAD) of Organic Compounds (PI *)

DIN ISO 16000-3 2013-01	Indoor air - Part 3: Determination of formaldehyde and other carbonyl compounds in indoor air and in test chambers - Pumped sampling Analysis (Deviation*: Only measurement*)	PI
DIN ISO 16000-4 2012-11	Indoor air - Part 4: Determination of formaldehyde - Diffusive sampling method Analysis (Deviation*: Only measurement*)	PI

1.6.2.1 Gas Chromatography of Organic Compound Parameters

1.6.2.1.1 Gas Chromatography with Conventional Detectors (GC-FID, GC-ECD) of Organic Compounds

DIN 51872-4 1990-06	Testing of gaseous fuels and other gases; determination of components; gas chromatography method; determination of hydrogen, oxygen, nitrogen, carbon monoxide and carbon dioxide, methane and short-chain hydrocarbons using GC-FID and in soil gas, landfill gas, gases and soil gas	GE
VDI 3865 Blatt 3 1998-06	Measurement of organic soil pollutants - Gas chromatographic determination of low-boiling organic compounds (VOC) plus different solvents in soil gas after enrichment with activated carbon and desorption with organic solvent	GE
In-house method HI-MA-M 03-020 # 1 2017-03	Alkanes, volatile C1 to C4 using GC-FID	HI

1.6.2.1.2 Gas Chromatography with Mass Selective Detectors (GC-MSD) of Organic Compounds (PI *)

DIN ISO 16000-6 2012-11	Indoor air - Part 6: Determination of volatile organic compounds in indoor air test chamber air by active sampling on Tenax TA® sorbent, thermal desorption and gas chromatography with MS or MS-FID (Deviation*: Without sampling*)	GE

DIN EN ISO 16017-1 2001-10	Indoor, ambient and workplace air - Sampling and analysis of volatile organic compounds by sorbent tube/thermal desorption/capillary gas chromatography - Part 1: Sampling with a pump (Deviation*: Without sampling*)	GE
DIN 38407-F 9-1 1991-05	Determination of benzene and some of its derivatives by gas chromatography using headspace analysis (HS-GC) BTEX: Benzene and some derivatives, naphthalene, mono and dichlorobenzene by GBA-PI: In addition, aliphates C5-C10, diethylbenzenes (*standard withdrawn*)	HI, PI
DIN 38413-P 2 1988-05	Determination of vinyl chloride (chloroethene) by headspace gas chromatography (*standard withdrawn*)	HI
VDI 2464 Blatt 1 2009-09	Ambient air measurement - Indoor air measurement - Measurement of polychlorinated biphynyls (PCBs) - GC/MS method for PCB 28, 52, 101,138, 153, 180 (Deviation*: Only measurement, other internal standards*)	PI
VDI 3865 Blatt 3 1998-06	Measurement of organic soil pollutants - Gas chromatographic determination of low-boiling organic compounds (VOC) plus different solvents in soil gas after enrichment with activated carbon and desorption with organic solvent (Deviation*: PI: Also indoor air and material samples, additional analytes*)	GE, PI
VDI 2100 Blatt 2 2010-11	Determination of gaseous compounds in outdoor air - Measurement of indoor air pollutants - Gas chromatographic determination of organic compounds - Active sampling through enrichment to activated carbon - Solvent extraction Determination of BTEX/VOC (benzene and some of its derivatives and volatile halogenated hydrocarbons and C3-aromatics) using GC-MSD after methods adaptation (tube type, internal standards, GC column) (Deviation*: Only measurement*)	PI
NIOSH 5515 1994-08	Polynuclear aromatic hydrocarbons by GC; polycyclic aromatic hydrocarbons in accordance with EPA (Deviation*: Only measurement*)	PI

NIOSH 5503 1994-08	Polychlorinated biphenyls; 6 Ballschmiter polychlorinated biphenyls after enrichment to PU foam, XAD-2 or Florisil and measurement using GC-MSD (Deviation*: Only measurement*)	PI
EPA TO-17 1999-01	Determination of Volatile Organic Compounds in Ambient Air Using Active Sampling Onto Sorbent Tubes	GE
In-house method HI-MA-M 03-025 # 1 2017-03	BTEX, VOC and C3 aromatics; determination from HS vials using HS-GC-MSD	HI
In-house method PI- MA-M 03-077 2015-02	Glycols (ethylene, di and triethylene, propylene glycol) in water, soil and air using GC-MSD	PI
In-house method PI-MA-M 03-107 2017-02	Terpenes in air using GC-MSD	PI

1.7 Dusts

1.7.1 Electrode Measurement of Anions in Dust

VGB-M 701 No. 02 and 8.8.1 2008-12	Fluoride from soda extract by ion-selective electrode	PI

1.7.2 Ion Chromatography of Anions in Dust

VGB-M 701 No. 02 and 8.8.1 2008-12	Bromide, chloride and sulphate from soda extract by ion chromatography	PI

1.7.3 Gas Chromatography with Mass Selective Detectors (GC-MSD) of Organic Compounds in Dust (PI *)

DIN EN 12673 (F 15) 1999-05	Water quality - Gas chromatographic determination of selected chlorophenols (chlorophenols, PCP, phenols, cresols and xylenols) Additional determination of triclosan and bisphenol A (Deviation: Matrix here dust)	PI

DIN EN ISO 22032 (F 28) 2009-07	Water quality - Determination of selected polybrominated diphenyl ethers in sediment and sewage sludge - Method using extraction and gas chromatography/mass spectrometry: Polybrominated diphenyl ethers (PBDE), polybrominated biphenyls (PBB), tetrabromobisphenol A (TBBP-A), hexabromocyclododecane (HBCD), tribromoanisole (TBA) (Deviation*: Liquid-liquid extraction with water samples, additional matrices (biota, polymers and materials): Ultrasonic extraction, other internal standards; matrix here dust)*	PI

1.7.4 Gravimetric Analysis of Density and of Silicon Dioxide in Dust

DEV C 9 1974	Determination of density (Deviation: *Matrix dust*)	HE, PI
In-house method PI-MA-M 04-041 2017-02	Silicon dioxide (SiO2), insoluble in aqua regia	PI

1.7.5 Photometry with Flow and Flow Rate Analysis of Summary Indices of Actions and Substances in Dust

DIN 38409-H 16-2 1984-06	Determination of the phenol index after distillation and colourant extraction (Deviation: *Measurement by CFA, matrix here dust*)	PI

2 Chemical Products

2.1 Wood

2.1.1 Sample Pretreatment of Wood

DIN EN 13346 (S 7a) 2001-04	Characterisation of sludges - Extraction of trace elements and phosphorus with aqua regia method A (reflux) and method C: (microwave)	HI, PI
DIN EN 13657 2003-01	Digestion for subsequent determination of aqua regia soluble portion of elements in waste	HI, PI
AltholzV 2002 Annex IV No. 1.2	Sampling and sample preparation - Sample preparation	HI

AltholzV 2002 Annex IV No. 1.3	Sample preparation: Homogenisation, drying and crushing < 2 mm	GE, HI
AltholzV 2002 Annex IV No. 1.3	Sample preparation: Homogenisation, drying and crushing < 2 mm (Deviation*: Only homogenisation*)	FG

2.1.2 Gas Chromatography with Conventional Detectors (GC-FID, GC-ECD) of Organic Compounds in Wood

AltholzV Annex IV 1.4.5 2002	Determination of polychlorinated biphenyls (PCB)	GE

2.1.3 Gas Chromatography with Mass Selective Detectors (GC-MSD) of Organic Compounds in Wood (PI *)

DIN EN 12766-3 2005-02	Petroleum products and used oils - Determination of PCBs and related products - Part 3: Determination and quantification of polychlorinated terphenyls (PCT) and polychlorinated benzyl toluenes (PCBT) content by gas chromatography (GC) using an electron capture detector (ECD) (Deviation*: Measurement by GC-MS, ultrasonic extraction,* matrix here wood)	PI
DIN EN ISO 22032 (F 28) 2009-07	Water quality - Determination of selected polybrominated diphenyl ethers in sediment and sewage sludge - Method using extraction and gas chromatography/mass spectrometry: Polybrominated diphenyl ethers (PBDE), polybrominated biphenyls (PBB), tetrabromobisphenol A (TBBP-A), hexabromocyclododecane (HBCD), tribromoanisole (TBA) (Deviation*: Ultrasonic extraction, other internal standards; matrix here wood)*	PI
AltholzV Annex IV 1.4.4 2002	Determination of selected chlorophenols (chlorophenols, PCP, phenols, cresols, xylenols) (Deviation*: PI: Measurement with GC-MSD*) Additional determination of triclosan and bisphenol A	PI
AltholzV Annex IV 1.4.5 2002	Determination of polychlorinated biphenyls (PCB) (Deviation*: PI: Measurement with GC-MSD*)	GE, PI

2.1.4 Gravimetric Analysis of Wood

DIN EN 13183-1 2002-07	Testing of wood - Moisture content of a piece of sawn timber - Part 1: Determination by oven dry method	GE, HI, PI
DIN 52183 1977-11	Testing of wood - Moisture content or dry residue (*standard withdrawn*)	GE, HI, PI

2.2 Chemical Raw Materials, Intermediate and End Products

2.2.1 Sample Pretreatment of Chemical Raw Materials, Intermediate and End Products

DIN 19747 2009-07	Investigation of solids - Pretreatment, preparation and processing of samples for chemical, biological and physical analysis Replacement for DIN ISO 11464 2006-07	FG, GE, HI, PI

2.2.2 Elemental Analysis for the Determination of Elements in Chemical Raw Materials, Intermediate and End Products

DIN ISO 13878 1998-11	Soil quality - Determination of total nitrogen content after dry combustion (elemental analysis) (Deviation: *Additionally carbon, hydrogen, sulphur, oxygen; matrix only solids and liquid sample matrix*) (*standard withdrawn*)	GE
DIN ISO 15178 2001-02	Soil quality - Determination of total sulphur content after dry combustion (Deviation: Matrix here chemical raw materials, intermediate and end products)	GE

2.2.3 Inductively Coupled Plasma Mass Spectrometry (ICP-MS) of Elements in Chemical Raw Materials, Intermediate and End Products (PI *)

DIN EN 16171 2017-01	Sludge, treated biowaste and soil - Determination of elements using inductively coupled plasma mass spectrometry (ICP-MS) (Deviation: *Additional matrices chemical raw materials, intermediate and end products*)	PI

2.2.4 Gas chromatography with Mass Selective Detectors (GC-MSD) of Organic Compounds in Chemical Raw Materials, Intermediate and End Products

EPA 8260 B 1996-12	"Volatile organic compounds by gas chromatography / mass spectrometry."	GE

2.2.5 X-ray Fluorescence Analysis (XRF) of Elements in Chemical Raw Materials, Intermediate and End Products

In-house method HE-MA MU 18-1/2/3 2010-05	Semi-quantitative analysis of solids using XRF (X-ray fluorescence analysis), energy-dispersive method with element ranging from sodium to uranium in pellets, loose bulks, solids with a smooth surfaces and liquids (Deviation*: Matrix only solids and powdery substances*)	HE
In-house method HE-MA-M 18-4 2013-07	Testing of silicon-iron alloys - Determination of silicon and iron content using XRF	HE

2.2.6 Titrimetric Analysis of Summary Indices of Actions and Substances in Chemical Raw Materials, Intermediate and End Products

DIN EN 60814 1999-03	Insulating liquids - Oil-impregnated paper and pressboard - Determination of water by automatic coulometric Karl Fischer titration (IEC 60814:1997) (Deviation: *Matrix chemical raw materials, intermediate and end products*)	HE

2.3 Mineral and Synthetic Building Materials (including Gypsum, Joint Sealant) and Flame Retardants

2.3.1 Sample Pretreatment of Gypsum

VGB-M 701 2008-12	Analysis of FGD gypsum, preparatory measures (digestion, eluates etc.)	PI
VGB-M 701 Lfd.Nr. 0.1 2008-12	Sample preparation and production of stock solution – acid hydrolysis	SV
VGB-M 701 Lfd.Nr. 0.2 2008-12	Sample preparation and production of stock solution – diluted hydrolysis	SV

2.3.2 Inductively Coupled Plasma Atomic Emission Spectrometry (ICP-OES) of Cations in Gypsum

VGB-M 701 No. 02 and 8 2008 -12	Sodium, potassium and magnesium as minor constituents of gypsum after aqueous extraction and measurement using ICP-OES and conversion to the corresponding oxides	PI

2.3.3 Electrode Measurement of Physico-chemical Indicators and Anions in Gypsum (PI *)

VGB-M 701 No. 4 2008-12	pH value	PI, SV
VGB-M 701 No. 02 and 8.8.1 2008-12	Fluoride from soda extract by ion-selective electrode	PI

2.3.4 Gas Chromatography with Mass Selective Detectors (GC-MS, GC-MS/MS) of Organic Compounds in Mineral and Synthetic Building Materials and Flame Retardants (PI *)

DIN ISO 10382 2003-05	Soil quality - Determination of organochlorine pesticides and polychlorinated biphenyls - Gas chromatographic method with electron capture detection (chlorobenzenes, organochlorine pesticides and PCBs: Ballschmiter polychlorinated biphenyls: PCB 28, PCB 52, PCB 101, PCB 138, PCB 153, PCB 180, additionally: PCB 118) Measurement using GC-MS or MS/MS, matrices here building materials; analysis using GC-MSD (Deviation HI: *analytics only PCB*)	HI, PI
DIN EN 12673-F15 1999-05	Water quality - Determination of selected chlorophenols (chlorophenols, PCP, phenols, cresols and xylenols) Additional determination of triclosan and bisphenol A (Deviation: *Matrix here building materials*)	PI
DIN EN ISO 22032 2009-07	Water quality - Determination of selected polybrominated diphenyl ethers in sediment and sewage sludge - Method using extraction and gas chromatography/mass spectrometry: Polybrominated diphenyl ethers (PBDE), polybrominated biphenyls (PBB), tetrabromobisphenol A (TBBP-A), hexabromocyclododecane (HBCD), tribromoanisole (TBA) (Deviation*: Liquid-liquid extraction with water samples, additional Matrices such as biota, building materials, polymers and materials, ultrasonic extraction, other internal standards*)	PI

In-house method PI-MA-M 3-79 2012-06	Organophosphorus flame retardants: TCPP, TCEP, TDCP after solvent extraction and measurement using GC-MS	PI

2.3.5 Gravimetric Analysis of Physico-chemical Indicators in Gypsum (PI *)

VGB-M701 No. 7 2008-12	Particle determination of sieve residue at 32 µm	PI, SV
VGB-M 701 No. 1 2008-12	Moisture content at 40 °C	PI, SV
VGB-M 701 Lfd. Nr. 2.1 2008-12	Gravimetric measurement of cleanliness level R° (calcium sulfate dehydrate) in content of crystal water	SV
VGB-M 701 Lfd. Nr. 8.11 2008-12	Determination of “HCL indissoluble” – gravimetric measurement	SV
In-house method PI-MA-M 04-041 2017-02	Silicon dioxide (SiO2), insoluble in aqua regia	PI

2.3.6 Ion Chromatography of Anions in Gypsum (PI *)

VGB-M 701 Lfd. Nr. 8.8.1 2008-12	Determination of chloride – ion chromatography	SV
VGB-M 701 No. 02 and 8.8.1 2008-12	Bromide, chloride and sulphate from soda extract by ion chromatography	PI
VGB-M 701 No. 02 and 8.8.2 2008-12	Chloride from aqueous extract by ion chromatography	PI

2.3.7 Titrimetric examination of cations in gypsum

VGB-M 701 No. 2.4 2008-12	Calcium as calcium oxide, complexometric	PI

VGB-M 701 Lfd. Nr. 8.9 2008-12	Determination of sulphur dioxide (SO2) as calcium sulphite hemihydrate – titrimetric measurement with iodine	SV
VGB-M 701 Lfd. Nr. 8.12.1 2008-12	Determination of carbonate as calcium carbonate (acidimetric)	SV

2.3.8 Sensory analysis – basic descriptive tests of gypsum

VGB-M 701 Lfd. Nr. 5 2008-12	Determination of the degree of whiteness/ color of plaster rock	SV

2.4 Specific Consumer Products (Textiles, Styrofoam, Plastics, Cables, Composite Materials, Cardboard)

2.4.1 Gas Chromatography with Mass Selective Detectors (GC-MS, GC-MS/MS) of Organic Compounds in Specific Consumer Products (PI *)

DIN EN ISO 12010 (H 47) 2014-07	Water quality - Determination of short-chain polychlorinated alkanes (SCCPs) in water - Method using gas chromatography mass spectrometry (GC-MS) and negative-ion chemical ionisation (NCI) (Deviation*: Additional determination of the MCCPS, modular clean-up, modified quantification, detector GC-MSD* (Deviation: *Matrix specific consumer products*)	PI
DIN EN 12673 (F 15) 1999-05	Water quality - Gas chromatographic determination of selected chlorophenols (chlorophenols, PCP, phenols, cresols and xylenols) Additional determination of triclosan and bisphenol A (Deviation: *Matrix specific consumer products*)	PI
DIN EN ISO 22032 (F 28) 2009-07	Water quality - Determination of selected polybrominated diphenyl ethers in sediment and sewage sludge - Method using extraction and gas chromatography/mass spectrometry: Polybrominated diphenyl ethers (PBDE), polybrominated biphenyls (PBB), tetrabromobisphenol A (TBBP-A), hexabromocyclododecane (HBCD), tribromoanisole (TBA) (Deviation*: Liquid/liquid extraction for water samples, matrix here specific consumer products: Ultrasonic extraction, different internal standards*)	PI

VDI 3865 Blatt 3 1998-06	Measurement of organic soil pollutants - Gas chromatographic determination of low-boiling organic compounds (VOC) plus different solvents in soil gas after enrichment with activated carbon and desorption with organic solvent (Deviation*: PI: Matrix also indoor air and specific consumer products, additional analytes)*	GE, PI

2.5 Inorganic Chemicals

2.5.1 Electrode Measurement of Anions in Inorganic Chemicals

VGB-M 701 No. 02 and 8.8.1 2008-12	Fluoride from soda extract by ion-selective electrode	PI

2.5.2 Gravimetric Analysis of Physical Indicators in Inorganic Chemicals (PI *)

DEV C 9 1974	Determination of density (Deviation: *Matrix here inorganic chemicals*)	PI
DIN EN 17828 2016-05	Solid biofuels - Determination of bulk density (Deviation: *Matrix here inorganic chemicals*)	HE
In-house method PI-MA-M 04-041 2017-02	Silicon dioxide (SiO2), insoluble in aqua regia	PI

2.5.3 Ion Chromatography of Anions in Inorganic Chemicals

VGB-M 701 No. 02 and 8.8.1 2008-12	Bromide, chloride and sulphate from soda extract by ion chromatography	PI

2.5.4 Titrimetric Analysis of Physico-chemical Indicators in De-Icing Salt

TL Streu Edition 2003	Methods of analysis for determination of the proportion of de-icing substances (Deviation*: Matrix only de-icing salt*)	HI

TL Streu Edition 2003	Methods of analysis for determination of the anti-caking agent ferrocyanide (Deviation*: Matrix only de-icing salt*)	HI

2.6 Wax

2.6.1 Gravimetric Analysis of Density in Wax

DEV C 9 1974	Determination of density (Deviation: *Here matrix wax*)	HE

2.7 Diffusive Samplers and Adsorbents

2.7.1 Gas Chromatography with Conventional Detectors (GC-FID, GC-ECD, GC-FPD) of Organic Compounds in Diffusive Samplers and Adsorbents

In-house method PI-MA-M 03-093 2012-06	Organotin compounds using GC-FPD in diffusive samplers and adsorbed materials	PI

2.8 Metallic Silicon

2.8.1 X-ray Fluorescence Analysis (XRA) of the Elemental Composition of Metallic Silicon

In-house method HE-MA-M 18-4 2013-06	Testing of silicon-iron alloys - Determination of silicon and iron content	HE

2.9 Acids

2.9.1 Atomic Spectrometry (AFS) of Cations in Acids

DIN EN ISO 17852 (E 35) 2008-04	Water quality - Determination of mercury - Method using atomic fluorescence spectrometry (Deviation*: Microwave digestion with aqua regia or nitric acid; matrix here acids*)	PI

2.9.2 Elemental Analysis of Summary Indices of Actions and Substances in Acids (PI *)

DIN EN ISO 9562 (H 14) 2005-02	Water quality - Determination of adsorbable organically bound halogens (AOX)	GE, PI
DIN 38409-H 8 1984-09	Determination of extractable organically bonded halogens (*standard withdrawn*)	GE, PI

2.9.3 Photometry of Halogens in Acids (PI *)

DIN EN ISO 7393-2 (G4) 2000-04	Water quality - Determination of free chlorine and total chlorine - Part 2: Colorimetric method using N,N-diethyl-1,4-phenylenediamine, for routine control purposes Also in acids	PI
DIN EN ISO 7393-2 (G4) (cuvette test) 2000-04	Water quality - Determination of free chlorine and total chlorine - Part 2: Colorimetric method using N,N-diethyl-1,4-phenylenediamine, for routine control purposes	PI
In-house method PI-MA-M 06-070 2017-02	Iodine, iodide after extraction in water, acids and solids	PI

2.9.4 Titrimetric Analysis of Hydrochloric Acid Content in Acids

In-house method PI-MA-M 08-038 2016-12	HCl content in acids	PI

3 Insulating Oil Analysis

3.1 Individual Colour and Purity of Insulating Oil

In-house method HE-MA-M U 10-4 2012-05	Colour (VDEW chromaticity diagram) and purity (appearance)	HE

3.2 Titrimetric Analysis of Physical, Physico-chemical Indicators in Insulating Oil

DIN EN ISO 12937 2002-03	Petroleum products - Determination of water content - Coulometric Karl Fischer titration method	HE
DIN 51558-2 1990-03	Determination of neutralisation number; colour indicator titration, insulating oils (*standard withdrawn*)	HE
DIN 51558-2 2017-07	Testing of mineral oils - Determination of neutralisation number - Part 2: Colour-indicator titration, insulating oils	HE
DIN 51559-2 2009-04	Testing of mineral oils - Determination of saponification number - Part 2: Colour-indicator titration, insulating oils	HE
DIN 51559-2 1990-03	Testing of mineral oils - Determination of saponification number - Colour-indicator titration, insulating oils (*standard withdrawn*)	HE
DIN EN 60814 1999-03	Insulating liquids - Oil-impregnated paper and pressboard - Determination of water by automatic coulometric Karl Fischer titration	HE

4 Oil, Solutions, Viscous Liquids

4.1 Gas Chromatography with Mass Selective Detectors (GC-MSD) of Organic Compounds in Oil, Solutions, Viscous Liquids (PI *)

DIN EN 12766-1 2000-11	Petroleum products and used oils - Determination of PCBs and related products - Part 1: Separation and determination of selected PCB congeners by gas chromatography (GC) using an electron capture detector (ECD) (Deviation*: Measurement using GC-MS*)	PI, GE
DIN EN 12766-2 2001-12	Petroleum products and used oils - Determination of PCBs and related products - Part 2: Calculation of polychlorinated biphenyl (PCB) content, measurement using GC-MS	PI, GE
DIN EN 12766-3 2005-02	Petroleum products and used oils - Determination of PCBs and related products - Part 3: Determination and quantification of polychlorinated terphenyls (PCT) and polychlorinated benzyl toluenes (PCBT) content by gas chromatography (GC) using an electron capture detector (ECD) (Deviation*: Measurement using GC-MS*)	PI

VDI 3865 Blatt 3 1998-06	Measurement of organic soil pollutants - Gas chromatographic determination of low-boiling organic compounds (VOC) plus different solvents in soil gas after enrichment with activated carbon and desorption with organic solvent (Deviation*: PI: Also indoor air and material samples, additional analytes*)	GE, PI

4.2 X-ray Fluorescence Analysis (XRF) for the Determination of the Elemental Composition of Oil, Solutions, Viscous Liquids

AltölV Annex 2 Section 3.3.1 1987	Total halogen, semi-quantitatively using energy-dispersive XRF	HE

4.3 Titrimetric Analysis of Water Content of Oil, Solutions, Viscous Liquids

DIN EN 60814 1999-03	Insulating liquids - Oil-impregnated paper and pressboard - Determination of water by automatic coulometric Karl Fischer titration (IEC 60814:1997)	HE

4.4 Viscometry of Physical Indicators in Oil, Solutions, Viscous Liquids

DEV C 9 1974	Determination of density	HE
DIN EN ISO 12185 1997-11	Crude petroleum and petroleum products - Determination of density - Oscillating U-tube method	HE
DIN 51562-1 1999-01	Measurement of kinematic viscosity by means of the Ubbelohde viscometer - Part 1: Viscometer specification and measurement procedure	HE
DIN 51562-3 1985-05	Viscometry; determination of kinematic viscosity using the Ubbelohde viscometer; viscosity relative increment at short flow times	HE
DIN 51562-4 1999-01	Viscometry - Measurement of kinematic viscosity by means of the Ubbelohde viscometer - Part 4: Viscometer calibration and determination of the uncertainty of measurement	HE

DIN 53019-1 2008-09	Viscosity - Measurement of viscosities and flow curves by means of rotational viscometers - Part 1: Principles and measurement geometry	HE
DIN 53019-2 2001-02	Viscosity - Measurement of viscosities and flow curves by means of rotational viscometers - Part 2: Viscometer calibration and determination of the uncertainty of measurement	HE
DIN 51757 2011-01	Testing of mineral oils and related materials - Determination of density	HE
DIN EN ISO 3675 1999-11	Crude petroleum and liquid petroleum products - Laboratory determination of density - Hydrometer method	HE
In-house method HE-MA-M 11-6 2012-05	Determination of dynamic viscosity by means of rotational viscometers	HE

5 Analysis of Fuels (Recovered Fuels, Fuels, Substitute Fuels, Biofuels)

5.1 Fuels (Recovered Fuels, Fuels, Substitute Fuels, Biofuels)

5.1.1 Sampling of fuels

DIN EN 14778 2011-09	Solid biofuels - Sampling	GE
DIN EN 15442 2011-05	Solid recovered fuels - Methods for sampling	GE
DIN EN ISO 18135 2017-08	Biogenic solid fuel - sampling	GE

5.1.2 Sample Preparation of Fuels

DIN EN 14780 2011-09	Solid biofuels - Sample preparation	GE
DIN EN 15413 2011-11	Solid recovered fuels - Methods for the preparation of the test sample from the laboratory sample	GE

DIN EN 15443 2011-05	Solid recovered fuels - Methods for the preparation of the laboratory sample	GE

5.1.3 Gas Chromatography with Mass Selective Detectors (GC-MSD) of Organic Compounds in Fuels (PI *)

DIN CEN/TS 16181; DIN SPEC 91243: 2013-12	Sludge, treated biowaste and soil - Determination of polycyclic aromatic hydrocarbons (PAH) by gas chromatography (GC) (Deviation: *Matrix here fuels*)	HI, PI
DIN EN 15527 2008-09	Characterisation of waste - Determination of polycyclic aromatic hydrocarbons (PAH) in waste using gas chromatography mass spectrometry (GC/MS) Different solvent mixture (Deviation: *Matrix here fuels*)	GE, HI, PI
DIN EN 16167 2012-11	Sludge, treated biowaste and soil - Determination of polychlorinated biphenyls (PCB) by gas chromatography with mass spectrometry (GC-MS) (Deviation: *Matrix here fuels*)	HI, PI

5.1.4 Gravimetric Analysis of Physical and Physico-chemical Indicators in Fuels

DIN EN 14774-1 2010-02	Solid biofuels - Determination of moisture content - Oven dry method - Part 1: Total moisture - Reference method (*standard withdrawn*)	GE
DIN EN 14774-2 2010-04	Solid biofuels - Determination of moisture content - Oven dry method - Part 1: Total moisture - Simplified method (*standard withdrawn*)	GE
DIN EN 14775 2012-11	Solid biofuels - Determination of ash content	GE
DIN EN 15103 2010-04	Solid biofuels - Determination of bulk density HE: Only for salts (*standard withdrawn*)	GE, HE
DIN EN 15148 2010-03	Solid recovered fuels - Determination of the content of volatile matter (*standard withdrawn*)	GE
DIN EN 15402 2011-05	Solid recovered fuels - Determination of the content of volatile matter	GE

DIN EN 15403 2011-05	Solid recovered fuels - Determination of ash content	GE
DIN EN 15414 -3 2011-11	Solid recovered fuels - Determination of moisture content using the oven dry method - Part 3: Moisture in general analysis sample	GE
DIN EN 15440 2011-05	Solid recovered fuels - Methods for the determination of biomass content (Deviation*: GE: Without the method in Annex C: Determination of the biomass content by the 14C method*)	GE
DIN 51718 1995-09	Determination of water content and the moisture of analysis sample (*standard withdrawn*)	GE
DIN 51718 2002-06	Determination of water content and the moisture of analysis sample	GE
DIN 51719 1997-07	Determination of ash content	GE
DIN 51720 2001-03	Determination of the content of volatile matter	GE
CEN/TS 15401 2010-09 E	Determination of bulk density	GE

5.1.5 Ion Chromatography of Anions in Fuels

DIN EN 15289 2011-04	Solid biofuels - Determination of total content of sulphur and chlorine (*standard withdrawn*)	HE
DIN EN 15408 2011-05	Solid recovered fuels - Methods for determination of sulphur (S), chlorine (Cl), fluorine (F) and bromine (Br) content	HE
DIN EN 24260 1994-05	Determination of sulphur content; Wickbold combustion method	GE
DIN 51408-1 1983-06	Determination of chlorine content; Wickbold combustion method	GE
DIN 51723 2002-06	Determination of fluorine content	HE

DIN 51727 2011-11	Determination of chlorine content	GE

5.1.6 Calorimetry for Determination of the Amount of Heat from Fuels

DIN EN 14918 2014-08	Solid biofuels - Determination of net calorific value HI: Valid only for solid fuels	HE
DIN EN 15170 2009-05	Characterisation of sludges - Determination of gross and net calorific value Determination of gross calorific value only (Deviation: *Matrix fuels*)	HE
DIN EN 15400 2011-05	Determination of calorific value	HE
DIN EN ISO 18125 2015-12	Solid biofuels - Determination of calorific value	HE
DIN 51900-1 2000-04	Determination by bomb calorimeter and calculation of net calorific value - Part 1: General principles, apparatus, methods	HE

5.1.7 Inductively Coupled Plasma Atomic Emission Spectrometry (ICP-OES) of Cations in Fuels

DIN SPEC 1123 DIN CEN/TS 15412 2010-09	Solid recovered fuels - Methods for determination of metallic aluminium	GE

5.1.8 X-ray Fluorescence Analysis (XRF) for the Determination of Elemental Composition in Fuels

DIN 51729-10 2011-04	Determination of the chemical composition of fuel ash (Deviation*: HE without melt digestion*)	HE

5.1.9 Sieve Analysis of Fuels

DIN EN 15149 Teil 1 2011-01	Solid biofuels - Determination of particle size distribution - Part 1: Oscillating screen method using sieve apertures of 1 mm and above (*standard withdrawn*)	GE

DIN EN 15149 Teil 2 2011-01	Determination of particle size distribution - Part 2: Oscillating screen method using sieve apertures of 3.15 mm and below (*standard withdrawn*)	GE
DIN EN 15415-1 2011-11	Solid recovered fuels - Determination of particle size distribution - Part 1: Screen method for small dimension particles	GE

5.1.10 Titrimetric Analysis of Water Content in Fuels

DIN 51777 Teil 1 1983-03	Testing of mineral oil hydrocarbons and solvents; determination of water content according to Karl Fischer; direct method	HE
DIN 51777 Teil 2 1974-09	Testing of mineral oil hydrocarbons and solvents; determination of water content according to Karl Fischer; indirect method	HE

5.1.11 Viscometry of Physico-chemical Indicators in Fuels

DIN 53019-1 2008-09	Viscosity - Measurement of viscosities and flow curves by means of rotational viscometers - Part 1: Principles and measurement geometry	HE
DIN 53019-2 2001-02	Viscosity - Measurement of viscosities and flow curves by means of rotational viscometers - Part 2: Viscometer calibration and determination of the uncertainty of measurement	HE
HE-MA-M-U 11-006 2012-05	Viscosity rotational viscometer	HE

5.1.12 Other Methods for Fuels

DIN EN 15407 2011-05	Solid recovered fuels - Methods for the determination of carbon (C), hydrogen (H) and nitrogen (N) content	GE
DIN EN ISO 16948 2015-09	Solid biofuels - Determination of total content of carbon, hydrogen and nitrogen	GE
DIN 51755 1974-03	Determination of flash point in closed cup according to Abel-Pensky (Deviation*: Flash points measurable up to 100 °C*)	GE

ASTM D56 2016	Standard Test Method for Flash Point by Tag Closed Cup Tester	HE

6 Analysis of Commodities

6.1 Commodities

6.1.1 Gas Chromatography of Organic Compounds in Commodities

6.1.1.1 Gas Chromatography with Conventional Detectors (GC-ECD, FID) of Organic Compounds in Commodities

VDI 3865 Blatt 3 1998-06	Measurement of organic soil pollutants - Gas chromatographic determination of low-boiling organic compounds (VOC) plus different solvents in soil gas after enrichment with activated carbon and desorption with organic solvent	GE
In-house method HH-MA-M 03-055 2016-10	Hydrocarbons: MOSH/MOAH and POSH/PAO with GC-FID	HH

6.1.1.2 Gas Chromatography with Mass Selective Detectors (GC-MSD) of Organic Compounds in Commodities (*: PI)

DIN CEN/TS 16183; DIN SPEC 91265 2012-05	Sludge, treated biowaste and soil - Determination of selected phthalates using GC-MS (Deviation: *Matrix here commodities*)	PI
DIN EN ISO 12010 2014-07	Water quality - Determination of short-chain polychlorinated alkanes (SCCPs) in water - Method using gas chromatography-mass spectrometry (GC-MS) and negative-ion chemical ionisation (NCI) Additional determination of the MCCPS, modular clean-up, modified quantification, detector GC-MSD (Deviation: *Matrix here commodities*)	PI
DIN EN 12673 (F 15) 1999-05	Determination of selected chlorophenols (chlorophenols, PCP, phenols, cresols, xylenols) (Deviation*: Additional determination of triclosan and bisphenol A*)	PI

DIN EN ISO 16588 (P 10) 2004-02	Water quality - Determination of six complexing agents, EDTA, NTA, etc. - Gas chromatographic method (GC-MSD) Deviation: After aqueous eluate preparation (Deviation*: Matrix only cleaning agents*)	PI
DIN 19742 2014-08	Soil quality - Determination of selected phthalates in sludge, sediment, solid waste and soil after extraction and determination using gas chromatography mass spectrometry (GC-MS) Additional analytes: Dimethyl, diethyl, dipropyl, diisobutyl, dipentyl, benzyl butyl, dicyclohexyl, dioctyl, diisononyl, diisodecyl phthalate (Deviation: *Matrix here commodities*)	PI
DIN EN ISO 22032 2009-07	Water quality - Determination of selected polybrominated diphenyl ethers in sediment and sewage sludge - Method using extraction and gas chromatography/mass spectrometry: Polybrominated diphenyl ethers (PBDE), polybrominated biphenyls (PBB), tetrabromobisphenol A (TBBP-A), hexabromocyclododecane (HBCD), tribromoanisole (TBA) (Deviation*: Ultrasonic extraction, other internal standards; matrix only polymers*)	PI
VDI 3865 Blatt 3 1998-06	Measurement of organic soil pollutants - Gas chromatographic determination of low-boiling organic compounds (VOC) plus different solvents in soil gas after enrichment with activated carbon and desorption with organic solvent (Deviation *PI: additional analytes, matrix only polymers*)	GE, PI
AfPS GS (PAHs) 2014-01	Committee for Product Safety (AfPS) - GS specification - Testing and assessment of polycyclic aromatic hydrocarbons (PAHs) in the award of the GS mark - Specification as per Section 21 (1) (3) ProdSG (2014-08) (Deviation*: Only testing*)	PI
In-house method PI-MA-M 03-081 2012-06	Musk compounds in water and solids using GC-MSD (Deviation*: Matrix only cleaning agents*)	PI

6.1.2 Migration Tests in Commodities

ASU B 80.30-1 1998-01	Analysis of implements - Basic rules for determination of migration – appendix	HH

ASU B 80.30-2 2008-04	Analysis of implements - list of simulants	HH
ASU B 80.30-3 2008-04	Analysis of implements - Further provisions for the verification of compliance with migration limits; appendix I of the guide line 2002/72/EG of the committee from 6. August 2002 about materials and articles of plastic intended to come into contact with foodstuffs – last change by 2007/19/EG, ABl. EG Nr. L 91/17 from 31.03.2007) (revised lt. ABl. L 97/50 from 12.04.2007)	HH
ASU B 80.30-4 2008-10	Analysis of implements - plastics – part 1: Guideline on the selection of test conditions and methods for overall migration (adoption of same standard DIN EN 1186-1, issue Juli 2002)	HH
ASU B 80.30-6 2008-10	Analysis of implements - plastics – part 3: Test methods for overall migration in aqueous test foodstuffs by total immersion (adoption of same standard DIN EN 1186-3, issue Juli 2002)	HH
ASU B 80.30-8 2008-10	Analysis of implements - plastics – part 5: Test methods for overall migration in aqueous test foodstuffs by cell (adoption of same standard DIN EN 1186-5, issue Juli 2002)	HH
ASU B 80.30-10 2008-10	Analysis of implements – plastics – part 7: Test methods for overall migration in aqueous test foodstuffs using bags (adoption of same standard DIN EN 1186-7, issue Juli 2002)	HH
ASU B 80.30-12 2008-10	Analysis of implements - plastics – part 9: Test methods for overall migration in aqueous test foodstuffs by filling the item (adoption of same standard DIN EN 1186-9, issue Juli 2002)	HH
ASU B 80.30-17 2008-10	Analysis of implements - plastics – part 14: Test methods for "substitute test" for overall migration from plastics designed for contact with fatty foodstuffs using the test media iso-octane and 95% ethanol (adoption of same standard DIN EN 1186-14, issue Juli 2002)	HH
ASU B 80.30-18 2008-10	Analysis of implements - plastics – part 15: Alternative test methods for determination of migration in fatty foodstuffs by rapid extraction in iso-octane and/or 95% ethanol (adoption of same standard DIN EN 1186-15, issue Juli 2002)	HH
ASU B 80.30-27 2009-11	Analysis of implements - Test methods for overall migration from plastics at high temperatures (adoption of same standard DIN EN 1186-13, issue Juli 2002)	HH

6.1.3 Titrimetric Analysis of Cations in $CaCO_3$ in Cigarette Paper (HH *)

Ph. Eur. Monograph $CaCl_2$ 2008-01	Analysis of Calcium chloride in cigarette paper by complexometric titration	HH
Ph.Eur. Monographie $CaCO_3$ 2017-01	Analysis of Calcium hydroxide in cigarette paper using complexometric titration	HH
USP 41 <541> 2018-05	Titrimetry	HH
Ph. Eur. Monograph $Ca(OH)_2$ 2017-01	Analysis of Calcium hydroxide in cigarette paper using complexometric titration	HH
FCC IV Monograph CaO 2016	Calcium oxide: Quantitative analysis by complexometric titration	HH

7 Foodstuff Analysis

7.1 Foodstuffs

7.1.1 Sensory analysis - Basic descriptive tests of foodstuffs

In-house method HM-MA-M-L 10-011 2012-08	Sensory testing	HM
In-house method HM-MA-M 10-012 2016-08	Marketability	HM
In-house method HH-MA-M 10-014 2016-05	Impurities content in foodstuffs by optical findings	HH
In-house method HH-MA-M 10-016 2002-05	Sensory testing of foodstuffs	HH

7.1.2 Sample Pretreatment of Foodstuffs

ASU L 00.00-19/1 2015-06	Analysis of foodstuffs - Determination of trace elements in foodstuffs - Pressure digestion (adoption of same standard DIN EN 13805, December 2014 edition)	HM, HH

7.1.3 Inductively Coupled Plasma Mass Spectrometry (ICP-MS) of Cations in Foodstuffs

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	PI

7.1.4 Irradiation Testing of Foodstuffs

ASU L 00.00-82 2010-09	Analysis of foodstuffs - Detection of irradiated food using photostimulated luminescence (adoption of same standard DIN EN 13751, issue november 2009)	HH

7.1.5 Electrode Measurement of Physico-chemical Parameters in Foodstuffs (HH **)

ASU L 06.00-2 1980-09	Measurement of pH in meat and meat products	HH
In-house method HH-MA-M 11-008 2016-10	measurement of the aW value in foodstuff by aW value analyzer	HH
Hausmethode HH-MA-M 11-009 2018-05	Gas analysis in foodstuffs	HH

7.1.6 Liquid Chromatography of Organic Compounds in Foodstuffs

7.1.6.1 Liquid Chromatography with Conventional Detectors HPLC-DAD, HPLC-ELSD, HPLC-FLD, HPLC-PDA, HPLC-UV) (HH **, HM **)

ISO 3632-2 2010-10	Saffron (Crocus sativus Linnaeus) - Part 2: test method	HH
ASU L 00.00-9 1984-11	Analyse of foodstuffs - Determination of preservatives in low-fat foodstuffs	HH

ASU L 00.00-28 2001-07	Analyse of foodstuffs - Determination of acesulfame-K, aspartame and saccharin sodium in foodstuffs - HPLC method (adoption of same standard DIN EN 12856, issue Juli 1999 as a replacement for the previous official method L 00.00-28)	HH
ASU L 00.00-29 2006-12	Determination of sodium cyclamate in foodstuffs - HPLC method	HH
ASU L 00.00-61 2010-01	Analysis of foodstuffs - Determination of cholecalciferol (vitamin D3) or ergocalciferol (vitamin D2) in foodstuffs - HPLC method (adoption of same standard DIN EN 12821, August 2009 edition)	HH
ASU L 00.00-62 2015-06	Analyse of foodstuffs - determination of vitamin E (alpha-, beta-, gamma- and delta-Tocopherol) in foodstuffs by high performance liquid chromatography	HH
ASU L 00.00-63/1 2015-06	Analysis of foodstuffs - Determination of vitamin A in foodstuffs by high performance liquid chromatography - Part 1: Determination of all-E retinol and 13-Z retinol (adoption of same standard DIN EN 12823-1, August 2014 edition)	HH
ASU L 00.00-83 2015-06	Analyse of foodstuffs - Determination of vitamin B1 by high performance liquid chromatography (adoption of same standard DIN EN 14122, August 2014 edition)	HH
ASU L 00.00-84 2015-06	Analyse of foodstuffs - Determination of vitamin B2 by high performance liquid chromatography (adoption of same standard DIN EN 14152, August 2014 edition)	HH
ASU L 00.00-86 2004-07	Analyse of foodstuffs - Determination of vitamin K1 using HPLC (adoption of same standard DIN EN 14148, October 2014 edition)	HH
ASU L 00.00-97 2006-12	Analysis of foodstuffs - Determination of vitamin B6 (including glucosidic bound compounds) in foodstuffs - HPLC method (adoption of same standard DIN EN 14663, March 2006 edition)	HH
ASU L 15.00-2 2014-02	Determination of aflatoxin B1 and the sum of aflatoxin B1, B2, G1 and G2 in cereals, nuts and related products Changed post-column derivitisation (Deviation*: Matrix only cereals, nuts, related products*)	HM

ASU L 15.00-9 2014-02	Determination of deoxynivalenol in cereals, cereal products and cereal-based foods for infants and young children - HPLC method with purification on an immunoaffinity column and UV detection (adoption of same standard DIN EN ISO 15891, December 2010 edition) (Deviation*: Simultaneous determination of nivalenol possible*)	HH
ASU L 15.03-1 2010-01	Analysis of foodstuffs - Determination of ochratoxin A in barley - HPLC method with purification on an immunoaffinity column (adoption of same standard DIN EN 14132, September 2009 edition)	HH, HM
ASU L 18.00-16 1999-11	Analysis of foodstuffs - Determination of theobromine and caffeine in pastries	HH
ASU L 23.05-2 2012-01	Determination of aflatoxin B1 and the sum of aflatoxin B1, B2, G1 and G2 in hazelnuts, peanuts, pistachios, figs and paprika powder - HPLC method with immunoaffinity cleaning and post-column derivitisation (Deviation*: Matrix only hazelnuts, peanuts, pistachios, figs and paprika powder*)	HM
ASU L 23.05-3 2014-02	Analysis of foodstuffs - Determination of aflatoxin B1 and the sum of aflatoxin B1, B2, G1 and G2 in nuts and related products - High performance liquid chromatographic method (adoption of same standard DIN EN ISO 16050, September 2011 edition)	HH
ASU L 26.00-1 2018-10	Analysis of foodstuffs - Determination of nitrate content of vegetable products - HPLC/IC method (adoption of same standard DIN EN 12014-2, February 2018)	HH
ASU L 43.08-1 1996-02	Analysis of foodstuffs - Determination of glycyrrhizin in liquorice and confectionery products containing liquorice by reversed phase high performance liquid chromatography	HH
ASU L 46.00-3 2013-08	Analysis of foodstuffs - Analysis of coffee and coffee products - Determination of caffeine content using HPLC - Reference method (adoption of same standard DIN ISO 20481, January 2011 edition)	HH, HM
ASU L 47.00-6 2014-02	Analysis of foodstuffs - Examination of tea and solid tea extract - Determination of caffeine content - HPLC method (adoption of (same standard DIN EN 10727, May 2004 edition)	HH, HM
ASTA 21.3 2004-10	Pungency of capscacinoids and their oleoresins (HPLC-method) (Deviation*: Matrix only chillies, paprika, oleoresin*)	HH

In-house method HH-MA-M 02-004 2014-11	Coumarin using HPLC-DAD (Deviation*: Matrix only foodstuffs containing cinnamon, cinnamon, spice, tea*)	HH
In-house method HH-MA-M 02-007 2014-11	Determination of vitamin C (ascorbic acid) in foodstuffs using HPLC-DAD	HH
In-house method HM-MA-M-L 02-032 2015-08	Vanillin, ethylvanillin, para-hydroxybenzaldehyde by HPLC-DAD	HM
In-house method HM-MA M 02-053 2016-04	Indole in shellfish and crustaceans by HPLC-DAD	HM
In-house method HM-MA-M 02-060 2018-01	Cumarin using HPLC-DAD (Deviation: Matrix only cinnamon containing foodstuff, cinnamon, spice, tee)	HM
In-house method HH-MA-M 02-105 2017-04	polycyclic aromatic hydrocarbons in foodstuffs using HPLC-DAD/FLD	HH
In-house method HH-MA-M 02-111 2 2012-02	Zearalenone by HPLC-FLD (Deviation*: Matrix also cereals and cereal products*)	HH

7.1.6.2 Liquid Chromatography with Mass Selective Detectors (LC-MS/MS) (HH **, HM **)

ASU L 00.00-76 2008-12	Analysis of foods - Determination of chlormequat and mepiquat in low-fat foods - LC-MS/MS method (adoption of same standard DIN EN 15055, August 2006 edition) (Deviation HM*: Matrix only plant-based foodstuffs*)	HH, HM
ASU L 00.00-115 2014-02	Analysis of foodstuffs - Determination of pesticide residues in plant-based foodstuffs - GC-MS and/or LC-MS/MS after acetonitrile extraction/partitioning and clean-up using dispersive SPE (QuEChERS) (adoption of same standard DIN EN 15662, February 2009 edition)	HH
In-house method HM-MA M-L 02-07 2013-04	Zearalenone using LC-MS/MS (Deviation*: Matrix only cereals, cereal products*)	HM

In-house method HM-MA M-L 02-08 2013-04	Deoxynivalenol using LC-MS/MS (Deviation*: Matrix only cereals, cereal products*)	HM
In-house method HM-MA M-L 02-10 2013-04	Nitrofurans and their metabolites using LC-MS/MS (Deviation*: Matrix only animal-based foodstuffs*)	HM
In-house method HM-MA M L-02-12 2011-08	Chloramphenicol after liquid extraction using LC-MS/MS (Deviation*: Matrix only animal-based foodstuffs*)	HM
In-house method HM-MA-M 02-013 2016-04	Fumonisins by LC-MS/MS - Processing in accordance with HM-MA-M 09-016	HM
In-house method HM-MA M-L 02-14 2013-02	Malachite green and its leuco base, and brilliant green and crystal violet after liquid extraction using LC-MS/MS (Deviation*: Matrix only animal-based foodstuffs*)	HM
In-house method HM-MA M-L 02-16 2012-03	Streptomycin using LC-MS/MS (Deviation*: Matrix only honey*)	HM
In-house method HM-MA M L-02-17 2012-04	Tetracycline using LC-MS/MS (Deviation*: Matrix only honey*)	HM
In-house method HM-MA M L-02-18 2013-04	Tetracycline using LC-MS/MS (Deviation*: Matrix only animal-based Foodstuffs (except honey)*)	HM
In-house method HM-MA M-L 2-21 2012-04	Sulfonamide using LC-MS/MS (Deviation*: Matrix only honey*)	HM
In-house method HM-MA-M 02-022 2016-01	Morphine in poppy and poppy seed products using LC-MS/MS	HM
In-house method HM-MA-M 02-032 2016-08	Aflatoxin B1, B2, G1 and G2 and ochratoxin A by LC-MS/MS	HM

In-house method HM-MA-M-L 02-044 2013-09	Azo dyes in foodstuffs of plant origin using LC-MS/MS (Deviation*: Matrix only plant-based foodstuffs*)	HM
In-house method HM-MA-M 02-055 2016-08	Pyrrolizidine alkaloids / tropane alkaloids by LC-MS/MS	HM
In-house method HM-MA-M 02-049 2015-04	Nicotine using LC-MS/MS	HM
In-house method HM-MA-M 02-051 2016-01	Acrylamide using LC-MS/MS	HM
In-house method HM-MA-M 02-052 2016-04	Patulin using LC-MS/MS	HM
In-house method HM-MA-M 02-056 2016-08	Zearalenone in oil using LC-MS/MS	HM
In-house method HM-MA-M 02-057 2016-11	Ts, HT-2 toxin, quantitative determination	HM
In-house method HH-MA-M 02-087 2013-08	Morpholine and amino alcohols in fruit and vegetables, sour fruit, dried fruit, cereals and cereals products with LC-MS/MS	HH
In-house method HH-MA-M 02-107 2012-03	Dithianon in fruit and vegetables, sour fruit with LC-MS / MS	HH
In-house method HH-MA-M 02-108 2012-03	Dodin in fruit and vegetables with LC-MS/MS	HH
In-house method HH-MA-M 02-110 2012-04	Phenylurea in fruit and vegetables with LC-MS/MS	HH

In-house method HH-MA-M 02-118 2013-08	Quaternary ammonium compounds in fruit and vegetables, sour fruit, dried fruit, oil seed and fatty foods, cereals and cereal products, special matrices using LC-MS/MS	HH
In-house method HH-MA-M 02-135 2015-08	Acid pesticides in fruit and vegetables, oil, oil seed and fatty foods, special matrices with LC-MS/MS	HH
In-house method HH-MA-M 02-144 2016-05	PCP in food with LC-MS/MS	HH
In-house method HH-MA-M 02-145 2016-10	Fenbutatin oxide in fruit and vegetables, sour fruit, dried fruit, oils, oil seeds and fatty foods, oil fruits, cereals and cereal products, legumes (dried) using LC-MS/MS	HH
In-house method HH-MA-M 02-151 2018-03	Perchlorate/Chlorate in fruit and vegetables, sour fruit, dried fruit, oil seeds and fatty foods, oil fruits, cereals and cereal products, legumes (dried), special matrices, meat, fish, milk, -products, water using LC/MS/MS	HH
In-house method HH-MA-M 02-152 2018-03	Ethephone in fruit and vegetables, sour fruit, dried fruit, oil seeds and fatty foods, oil fruit, cereals and cereal products, legumes (dried), water using LC-MS	HH
In-house method HH-MA-M 02-153 2018-03	maleic hydrazide in fruit and vegetables, sour fruit, dried fruit, oil seeds and fatty foods, oil fruits, cereals and cereal products, legumes (dried), special matrices using LC-MS/MS	HH
In-house method HH-MA-M 02-154 2018-03	Fosetyl and Phosphonic acids in fruit and vegetables, sour fruit, dired fruit, oil seeds and fatty foods, oil fruit, cereals and cereal products, legumes (dried), special matrices using LC-MS/MS	HH
In-house method HH-MA-M 02-156 2018-06	Glyphosate/Aminomethyl phosphic acid (AMPA)/glufosinate in fruit and vegetables, sour fruit, dried fruit, oils, oil seeds and fatty foods, oil fruits, cereals and cereal products, special matrices using LC-MS/MS	HH

7.1.7 Gas chromatography of Organic Compounds in Foodstuffs

7.1.7.1 Gas Chromatography with Conventional Detectors (GC-FID, GC-ECD) (HH **)

ASU L 00.00-24 2002-12	Determination of benzene, toluene and xylene isomers in food (Deviation*: Matrix only low-fat foods*)	HH

ASU L 00.00-36/2 2004-07	Analysis of foodstuffs - Determination of bromide residues in low-fat foodstuffs - Part 2: Determination of inorganic bromide (adoption of same standard DIN EN 13191-2, October 2000 edition, as a replacement for the previous official method L 00.00-36)	HH
ASU L 00.00-47 1999-11	Determination of ethephon by headspace gas chromatography in plant-based foodstuffs	HH
ASU L 00.00-49/2 1999-11	Analysis of foodstuffs - Non-fatty foods - Determination of dithiocarbamate and thiuram disulfide residues - Part 2: Gas chromatographic method (adoption of same standard DIN EN 12396 Part 2, December 1998 edition)	HH
ASU L 05.00-16 2014-08	Analysis of foodstuffs - Determination of cholesterol content in eggs and egg products - Gas chromatographic method	HH
ASU L 13.00-27/2 2012-01	Analysis of foodstuffs - Gas chromatography of fatty acid methyl esters – Part 2: production of fatty acid methyl esters in animal and vegetable fats and oils (adoption of same standard DIN EN 12966-2, May 2011 edition)	HH
ASU L 13.04/1 2006-12	Analysis of foodstuffs - Determination of low-boiling halogenated hydrocarbons in edible oils (adoption of same standard DIN EN 16035, November 2005 edition)	HH
ASU L 17.00-12 1999-11	Analysis of foodstuffs - Determination of butyric acid as methyl ester in fat from bread including small baked products made of bread dough	HH
ASU L 53.00-1 1999-11	Analysis of foodstuffs - Gas chromatographic determination of ethylene oxide and 2-chloroethanol in spices	HH
DGF C-VI 11d 1998	Fatty acids using GC-FID	HH
In-house method HH-MA-M 03-011 2018-03	Solvent residues with GC(HS)-FID	HH
In-house method HH-MA-M 03-027 2016-01	Essential oils in spices with GC-FID	HH

In-house method HH-MA-M 03-055 2017-06	Hydrocarbons: MOSH/MOAH and POSH/PAO in food with GC-FID	HH

7.1.7.2 Gas Chromatography with Mass Selective Detectors (GC-MS; GC-MS/MS) (HH **)

ASU L 00.00-24 1993-08	Analysis of foodstuffs – Determination of benzol, toluol and xylol-isomer in food	HH
ASU L 00.00-34 2010-09	Analysis of foodstuffs - Modular multi-method for the determination of plant protection product residues in foodstuffs (extended revision of DFG Method S 19)	HH
ASU L 00.00-115 2014-02	Analysis of foodstuffs - Determination of pesticide residues using GC-MS and/or LC-MS/MS following acetonitrile extraction/partitioning and clean-up by dispersive SPE (QuEChERS) (adoption of same standard DIN EN 15662, February 2009 edition)	HH
In-house method HH-MA-M 03-058 2016-10	Polycyclic aromatic hydrocarbons using GC-MS/MS	HH
In-house method HH-MA-M 03-061 2018-05	Phosphin in food using HS-GC-MSD	HH

7.1.8 Gravimetric Analysis of Physico-chemical Indicators and Ingredients in Foodstuffs (HH **)

ASU L 00.00-18 1997-01	Analysis of foodstuffs - Determination of dietary fibre in foods	HH, HM
ASU L 01.00-20 2013-08	Analysis of foodstuffs - Determination of fat content of milk and dairy products by the Weibull-Berntrop gravimetric method (adoption of same standard DIN EN 10342, September 1992 edition)	HH
ASU L 06.00-3 2014-08	Analysis of foodstuffs - Determination of dry matter in meat and meat products - gravimetric method - reference procedure	HH

ASU L 06.00-4 2017-10	Analysis of foodstuffs - Determination of ash in meat, meat products and cold cuts - gravimetric method - reference procedure	HH
ASU L 06.00-6 2014-08	Analysis of foodstuffs - Determination of total fat content in meat and meat products - gravimetric method according to Weibull-Stoldt - reference procedure	HH
ASU L 16.00-5 2017-10	Analysis of foodstuffs - Determination of total fat content in cereal flour after acid hydrolysis using extraction and gravimetry	HH
ASU L 16.01-1 2008-12	Analysis of foodstuffs – Determination of moisture content in cereal flour	HH
ASU L 16.01-2 2008-12	Analysis of foodstuffs - Determination of ash in cereal flour	HH
ASU L 17.00-1 1982-05	Determination of loss on drying in bread including small baked products made of bread dough	HH
ASU L 17.00-3 1982-05	Determination of ash in bread including small baked products made of bread dough	HH
ASU L 17.00-4 2017-10	Analysis of foodstuffs - Determination of total fat content in bread including small baked products made of bread dough after acid hydrolysis using extraction and gravimetry	HH
ASU L 31.00-1 1997-01	Analysis of foodstuffs - Determination of relative density of fruit and vegetable juices (adoption of same standard DIN EN 1131, December 1994 edition)	HH
ASU L 39.00-2 (EG) 1981-04	Analytical methods for determination of the composition of certain types of sugar for human consumption - Method 2: Determination of dry matter (vacuum drying)	HH
ASU L 44.00-3 1985-12	Analysis of foodstuffs - Determination of dry matter content in solid chocolate	HH
ASU L 53.00-4 1996-02	Analysis of foodstuffs - Analysis of spices and spicy ingredients - Determination of total ash and acid-insoluble ash of (adoption of same standard DIN EN 10223, January 1996 edition)	HH

ASU L 53.00-8 2004-07	Analysis of foodstuffs - Determination of spices and seasoning ingredients - Determination of water content (distillation method) (adoption of same standard DIN EN 10229, August 2000 edition)	HH
ASU L 53.00-10 2010-09	Analysis of foodstuffs - Determination of essential oil content in spices, seasoning ingredients and herbs - Steam distillation method (adoption of same standard DIN EN 6571, November 2009 edition)	HH
In-house method HH-MA-M 04-004 2014-11	Glycyrrhizin after Houseman in liquorice	HH
In-house method HH-MA-M 10-004 2016-10	Insoluble (Cold water / hot water) and starch/gums in liquorice and liquorice root	HH

7.1.9 Immunological Analysis - Enzyme Immunoassay by ELISA of Allergens in fFodstuffs (HM *)

R-Biopharm Testkit RIDASCREEN R6901 (2015-07)	Fast Mandel / Almond	HM
R-Biopharm Testkit RIDASCREEN Fast R6152 (2016-11)	Senf / Mustard	HM
R-Biopharm Testkit RIDASCREEN R7001 (2015-10)	Gliadin	HM
R-Biopharm Testkit RIDASCREEN Fast R6202 (2016-03)	Peanut	HM
R-Biopharm Testkit RIDASCREEN Fast R4652 (2015-07)	Milk	HM
R-Biopharm Testkit RIDASCREEN Fast R7102 (2016-07)	Soya	HM

R-Biopharm Testkit RIDASCREEN Fast R6402 (2015-12)	Egg / Egg Protein	HM
in-house method HM-MA-M 06-001 (2017-02)	allergens (gluten/casein/mustard/soya/peanut/egg/almond) in foodstuffs and feedstuffs using ELISA	HM
R-Biopharm Testkit R 7003 (2011-10)	Allergens in foodstuffs - Qualitative detection with lateral flow- Gluten	HH
Bioavid Testkit BL 613-25 (2013-10)	Allergens in foodstuffs - Qualitative detection with lateral flow - milk	HH
Bioavid Testkit BL 603-25 (2013-11)	Allergens in foodstuffs - Qualitative detection with lateral flow - mustard	HH
Romer Testkit 4302062 (2016-05)	Allergens in foodstuffs - Qualitative detection with lateral flow - soya	HH
Bioavid Testkit BL 606-25 (2013-06)	Allergens in foodstuffs - Qualitative detection with lateral flow - peanut	HH
Bioavid Testkit BL 604-25 (2013-10)	Allergens in foodstuffs - Qualitative detection with lateral flow - haselnut	HH
Bioavid Testkit BL 611-25 (2013-02)	Allergens in foodstuffs - Qualitative detection with lateral flow - pistachio	HH
Bioavid Testkit BL 601-25 (2013-11)	Allergens in foodstuffs - Qualitative detection with lateral flow - almond	HH
Bioavid Testkit BL 608-10 (2013-11)	Allergens in foodstuffs - Qualitative detection with lateral flow - egg	HH
Bioavid Testkit BL 609-10 (2013-10)	Allergens in foodstuffs - Qualitative detection with lateral flow - sesame	HH

7.1.10 Microbiological Analysis - Cultural Microbiological Methods in Foodstuffs (HH *)

ISO 4831 2006-08	Microbiology - Horizontal method for the detection and enumeration of coliforms - MPN technique	HH
ISO 4832 2006-02	Microbiology - Horizontal method for the enumeration of coliforms - Colony-count technique	HH

ISO 7251 2005-02	Microbiology of food and animal feeding stuffs - Horizontal method for the detection and enumeration of presumptive Escherichia coli -- Most probable number technique	HH
ISO 15214 1998-08	Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of mesophilic lactic acid bacteria - Colony-count technique at 30 degrees C	HH
ISO 21527-1 2008-07	Horizontal method for e enumeration of yeasts and moulds - Colony count technique - Part 1: Colony count technique in products with water activity greater than 0,95	HH
ISO 21527-2 2008-07	Horizontal method for e enumeration of yeasts and moulds - Colony count technique - Part 2: Colony count technique in products with water activity equal to or less than 0,95	HH
DIN EN ISO 4833-01 2013-12	Microbiology of the food chain - Horizontal method for the enumeration of microorganisms - Part 1: Colony-count at 30 degrees C by the pour plate technique	HH
DIN EN ISO 4833-02 2014-05	Microbiology of the food chain - Horizontal method for the enumeration of microorganisms - Part 2: Colony count at 30 degrees C by the surface plating technique	HH
ASU L 00.00-20 2018-03	Analysis of foodstuffs – Horizontal method for the detection, enumeration and serotyping of Salmonella – Part 1: Detection of Salmonella spp. (adoption of same standard DIN EN 6579-1, July 2017 edition)	HH
ASU L 00.00-22 2018-03	Horizontal method for the detection and enumeration of Listeria monocytogenes in foodstuffs - Part 2: Counting methods (in accordance with DIN EN ISO 11290 Part 2 - Edition: January 2005)	HH
ASU L 00.00-32/1 2018-03	Analysis of foodstuffs – Horizontal method for the detection and enumeration of Listeria monocytogenes in foodstuffs - Part 1: Detection methods (adoption of same standard DIN EN 11290-1, September 2017 edition)	HH
ASU L 00.00-33 2006-12	Analysis of foodstuffs – Horizontal method for the enumeration of presumptive Bacillus cereus - Colony-count technique at 30 degrees C (adoption of same standard DIN EN 7932, March 2004 edition)	HH

ASU L 00.00-55 2004-12	Analysis of foodstuffs - Method for the enumeration of coagulase-positive staphylococci (Staphylococcus aureus and other species) in foodstuffs - Part 1: Technique using Baird-Parker agar medium (adoption of same standard DIN EN 6888-1, December 2003 edition)	HH
ASU L 00.00-57 2006-12	Analysis of foodstuffs - Method for the enumeration of Clostridium perfringens in foodstuffs - Colony-count technique (adoption of same standard DIN EN ISO 7937, November 2004 edition)	HH
ASU L 00.00-88/1 2015-06	Analysis of foodstuffs – Horizontal method for the enumeration of microorganisms – Part 1: Colony count at 30 degrees C by the pour plate technique (adoption of same standard DIN EN ISO 4833-1, May 2014 edition)	HH
ASU L 00.00-88/2 2015-06	Analysis of foodstuffs – Horizontal method for the enumeration of microorganisms – Part 2: Colony count at 30 degrees C by surface treatment (adoption of same standard DIN EN ISO 4833-2, May 2014 edition)	HH
ASU L 00.00-133/1 2018-03	Analysis of foodstuffs – Horizontal method for detection and enumeration of Enterobacteriaceae – Part 1: Detection of Enterobacteriaceae (adoption of same standard DIN EN ISO 21528-1, September 2017 edition)	HH
ASU L 00.00-133/2 2018-03	Analysis of foodstuffs – Horizontal method for detection and enumeration of Enterobacteriaceae in foodstuffs - Part 2: Colony-count method (adoption of same standard DIN EN ISO 21528-2, September 2017 edition) (in accordance with DIN ISO 21528-2, 2009-12)	HH
ASU L 01.00-37 1991-12	Analysis of foodstuffs – Determination of the number of yeasts and moulds in milk and dairy products (reference method)	HH
ASU L 06.00-43 2011-06	Analysis of foodstuffs - Enumeration of Pseudomonas spp. in meat and meat products (adoption of same standard DIN EN ISO 13720, December 2010 edition)	HH

7.1.11 Molecular Biological Analysis – PCR of Bacteria and Allergens in Foodstuffs (HM **)

ASU L 00.00-95(V) 2006-12	Analysis of foodstuffs – Identification of listeria monocytogenes in food – PCR ((BAX® System Real-Time-PCR Assay L.monocytogenes Part KIT 2005)	HH
ASU L 00.00-98 2007-04	Analysis of foodstuffs – Identification of salmonella in food – Real-time PCR (BAX® System Real-Time-PCR Assay Salmonella Part KIT 2006)	HH
Dupont BAX System HYBKIT2012 2018-02	BAX® System PCR Assay for Salmonella Part KIT2012	HH
CONGEN SureFood® PREP Basic Art. No. S1052 (2017-03)	Extraction of plant and animal DNA (Desoxyribonucleic acid) from raw material and weekly processed foodstuffs and feedstuffs and Extraction of animal DNA from highly processed foodstuffs and feedstuffs	HM
CONGEN SureFood® PREP Advanced Art. No. S1053 (2017-03)	Extraction of plant and animal DNA (Desoxyribonucleic acid) – using two different procedures: 1. Sensitive extraction of plant and animal DNA of allergens from foodstuffs according to regulation (EU) 1169/2011 2. Extraction of plant DNA from highly processed foodstuffs and feedstuffs and of specimen with inhibition of specimen-DNA using procedure 1	HM
CONGEN SureFood® GMO SCREEN 4plex 35S/NOS/FMV+IAC Art. No. S2126 Version 1.3	Screening for gene-modified organism (GMO) in Foodstuff, feedstuff and seeds	HM
CONGEN SureFood® ALLERGEN ID Soya Art. Nr. S3101 Version 2.2	Detection of Soya-DNA according to regulation (EU) 1169/2011	HM
CONGEN SureFood® ALLERGEN Hazelnut Art. No. S3602 (2018-01)	Detection of Haselnut-DNA according to regulation (EU) 1169/2011 qualitative or quantitative	HM

CONGEN SureFood® ALLERGEN Almond Art. No. S3604 (2018-01)	Detection of Almond-DNA according to regulation (EU) 1169/2011 qualitative or quantitative	HM
CONGEN SureFood® ALLERGEN Celery Art. No. S3605 (2018-01)	Detection of Celery-DNA according to regulation (EU) 1169/2011 qualitative or quantitative	HM
CONGEN SureFood® ALLERGEN Walnut Art. No. S3607 (2018-01)	Detection of DNA of walnut family Juglans regia (walnut) according to regulation (EU) 1169/2011 and Juglans nigra (black walnut) qualitative or quantitative	HM
CONGEN SureFood® ALLERGEN Sesame Art. No. S3608 (2018-01)	Detection of Sesame-DNA according to regulation (EU) 1169/2011 qualitative or quantitative	HM
CONGEN SureFood® ALLERGEN Mustard Art. No. S3609 (2018-02)	Detection of DNA from brown mustard (Brassica juncea), yellow mustard (Sinapis alba) and black mustard (Brassica nigra) according to regulation (EU) 1169/2011 qualitative or quantitative	HM
CONGEN SureFood® ALLERGEN Fish Art. No. S3610 (2018-02)	Detection of Fish-DNA according to regulation (EU) 1169/2011 qualitative or quantitative	HM
CONGEN SureFood® ALLERGEN Lupin Art. No. S3611 (2018-01)	Detection of Lupine-DNA according to regulation (EU) 1169/2011 qualitative or quantitative	HM
CONGEN SureFood® ALLERGEN Macadamia Art. No. S3616 (2018-01)	Detection of Macadamia-DNA according to regulation (EU) 1169/2011 qualitative or quantitative	HM
CONGEN SureFood® ALLERGEN Brazil Nut Art. No. S3617 (2018-01)	Detection of Para nut-DNA according to regulation (EU) 1169/2011 qualitative or quantitative	HM

CONGEN SureFood® ALLERGEN Pecan Art. No. S3618 (2018-01)	Detection of Pecan-DNA according to regulation (EU) 1169/2011 qualitative or quantitative	HM
CONGEN SureFood® ANIMAL ID Pork SENS PLUS Art. Nr. S6017 (2018-07)	Detection of Pork-DNA (Sus scrofa)	HM

7.1.12 Optical Inspection of Foodstuffs

In-house method HH-MA-M 10-035 2017-01	Nematodes in fish using ultraviolet lamp or Mazeration	HH

7.1.13 Photometry of Anions and Organic Compounds in Foodstuffs

7.1.13.1 Photometry (HH *)

ASU L 00.00-87 2004-06	Analysis of foodstuffs - Microbiological determination of folate (adoption of same standard DIN EN ISO 14131, September 2003 edition) (R-Biopharm P 1001; 2016-10)	HH
ASU L 01.00-26/1 2011-01	Analysis of foodstuffs - Determination of content of L and D-lactic acid (L and D-lactate) in milk and dairy products - Enzymatic method (adoption of same standard DIN EN ISO 10335, September 2010 edition) (R-Biopharm 11112821035: 2013-03)	HH
ASU L 01.00-17 2016-10	Analysis of foodstuffs - Determination of lactose and galactose content of milk and dairy products - Enzymatic method (adoption of same standard DIN EN ISO 10344, May 2015 edition) (R-Biopharm 10176303035)	HH
ASU L 05.00-17 1992-12	Analysis of foodstuffs – Determination cholesterol in egg and egg products; enzymatic method(R-Biopharm: 10139050035)	HH
ASU L 06.00-8 2017-10	Analysis of foodstuffs – Determination of hydroxyproline content in meat, meat products and sausage products - Photometric method after acid digestion (reference method)	HH

ASU L 07.00-60 2007-04	Analysis of foodstuffs – Determination of nitrate and nitrite content in meat products after enzymatic reduction of nitrate to nitrite - Spectrophotometric method (adoption of same standard DIN EN ISO 12014-3, August 2005 edition) (R-Biopharm 10905658035)	HH
ASU L 26.11.03-5 1983-05	Determination of citric acid in tomato purée (enzymatic method) (R-Biopharm 10139076035)	HH
ASU L 31.00-12 1997-01	Analysis of foodstuffs – Enzymatic determination of contents of D-glucose and D-fructose in fruit and vegetable juices - NADPH spectrometric method (adoption of same standard DIN EN ISO 1140, December 1994, as replacement for the previous official method L 31.00-12, November 1984 edition) (R-Biopharm 10716260035)	HH
ASU L 31.00-13 1997-09	Analysis of foodstuffs – Enzymatic determination of sucrose content in fruit and vegetable juices - Spectrometric method with NADP (adoption of same standard DIN EN ISO 12146, October 1996, as replacement for the previous official method L 31.00-13, November 1984 edition) (R-Biopharm 10716260035)	HH
SLMB 62/9.2.1 2000-03	Vitamin B 12 by microbiological test (R-Biopharm P1002: 2017-02)	HH
SLMB 62/10.2.1 2000-03	Biotin by microbiological test (R-Biopharm P 1003:2016-10)	HH
SLMB 62/12.2.1 2000-03	Niacin by microbiological test (R-Biopharm P 1004: 2016-10)	HH
SLMB 62/13.2.1 2000-03	Pantothenic acid by microbiological test (R-Biopharm P 1005:2016-10)	HH
ASTA 12.1 1997-01	Piperine in pepper, their oleoresins and mixed spices	HH

7.1.14 Polarimetric Analysis of Organic Compounds in Foodstuffs

ASU L 17.00-5 2003-12	Analysis of foodstuffs – Determination of starch content in bread including small baked products made of bread dough	HH

7.1.15 Qualitative Detection of Organic Compounds in Foodstuffs

ASU L 06.00-15 1982-11	Detection of condensed phosphates in meat and meat products	HH
ASU L 26.11.03-14 1983-11	Detection of water-soluble colourants in tomato purée, tomato ketchup and similar products	HH
In-house method HH-MA-M 11-006 2012-01	Lipase activity in fats and fatty foods	HH
In-house method HH-MA-M 10-032 2016-01	Detection of starch in food by iodine-starch reaction	HH

7.1.16 Refractometric Analysis of Organic Compounds in Foodstuffs

ASU L 31.00-16 1997-09	Analysis of foodstuffs – Determination of content of soluble solid matter in fruit and vegetable juices - Refractometric method (adoption of same standard DIN EN ISO 12143, October 1996)	HH

7.1.17 Radioactivity Determination of Foodstuffs

ASU L 00.00-14 1986-11	Analysis of foodstuffs – Measurement of the radioactivity of foodstuffs	HH

7.1.18 Titrimetric Ddetermination of Physico-chemical Indicators and Ingredients in Foodstuffs (HH **)

ASU L 00.00-46/1 1999-11	Analysis of foodstuffs - Determination of sulphite in foodstuffs - Part 1: Optimised Monier-Williams method (adoption of same standard DIN EN 1988 Part 1, My 1998 edition)	HH
ASU L 00.00-46/2 1999-11	Analysis of foodstuffs - Determination of sulphite in foodstuffs - Part 2: Enzymatic method (adoption of same standard DIN EN 1988 Part 2, May 1998 edition)	HH
ASU L 06.00-7 2014-08	Analysis of foodstuffs – Determination of raw protein content in meat and meat products Kjeldahl titrimetric method – reference method	HH

ASU L 07.00-5/1 2010-01	Determination of common salt content (sodium chloride) in meat products – potentiometric endpoint determination	HH
ASU L 10.00-3 1988-12	Analysis of foodstuffs – Determination of content of volatile nitrogenous bases (TVB-N) in fish and fish products; reference method	HH
ASU L 13.00-5 2012-01	Analysis of foodstuffs – Determination of acid number and acidity of animal and vegetable fats and oils (adoption of same standard DIN EN 660, October 2009 edition)	HH
ASU L 13.00-37 2012-01	Analysis of foodstuffs – Determination of peroxide number in animal and vegetable fats and oils - Iodometric (visual) endpoint determination (adoption of same standard DIN EN 3960, August 2010 edition)	HH
ASU L 17.00-15 2013-08	Analysis of foodstuffs – Determination of raw protein content in bread including small baked products made of bread dough -Kjeldahl titrimetric method	HH, HM
ASU L 26.04-4 1987-06	Analysis of foodstuffs – Determination of titratable acids (total acidity) in the cover brine and press liquor for sauerkraut	HH
DGF C-V 2, calc. oleic acid 2006	acid value and free fatty acid (acidity) – determination in fats and oil	HH
In-house method HH-MA-M 08-032 2016-10	Titrimetric determination of sugar in liquorice	HH

7.1.19 Viscosimetry of Foodstuffs

In-house method HH-MA-M 11-004 2017-01	Viscosity	HH

7.2 Carbon Dioxide

7.2.1 Sensory Analysis – Basic Descriptive Tests of Carbon Dioxide

ISBT Procedure 15.0-16.0 2000-10	Taste and odour in water (sensor)	GE

7.2.2 Methods of Absorption of Physico-chemical Indicators in Carbon Dioxide

ISBT Procedure 3.0 2000-10	Sensor (Michell Instruments)	GE
ISBT Procedure 2.0 2000-10	Purity (with KOH-absorbable constituents)	GE
ISBT Procedure 6.0 2000-10	Ammonia	GE
EIGA IGC Doc 70/08/E Appendix D of 2008	Oxygen (GC FID/WLD and sensor)	GE
ISBT Procedure 9.0 2000-10	Phosphine (test tube)	GE
EIGA IGC Doc 70/80/E Appendix D of 2008	Sulphur dioxide (test tube)	GE
ISBT Procedure 7.0-7.1 2000-10	Nitrogen oxides (NO/NO2)	GE
ISBT SM-1.0 2000-10	Hydrogen cyanide (test tube)	GE
EIGA IGC Doc 70/80/E Appendix D of 2008	Hydrogen sulphide (test tube)	GE

7.2.3 Inductively Coupled Plasma Mass Spectrometry (ICP-MS) of Cations in Carbon Dioxide

DIN EN 16171 2017-01	Sludge, treated biowaste and soil - Determination of elements using inductively coupled plasma mass spectrometry (ICP-MS)	PI

7.2.4 Gas Chromatography of Organic Compounds in Carbon Dioxide

7.2.4.1 Gas Chromatography with Conventional Detectors (GC-FID) of Organic Compounds in Carbon Dioxide

ISBT Procedure 5.0, 2000-10	Carbon monoxide (GC-FID)	GE

ISBT Procedure 8.0 2000-10	Oil and fat (extraction of snow sample residues., exam.: DIN EN ISO 9377-2 (H 53) GC/FID)	GE
ISBT Procedure 10.0 2000-10	Hydrocarbons, volatile methane, ethane, propane, butane sum (calculated as methane) using GC-FID	GE
ISBT Procedure 12 2000-10	BTEX benzene, toluene, xylenes, ethylbenzene	GE
ISBT Procedure 12 2000-10	Volatile chlorinated hydrocarbons: Dichloromethane, 1,2-dichloroethane, trichloromethane, 1,1,1-trichloroethane, tetrachloromethane, trichloroethene, tetrachloroethene, freons (F11, F12, F21, F113, F114, R22)	GE
ISBT Procedure 12 2000-10	Methanol, ethanol	GE
ISBT Procedure 12 2000-10	Dimethyl ether	GE

7.2.4.2 Gas Chromatography with Mass Selective Detectors (GC-MS) of Organic Compounds in Carbon Dioxide

EPA 625 1984	PAH (polycyclic aromatic hydrocarbons) (GC/MSD after enrichment)	GE
ISBT Procedure 12 2000-10	Carbonyl sulphide (GC-MS)	GE
In-house method GE-MA-M-U 3-2 2013-04	Volatile chlorinated hydrocarbons: Dichloromethane, 1,2-dichloromethane, chloroform, 1,1,1-trichloroethane, carbon tetrachloride, trichlorethylene, tetrachlorethylene (adsorption on Carbotrap, thermal desorption, GC/MS); freons: F11, F12, F 21, F 113, F 114, R22 (adsorption on Carbotrap, thermal desorption, GC/MS)	GE

7.2.5 Gravimetric Analysis of Physico-chemical Indicators in Carbon Dioxide

ISBT Procedure 8.0 2000-10	Particles	GE

7.2.6 Volumetric Determination of Physico-chemical Indicators in Carbon Dioxide

Joint FAO/WHO Expert Committee	Acid (JECFA) test	GE

7.3 Mineral and Bottled Water

7.3.1 Atomic and Mass Spectrometry of Elements in Mineral and Bottled Water

7.3.1.1 Inductively Coupled Plasma Atomic Emission Spectrometry (ICP-OES)

DIN EN ISO 11885 (E 22) 2009-09	Water quality - Determination of selected elements by inductively coupled plasma optical emission spectroscopy (ICP-OES)	PI

7.3.1.2 Inductively coupled plasma mass spectrometry (ICP-MS)

DIN EN ISO 17294-2 (E 29) 2017-01	Water quality – Application of inductively coupled plasma mass spectrometry (ICP-MS) – Part 2: Determination of selected elements including uranium isotopes	PI

7.3.2 Ion Chromatography of Anions in Mineral and Bottled Water

DIN EN ISO 10304-1 (D 20) 2009-07	Water quality - Determination of dissolved anions bromide, fluoride, chloride nitrate, orthophosphate and sulphate and additionally nitrite by liquid chromatography of ions - Part 1: Method for water with low contamination; (Deviation *PI: No determination of nitrite and phosphate*)	PI

7.3.3 Photometry of Anions and Summary Indices of Actions and Substances in Mineral and Bottled Water

7.3.3.1 Photometry with Flow and Flow Rate Analysis (PI *)

DIN EN ISO 13395 (D 28) 1996-12	Water quality - Determination of nitrite nitrogen and nitrate nitrogen and the sum of both by flow analysis (CFA and FIA) and spectrometric detection	PI
DIN EN ISO 14403-2 (D 3) 2012-10	Water quality - Determination of total cyanide and free cyanide using flow analysis (FIA and CFA) - Part 2: Method using continuous flow analysis (CFA)	PI

7.3.4 Microbiological Analysis – Cultural microbiological method in Mineral and Bottled Water

MinTafelWV attachement 2 1984-08	Ordinance on natural mineral water, spring water and table water (Mineral and Table Water Ordinance) – microbiological method (1. Escherichia coli and coliform sproud, 2. faecal streptococci, 3. Pseudomonas aeruginosa, 4. sulfite-reducing, spore-forming anaerobes, 5. Colony count)	HH

8 Feedstuff Analysis

8.1 Feedstuffs

8.1.1 Sensory Analysis – Basic Descriptive Tests of Feedstuffs

In-house method HH-MA-M 10-014 2016-05	Impurities content in feedstuffs by optical findings	HH

8.1.2 Irradiation Testing of Feedstuffs

ASU L 00.00-82 2010-09	Analysis of foodstuffs – Detection of irradiated food using photostimulated luminescence (adoption of same standard DIN EN 13751, November 2009 edition) (Deviation: *matrix: feedstuff*)	HH

8.1.3 Electrode Measurement of Physico-chemical Parameters in Feedstuffs (HH **)

In-house method HH-MA-M 11-008 2016-10	aW value measurement in feedstuffs using aW-value measurement device	HH

8.1.4 Liquid Chromatography with Mass Selective Detectors (LC-MS/MS) of Organic Compounds in Feedstuffs (HH **, HM **)

ASU L 00.00-76 2008-12	Analysis of foodstuffs - Determination of chlormequat and mepiquat in low-fat foods - LC-MS/MS method (adoption of same standard DIN EN 15055, August 2006 edition) (Deviation*: Matrix feedstuffs*)	HH

ASU L 00.00-115 2014-02	Determination of pesticide residues in plant-based foodstuffs using GC-MS and/or LC-MS/MS following acetonitrile extraction/partitioning and clean-up by dispersive SPE (QuEChERS) (adoption of same standard DIN EN 15662, February 2009 edition) (Deviation*: Matrix feedstuff*)	HH
In-house method HM-MA-M 02-013 2016-04	Fumonisins by LC-MS/MS - Preparation in accordance with HM-MA-M 09-016	HM
In-house method HH-MA-M 02-115 2012-10	Glyphosate/AMPA/glufosinate using LC-MS/MS (Deviation: *Matrix only fodder plants, oils, oil seeds and fatty feedstuffs, oil fruits, cereals and cereal products*)	HH
In-house method HH-MA-M 02-145 2016-10	Fenbutatin-oxide in fruits and vegetables, sour fruit, dried fruit, oil seeds and fatty food, oil fruit, cereals and cereal products, legumes (dried) using LC-MS/MS	HH
In-house method HH-MA-M 02-156 2018-06	Glyphosate/AMPA/glufosinate in fodder plants, oil, oil seed and fatty feedingstuffs, oil fruits, cereals and cereal products using LC-MS/MS	HH

8.1.5 Immunological Analysis - Enzyme Immunoassay by ELISA of Allergens in Feedstuffs (HM *)

R-Biopharm test kits RIDASCREEN R6901 (2015-07)	Fast Mandel / Almond	HM
R-Biopharm test kits RIDASCREEN Fast R6152 (2016-11)	Senf / Mustard	HM
R-Biopharm test kits RIDASCREEN R7001 (2015-10)	Gliadin	HM
R-Biopharm test kits RIDASCREEN Fast R6202 (2016-03)	Peanut	HM

R-Biopharm test kits RIDASCREEN Fast R4652 (2015-07)	Milk	HM
R-Biopharm test kits RIDASCREEN Fast R7102 (2016-07)	Soya	HM
R-Biopharm test kits RIDASCREEN Fast R6402 (2015-12)	Ei / Egg Protein	HM
Inhouse-methode HM-MA-M 06-001 (2017-02)	Sensitizer (Glutene/Casein/Mustard/Soya/Peanut/Egg/Almond) in foodstuffs ans feedstuffs using ELISA	HM
R-Biopharm Testkit R 7003 (2011-10)	Sensitizer in foodstuffs – qualitative detection using Lateral Flow - Glutene	HH
Bioavid Testkit BL 613-25 (2013-10)	Sensitizer in foodstuffs – qualitative detection using Lateral Flow - Milk	HH
Bioavid Testkit BL 603-25 (2013-11)	Sensitizer in foodstuffs – qualitative detection using Lateral Flow - Mustard	HH
Romer Testkit 4302062 (2016-05)	Sensitizer in foodstuffs – qualitative detection using Lateral Flow - Soya	HH
Bioavid Testkit BL 606-25 (2013-06)	Sensitizer in foodstuffs – qualitative detection using Lateral Flow - Peanut	HH
Bioavid Testkit BL 604-25 (2013-10)	Sensitizer in foodstuffs – qualitative detection using Lateral Flow - Haselnut	HH
Bioavid Testkit BL 611-25 (2013-02)	Sensitizer in foodstuffs – qualitative detection using Lateral Flow - Pistachio	HH
Bioavid Testkit BL 601-25 (2013-11)	Sensitizer in foodstuffs – qualitative detection using Lateral Flow - Almond	HH

Bioavid Testkit BL 608-10 (2013-11)	Sensitizer in foodstuffs – qualitative detection using Lateral Flow - Egg	HH
Bioavid Testkit BL 609-10 (2013-10)	Sensitizer in foodstuffs – qualitative detection using Lateral Flow - Sesame	HH

8.1.6 Microbiological Analysis - Cultural Microbiological Methods in Feedstuffs

ASU L 00.00-20 2018-03	Analysis of foodstuffs -Horizontal method for the detection, enumeration and serotyping of Salmonella – Part 1: detection of Salmonella spp. (adoption of same standard DIN EN 6579-1, July 2017 edition)	HH

8.1.7 Molecular biological analysis - Real-time PCR of allergens in feedstuffs (HM **)

CONGEN SureFood® PREP Basic Art. No. S1052 (2017-03)	Extraction of plant and animal DNA (Desoxyribonucleic acid) from raw material and weekly processed foodstuffs and feedstuffs and Extraction of animal DNA from highly processed foodstuffs and feedstuffs	HM
CONGEN SureFood® PREP Advanced Art. No. S1053 (2017-03)	Extraction of plant and animal DNA (Desoxyribonucleic acid) – using two different procedures: 1. Sensitive extraction of plant and animal DNA of allergens from foodstuffs according to regulation (EU) 1169/2011 2. Extraction of plant DNA from highly processed foodstuffs and feedstuffs and of specimen with inhibition of specimen-DNA using procedure 1	HM
CONGEN SureFood® GMO SCREEN 4plex 35S/NOS/FMV+IAC Art. No. S2126 Version 1.3	Screening for gene-modified organism (GMO) in Foodstuff, feedstuff and seeds	HM
CONGEN SureFood® ALLERGEN ID Soya Art. Nr. S3101 Version 2.2	Detection of Soya-DNA according to regulation (EU) 1169/2011	HM

CONGEN SureFood® ALLERGEN Hazelnut Art. No. S3602 (2018-01)	Detection of Haselnut-DNA according to regulation (EU) 1169/2011 qualitative or quantitative	HM
CONGEN SureFood® ALLERGEN Almond Art. No. S3604 (2018-01)	Detection of Almond-DNA according to regulation (EU) 1169/2011 qualitative or quantitative	HM
CONGEN SureFood® ALLERGEN Celery Art. No. S3605 (2018-01)	Detection of Celery-DNA according to regulation (EU) 1169/2011 qualitative or quantitative	HM
CONGEN SureFood® ALLERGEN Walnut Art. No. S3607 (2018-01)	Detection of DNA of walnut family Juglans regia (walnut) according to regulation (EU) 1169/2011 and Juglans nigra (black walnut) qualitative or quantitative	HM
CONGEN SureFood® ALLERGEN Sesame Art. No. S3608 (2018-01)	Detection of Sesame-DNA according to regulation (EU) 1169/2011 qualitative or quantitative	HM
CONGEN SureFood® ALLERGEN Mustard Art. No. S3609 (2018-02)	Detection of DNA from brown mustard (Brassica juncea), yellow mustard (Sinapis alba) and black mustard (Brassica nigra) according to regulation (EU) 1169/2011 qualitative or quantitative	HM
CONGEN SureFood® ALLERGEN Fish Art. No. S3610 (2018-02)	Detection of Fish-DNA according to regulation (EU) 1169/2011 qualitative or quantitative	HM
CONGEN SureFood® ALLERGEN Lupin Art. No. S3611 (2018-01)	Detection of Lupine-DNA according to regulation (EU) 1169/2011 qualitative or quantitative	HM
CONGEN SureFood® ALLERGEN Macadamia Art. No. S3616 (2018-01)	Detection of Macadamia-DNA according to regulation (EU) 1169/2011 qualitative or quantitative	HM

CONGEN SureFood® ALLERGEN Brazil Nut Art. No. S3617 (2018-01)	Detection of Para nut-DNA according to regulation (EU) 1169/2011 qualitative or quantitative	HM
CONGEN SureFood® ALLERGEN Pecan Art. No. S3618 (2018-01)	Detection of Pecan-DNA according to regulation (EU) 1169/2011 qualitative or quantitative	HM
CONGEN SureFood® ANIMAL ID Pork SENS PLUS Art. Nr. S6017 (2018-07)	Detection of Pork-DNA (Sus scrofa)	HM

8.1.8 Qualitative detection in feedstuffs

In-house method HH-MA-M 10-32 2016-01	Detection of starch in feedstuffs by iodine-starch reaction	HH

8.1.9 Liquid Chromatography with Conventional Detectors (HPLC-DAD, HPLC-FLD) of Organic Compounds in Feedstuffs (HH **)

ASU L 15.00-9 2014-02	Determination of deoxynivalenol in cereals, cereal products and cereal-based foods for infants and young children - HPLC method with purification on an immunoaffinity column and UV detection (adoption of same standard DIN EN ISO 15891, December 2010 edition) (Deviation*: Matrix also feedstuffs, simultaneous determination of nivalenol possible*)	HH
ASU L 15.03-1 2010-01	Analysis of foodstuffs - Determination of ochratoxin A in barley - HPLC method with purification on an immunoaffinity column (adoption of same standard DIN EN 14132, September 2009 edition) (Deviation*: Matrix feedstuffs*)	HH

ASU L 23.05-3 2014-02	Analysis of foodstuffs – Determination of aflatoxin B1 and the sum of aflatoxin B1, B2, G1 and G2 in nuts and related products - High performance liquid chromatographic method (adoption of same standard DIN EN ISO 16050, September 2011 edition) (Deviation*: Matrix also feedstuffs)*	HH
In-house method HH-MA-M 02-105 2017-04	Polycyclic aromatic hydrocarbons in feedstuffs by HPLC-DAD/FLD	HH
In-house method HH-MA-M 02-111 2012-02	Zearalenone by HPLC-FLD (Deviation*: Matrix also feedstuffs*)	HH

8.1.10 Gas Chromatography with Mass Selective Detectors (GC-MS; GC-MS/MS) in Feedstuffs (HH *)

ASU L 00.00-49/2 1999-11	Analysis of foodstuffs – Determination of dithiocarbamate and thiuram disulphide residues - Part 2: Gas chromatographic method (adoption of same standard DIN EN 12396 Part 2, December 1998 edition) (Deviation*: Matrix only feedstuffs)*	HH
ASU L 00.00-115 2014-02	Analysis of foodstuffs – Determination of pesticide residues in plant-based foodstuffs using GC-MS and/or LC-MS/MS following acetonitrile extraction/partitioning and clean-up by dispersive SPE (QuEChERS) (adoption of same standard DIN EN 15662, February 2009 edition) (Deviation*: Matrix only feedstuffs)*	HH
In-house method HH-MA-M 03-058 2016-10	Polycyclic aromatic hydrocarbons in feedstuffs using GC-MS/MS	HH

9 Medicinal Products and Active Ingredient Analysis

9.1 Chemical Analysis of Medicinal Products, Active Ingredients and Excipients

9.1.1 Inductively Coupled Plasma Atomic Emission Spectrometry (ICP-OES) of Cations in Raw Materials for Pharmaceutical Purposes

Ph. Eur. Section 2.2.22 2008-01	Atomic emission spectrometry with inductively coupled plasma (HH only digestion)	PI, HH
HH-MA-M 01-003 2016-10	Digestion of drugs, active agent and auxiliary material using a microwave	HH
In-house method PI-MA-M 01-008 2017-02	Elements in water and solid digestions using ICP-OES 4	PI

9.1.2 Liquid Chromatography with Mass Selective Detectors (LC-MS/MS) of Organic Compounds in Raw Materials for Pharmaceutical Purposes (HH **)

In-house method HH-MA-M 02-080 2018-05	Limit testing of pesticides in drugs, active agent and auxiliary material using LC-MS/MS	HH

9.1.3 Liquid Chromatography with Conventional Detectors (HPLC-DAD, HPLC-FLD) of Organic Compounds in Solutions for Pharmaceutical Purposes (HH **)

In-house method HH-MA-M 02-101 2017-04	Purity and content testing of gluconic and 2-aminoethyl dihydrogen phosphate in drugs, active agent and auxiliary material using HPLC-DAD/FLD	HH

9.1.4 Gas Chromatography with Mass Selective Detectors (GC-MSD) of Organic Compounds in Raw Materials for Pharmaceutical Purposes (HH **)

In-house method HH-MA-M 03-023 2014-05	Limit testing of dithiocarbamates in drugs, active agent and auxiliary material using headspace GC-MS	HH
In-house method HH-MA-M 03-024 2018-05	Limit testing of pesticides in drugs, active agent and auxiliary material using GC-MS/MS	HH

In-house method HH-MA-M 09-003 2018-05	Pesticides - Sample preparation for chromatographic determination	HH

9.1.5 Titrimetric Analysis of Cations in CaCO3 for Pharmaceutical Purposes (HH *)

Ph. Eur. Monograph $CaCl_2$ 2008-01	Calcium chloride in drugs, active agent and auxiliary material using complexometric Titration	HH
Ph. Eur. Section $CaCO_3$ 2017-01	Calcium carbonate in drugs, active agent and auxiliary material using complexometric titration	HH
USP 41 <541> 2018-05	Titrimetry	HH
Ph.Eur. Monographie Ca(OH)2 2017-01	Calcium hydroxide in drugs, active agent and auxiliary material using complexometric Titration	HH
FCC IX Monograph CaO 2016	Calcium oxide in drugs, active agent and auxiliary material using complexometric titration	HH

9.2 Physico-chemical Analysis of Medicinal Products, Active Ingredients and Excipients

9.2.1 Electrode Measurement of Physico-chemical Indicators in Ultrapure Water for Pharmaceutical Purposes (HH)

Ph. Eur. 2.2.38 2008-01	Determination of electrical conductivity in ultrapure water using a conductivity electrode	HH

9.2.2 Infrared Spectroscopy of Physico-chemical Indicators in Ultrapure Water for Pharmaceutical Purposes (HH)

Ph. Eur. Section 2.2.44 2011	TOC determination in ultrapure water using TOC-analyzer	HH
USP 41 <643> 2018-05	Total organic carbon	HH

9.2.3 Gravimetric Analysis of Physico-chemical Indicators in Solids for Pharmaceutical Purposes (HH)

Ph. Eur. Section 2.4.14 2010-04	Determination of sulphated ash in drugs, active agent and auxiliary material	HH

9.3 Biological Analysis of Medicinal Products, Active Ingredients and Excipients

9.3.1 Cultural Microbiological Analysis of Non-sterile Products (HH *)

Ph. Eur. Section 02/06/2012 2010-07	Counting of microorganisms capable of reproduction in non-sterile products	HH
Ph. Eur. Section 02.06.13 2010-04	Detection of specified microorganisms in non-sterile products	HH
Ph. Eur. Section 02.06.14 2014	Bacterial endotoxins in drugs, active agent and auxiliary material	HH
Ph. Eur. Section 02/06/1931 2014-01	Microbiological examination of herbal medicinal products for oral use	HH

10 Test Methods for the Specialist Module for Water, revised 13.11.2015

Explanatory notes:

Was: Relevant for Waste Water (including landfill seepage water)

Sur: Relevant for Surface Water

Raw: Relevant for Raw and Groundwater**(methods in accordance with AbwV printed in bold)**

Section 1: Sampling and General Parameters

Parameter	Method	Was	Sur	Raw	Location
Sampling of Waste Water	DIN 38402 - A 11: 2009-02	☒			PI, HI, GE, FG, SV
Sampling from Running Waters	DIN 38402 – A 15: 1986-07		☒		PI, GE, HI, FG
	DIN 38402 - A 15: 2010-04		☒		PI, GE, HI, FG
Sampling from Aquifers	DIN 38402 - A 13: 1985-12			☒	PI, HI, GE, FG
Sampling from Barrages and Lakes	DIN 38402 - A 12: 1985-06		☒		PI, HI, GE, FG
Homogenisation of Samples	DIN 38402 - A 30: 1998-07	☒	☒		PI, HI, GE, FG
Temperature	DIN 38404 - C 4: 1976-12	☒	☒	☒	PI, HI, GE, FG
pH value	DIN EN ISO 10523: 2012-04	☒	☒	☒	PI, HI, GE, FG, SV
Conductivity (25 °C)	DIN EN 27888: 1993-11 (C 8)	☒	☒	☒	PI, HI, GE, FG, SV
Odour	DIN EN 1622: 2006-10 (B 3) Annex C	☒	☒	☒	PI
Colouring	DIN EN ISO 7887: 1994-12 (C 1) Section 2	☒	☒	☒	PI, GE, FG
Turbidity	DIN EN ISO 7027: 2000-04 (C 2)	☒	☒	☒	PI
Oxygen	DIN EN 25814: 1992-11 (G 22)		☒	☒	PI, GE, FG, HI, SV
Redox Potential	DIN 38404-C 6: 1984-05			☒	PI HI, GE, FG

Section 2: Photometry, Ion Chromatography, Titration

Parameter	Method	Was	Sur	Raw	Location
UV Absorption at 254 nm (SAC 254)	DIN 38404 - C 3: 2005-07		☒	☒	PI
UV Absorption at 436 nm (SAC 436)	DIN EN ISO 7887: 1994-12 (C 1)		☒	☒	PI
Ammonium Nitrogen	**DIN EN ISO 11732: 2005-05 (E 23)**	☒	☒	☒	PI, GE
	DIN 38406-E 5: 1983-10	☐	☐	☐	
	DIN EN ISO 14911: 1999-12 (E 34)		☐	☐	SV
	DIN ISO 15923-1: 2014-07 (D 49)	☐	☐	☐	

Parameter	Method	Was	Sur	Raw	Location
Nitrite Nitrogen	**DIN EN 26777: 1993-04 (D 10)**	☒	☒	☒	PI
	DIN EN ISO 10304-1: 2009-07 (D 20)	☒	☒	☒	HE
	DIN EN ISO 13395: 1996-12 (D 28)	☒	☒	☒	PI
	DIN ISO 15923-1: 2014-07 (D 49)	☐	☐	☐	
Nitrate Nitrogen	**DIN EN ISO 10304-1: 2009-07 (D 20)**	☒	☒	☒	PI, HE
	DIN EN ISO 13395: 1996-12 (D 28).	☒	☒	☒	PI
	DIN 38405- 9: 2011-09	☐	☐	☐	
	DIN 38405-D 29: 1994-11	☐	☐	☐	
	DIN ISO 15923-1: 2014-07 (D 49)	☐	☐	☐	
Total Phosphorus	**DIN EN ISO 6878: 2004-09 (D 11)**	☒	☒	☒	PI, SV
	DIN EN ISO 15681-1: 2005-05 (D 45)	☐	☐	☐	
	DIN EN ISO 15681-2: 2005-05 (D 46)	☒	☒	☒	PI
Orthophosphate	DIN EN ISO 10304-1: 2009-07 (D 20)		☒	☒	HE
	DIN EN ISO 6878: 2004-09 (D 11)		☒	☒	PI, SV
	DIN EN ISO 15681-1: 2005-05 (D 45)		☐	☐	
	DIN EN ISO 15681-2: 2005-05 (D 46)		☒	☒	PI
	DIN ISO 15923-1: 2014-07 (D 49)	☐	☐	☐	
Fluoride (dissolved and total)	DIN 38405-D 4: 1985-07	☒	☒	☒	PI, HE, FG
	DIN EN ISO 10304-1: 2009-07 (D 20)	☒	☒	☒	PI, HE, SV
Chloride	**DIN EN ISO 10304-1: 2009-07 (D 20)**	☒	☒	☒	PI, HE, SV
	DIN EN ISO 15682: 2002-01 (D 31)	☐	☐	☐	
	DIN ISO 15923-1: 2004-07 (D 49)	☐	☐	☐	
	DIN EN ISO 10304-4: 1999-07 (D 25)			☐	
	DIN 38405-D 1: 1985-12	☐	☐	☐	
Sulphate	**DIN EN ISO 10304-1: 2009-07 (D 20)**	☒	☒	☒	PI, HE, SV
	DIN 38405-D 5: 1985-01	☐	☐	☐	
	DIN ISO 15923-1: 2014-07 (D 49)	☐	☐	☐	

Parameter	Method	Was	Sur	Raw	Location
Cyanide (readily liberated)	**DIN 38405-D 13-2: 1981-02**	☒	☒	☒	PI
	DIN EN ISO 14403-1:2012-10 (D2)	☐	☐	☐	
	DIN EN ISO 14403-2: 2012-10 (D3)	☒	☒	☒	PI
	DIN 38405-D 7: 2002-04		☐	☐	
Cyanide (total)	**DIN 38405-D 13-2: 1981-02**	☒	☒	☒	PI
	DIN EN ISO 14403-1:2012-10 (D2)	☐	☐	☐	
	DIN EN ISO 14403-2: 2012-10 (D3)	☒	☒	☒	PI
	DIN 38405-D 7: 2002-04		☐	☐	
Chromium VI	**DIN 38405-D 24: 1987-05**	☒	☒	☒	PI, GE
	DIN EN ISO 10304-3: 1997-11 (D 22), Section 5 (dissolved chromate)	☐	☐	☐	
	DIN EN ISO 23913:2009-09 (D41)	☐	☐	☐	
	DIN EN ISO 18412: 2007-02			☒	PI
Parameter	**Method**	**Was**	**Sur**	**Raw**	**Location**
Sulphide (readily liberated)	DIN 38405-D 27: 1992-07	☒	☒	☒	PI, GE

Section 3: Elemental Analysis

Parameter	Method	Was	Sur	Raw	Location
Aluminium	**DIN EN ISO 11885: 2009-09 (E 22)**	☒	☒	☒	PI
	DIN EN ISO 12020: 2000-05 (E 25)	☐	☐	☐	
	DIN EN ISO 17294-2:2005-02 (E 29)	☒	☒	☒	PI
	DIN EN ISO 15586: 2004-02 (E 4)	☐	☐	☐	
Arsenic	**DIN EN ISO 11969: 1996-11 (D 18*)***	☐	☐	☐	
	DIN EN ISO 11885: 2009-09 (E 22)	☒			PI
	DIN EN ISO 17294-2: 2005-02 (E 29)	☒	☒	☒	PI
	DIN EN ISO 15586: 2004-02 (E 4)	☐	☐	☐	
Lead	**DIN EN ISO 11885: 2009-09 (E 22)**	☒			
	DIN 38406-E 6: 1998-07	☐	☐	☐	
	DIN EN ISO 17294-2: 2005-02 (E 29)	☒	☒	☒	PI
	DIN EN ISO 15586: 2004-02 (E 4)	☐	☐	☐	

Parameter	Method	Was	Sur	Raw	Location
Cadmium	**DIN EN ISO 11885: 2009-09 (E 22)**	☒			PI
	DIN EN ISO 5961: 1995-05 (E 19)	☐	☐	☐	
	DIN EN ISO 17294-2: 2005-02 (E 29)	☒	☒	☒	PI
	DIN EN ISO 15586: 2004-02 (E 4)	☐	☐	☐	
Calcium	DIN EN ISO 11885: 2009-09 (E 22)		☒	☒	PI
	DIN 38406-E 3: 2002-03		☐	☐	
	DIN EN ISO 7980:2000-07 (E 3a)		☐	☐	
	DIN EN ISO 17294-2: 2005-02 (E 29)		☒	☒	PI
	DIN EN ISO 14911: 1999-12 (E 34)		☐	☐	
Chromium	DIN EN ISO 11885: 2009-09 (E 22)	☒	☒	☒	PI
	DIN EN 1233: 1996-08 (E 10)	☐	☐	☐	
	DIN EN ISO 17294-2: 2005-02 (E 29)	☒	☒	☒	PI
	DIN EN ISO 15586: 2004-02 (E 4)	☐	☐	☐	
Iron	DIN EN ISO 11885: 2009-09 (E 22)	☒	☒	☒	PI
	DIN 38406-E 32: 2000-05	☐	☐	☐	
	DIN EN ISO 15586: 2004-02 (E 4)	☐	☐	☐	
	DIN 38406-E 1: 1983-05		☐	☐	
	DIN EN ISO 17294-2: 2005-02 (E 29) with collision cell	☒	☒	☒	PI
Potassium	DIN 38406-E 13: 1992-07		☐	☐	
	DIN EN ISO 11885: 2009-09 (E 22)		☒	☒	PI
	DIN EN ISO 17294-2: 2005-02 (E 29)		☒	☒	PI
	DIN EN ISO 14911: 1999-12 (E 34)		☐	☐	
Copper	DIN EN ISO 11885: 2009-09 (E 22)	☒	☒	☒	PI
	DIN 38406-E 7: 1991-09	☐	☐	☐	
	DIN EN ISO 17294-2: 2005-02 (E 29)	☒	☒	☒	PI
	DIN EN ISO 15586: 2004-02 (E 4)	☐	☐	☐	

Parameter	Method	Was	Sur	Raw	Location
Manganese	DIN EN ISO 11885: 2009-09 (E 22)			☒	PI
	DIN EN ISO 17294-2: 2005-02 (E 29)			☒	PI
	DIN 38406-E 33: 2000-06			☐	
	DIN EN ISO 15586: 2004-02 (E 4)			☐	
	DIN EN ISO 14911: 1999-12 (E 34)			☐	
Sodium	DIN 38406-E 14: 1992-07		☐	☐	
	DIN EN ISO 11885: 2009-09 (E 22)		☒	☒	PI
	DIN EN ISO 17294-2: 2005-02 (E 29)		☒	☒	PI
	DIN EN ISO 14911: 1999-12 (E 34)		☐	☐	
Nickel	DIN EN ISO 11885: 2009-09 (E 22)	☒	☒	☒	PI
	DIN 38406-E 11: 1991-09	☐	☐	☐	
	DIN EN ISO 17294-2: 2005-02 (E 29)	☒	☒	☒	PI
	DIN EN ISO 15586: 2004-02 (E 4)	☐	☐	☐	
Mercury	DIN EN 1483: 2007-07 (E 12)	☒	☒	☒	PI, SV
	DIN EN 17852: 2008-04 (E 35)	☐	☐	☐	
	DIN EN ISO 12846: 2012-06 (E 35)	☒	☒	☒	PI
Zinc	DIN EN ISO 11885: 2009-09 (E 22)	☒	☒	☒	PI
	DIN 38406-E 8: 2004-10	☐	☐	☐	
	DIN EN ISO 17294-2: 2005-02 (E 29)	☒	☒	☒	PI
	DIN EN ISO 15586: 2004-02 (E 4)	☐	☐	☐	
Boron	DIN EN ISO 11885: 2009-09 (E 22)	☒	☒	☒	PI
	DIN EN ISO 17294-2: 2005-02 (E 29)	☒	☒	☒	PI
Magnesium	DIN EN ISO 11885: 2009-09 (E 22)		☒	☒	PI
	DIN 38406-E 3: 2002-03		☐	☐	
	DIN EN ISO 7980: 2000-07 (E 3a)		☐	☐	
	DIN EN ISO 17294-2: 2005-02 (E 29)		☒	☒	PI
	DIN EN ISO 14911: 1999-12 (E 34)		☐	☐	
Phosphorus (Phosphorus Compounds in Original Sample as Phosphorus)	DIN EN ISO 11885: 2009-09 (E 22)	☒	☒	☒	PI
	DIN EN ISO 17294-2: 2005-02 (E 29)	☒	☒	☒	PI

Section 4/5: Group and Sum Parameters

Parameter	Method	Was	Sur	Raw	Location
Biological Oxygen Demand (BOD5)	DIN EN 1899-1: 1998-05 (H 51)	☒			GE
	DIN EN 1899-2: 1998-05 (H 52)		☐		
Chemical Oxygen Demand (COD)	DIN 38409-H 41: 1980-12	☒			PI
	DIN 38409-H 44: 1992-05		☐		
	DIN ISO 15705: 2003-01 (H 45)		☒		PI, HI, GE, FG
Phenol Index (with and without Distillation)	DIN 38409-H 16-2: 1984-06	☒	☒	☒	PI
	DIN 38409-H 16-1: 1984-06	☐	☐	☐	
	DIN EN ISO 14402: 1999-12 (H 37) Methods in accordance with Section 4	☒	☒	☒	PI
Filterable Solids	DIN EN 872: 2005-04 (H 33)	☒	☒		PI, HI
	DIN 38409-H 2-3: 1987-03		☒		PI, HI, GE, FG
Acid and Base Capacity	DIN 38409-H 7: 2005-12		☒	☒	PI, GE, FG,SV
Organic Carbon (TOC)	DIN EN 1484: 1997-08 (H 3)	☒	☒		PI, GE, SV
Dissolved Organic Carbon (DOC)	DIN EN 1484: 1997-08 (H 3)			☒	PI, GE, SV
Total Bound Nitrogen (TN_b)	DIN EN 12260: 2003-12 (H 34)	☒	☒		GE
	DIN EN ISO 11905-1: 1998-08 (H 36)	☒	☒		PI
AOX	DIN EN ISO 9562: 2005-02 (H 14)	☒	☒	☒	GE
	DIN 38409-H 22: 2001-02		☒	☒	GE

Section 6: Gas Chromatographic Methods

Parameter	Method	Was	Sur	Raw	Location
Volatile Halogenated Hydrocarbons (VOC)	DIN EN ISO 10301: 1997-08 (F 4)*	☒	☒	☒	PI, HI, GE
	DIN 38407-F 43: 2014-10	☒	☒	☒	PI, HI, GE
	DIN EN ISO 15680: 2004-04 (F 19)	☒	☒	☒	GE
Benzene and Derivatives (BTEX)	DIN 38407-F 9: 1991-05*	☒	☒	☒	PI, HI, GE
	DIN 38407-F 43: 2014-10	☒	☒	☒	PI, HI, GE
	DIN EN ISO 15680: 2004-04 (F 19)	☒	☒	☒	PI, GE

Parameter	Method	Was	Sur	Raw	Location
Organochlorine Insecticides (OCP)	DIN 38407-F 2: 1993-02*		☒	☒	PI
	DIN EN ISO 6468 : 1997-02 (F 1)*		☒	☒	PI
	DIN 38407-F 37: 2013-11		☒	☒	PI
Polychlorinated Biphenyls (PCB)	DIN EN ISO 6468: 1997-02 (F 1)*		☒	☒	PI
	DIN 38407-F 2: 1993-02*		☒	☒	PI
	DIN 38407-F 3: 1998-07		☒	☒	PI, GE
Mono, Dichlorobenzenes	DIN EN ISO 15680: 2004-04 (F 19)		☒	☒	PI, GE
	DIN 38407-F 43: 2014-10		☒	☒	PI, GE
Tri to Hexachlorobenzene	DIN EN ISO 6468: 1997-02 (F 1)*	☒	☒	☒	PI
	DIN 38407-F 2: 1993-02*	☒	☒	☒	PI
	DIN 38407-F 43: 2014-10	☒	☒	☒	PI, GE
	DIN 38407-F 37: 2013-11	☒	☒	☒	PI
Chlorophenols	DIN EN ISO 12673: 1999-05 (F 15)		☒	☒	PI
Organophosphorus and Organic Nitrogen Compounds	DIN EN ISO 10695: 2000-11 (F 6)*		☒	☒	PI
Polycyclic Aromatic Hydrocarbons (PAH) **	DIN 38407-F 39: 2011-09	☒	☒	☒	PI, GE
	DIN ISO 28540: 2014-05 (F 40)	☒	☒	☒	PI
Hydrocarbon Index	**DIN EN ISO 9377-2: 2001-07 (H 53)**	☒	☒	☒	PI, HI, GE

* Mass spectrometric detection allowed

** Section 6 is also fully met when PAHs are analysed in a range in section 7

Section 7: HPLC Methods

Parameter	Method	Was	Sur	Raw	Location
Polycyclic Aromatic Hydrocarbons (PAHs)**	DIN EN ISO 17993: 2004-03 (F 18)	☐	☐	☐	
Plant Protection Products and Pesticides (PPP)	DIN EN ISO 11369: 1997-11 (F 12)*		☐	☐	
	DIN 38407-F 35: 2010-10		☒	☒	PI
	DIN 38407-F 36: 2014-09		☒	☒	PI

* Mass spectrometric detection allowed

** Section 7 is also fully met when PAHs are analysed using a method in section 6

Section 8: Microbiological Methods

Parameter	Method	Was	Sur	Raw	Location
Colony Count	DIN EN ISO 6222: 1999-07 (K 5)		☒	☒	HH
Total Coliform Count	DIN EN ISO 9308-2: 2014-09 (K 6-1) in conjunction with			☐	
	DIN EN ISO 9308-1: 2014-09 (K 12)			☒	HH
Faecal Coliform Count	DIN EN ISO 9308-1: 2001-07 (K 12)			☒	HH
	DIN EN ISO 9308-3: 1999-07 (K 13)		☐	☐	
Intestinal Enterococci	DIN EN ISO 7899-2: 2000-11 (K 15)		☒	☒	HH
	DIN EN ISO 7899-1: 1999-07 (K 14)		☐	☐	

** Only in conjunction with DIN EN ISO 9308-1: 2001-07

Section 9.1: Biological Methods, Bio-Assays (part 1)

Parameter	Method	Was	Sur	Raw	Location
Fish Egg Test	**DIN EN ISO 15088: 2009-08 (T 6)**	☐			
Luminescent Bacteria Inhibition Test	**DIN EN ISO 11348-1: 2009-05 (L 51)**	☐			
	DIN EN ISO 11348-2: 2009-05 (L 52)	☒			GE

Section 9.2: Biological Methods, Bio-Assays (part 2)

Parameter	Method	Was	Sur	Raw	Location
Saprobic Index	DIN 38410-M 1: 2004-10		☐		
Chlorophyll a	DIN 38412-L 16 : 1985-12		☒		PI
Phaeophytin	DIN 38416-L 16 : 1985-12		☐		
Daphnia Test	**DIN 38412-L 30 : 1989-03**	☒			GE
Algae Test	**DIN 38412-L 33 : 1991-03**	☐			
Umu Test	**DIN 38415-T 3: 1996-12**	☐			

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Test Area 1: Solids

Section 1.1: Sampling and On-Site Examination

not used

Section 1.2: Laboratory – Analysis of Inorganic Parameters

Basic Parameters and Sample Preparation				
Test Parameters	**Methods/Notes**	**Method**	**Acc**	**Loc**
Sample Preparation and Reconditioning		DIN 19747: 2009	☒	PI, HI, GE, FG
Dry Matter		DIN ISO 11465: 1996	☒	PI, HI, GE, FG
		DIN EN 14346: 2007	☒	PI, GE, HI
Organic Carbon and Total Carbon after Dry Combustion (TOC)	Air-Dried Soil Samples	DIN ISO 10694: 1996	☒	PI, GE
		DIN EN 13137: 2001	☒	PI, GE
		DIN EN 15936: 2012	☒	PI
pH Value ($CaCl_2$)		DIN ISO 10390: 2005	☒	PI, HI, GE, FG
Gross Density – **optional**		DIN ISO 11272: 2001	☒	GE
Particle Size Distribution – **Optional**	Pipett-Analyse	DIN ISO 11277: 2002	☐	
	Hydrometer Method	DIN 18123: 2011 with LAGA PN98	☒	PI, GE

Analysis of Inorganic Parameters				
Test Parameters	**Methods/Notes**	**Method**	**Acc**	**Loc**
Aqua Regia Extract	Thermal, Open Vessel	DIN ISO 11466: 1997	☒	PI, HI
	Microwave Digestion	DIN EN 13657: 2003	☒	PI, HI
Ammonium Nitrate Extract		DIN 19730: 2009	☒	PI, HI
Alkaline Digestion Method – **optional**	Metaborate Melt Digestion for Chromium(VI) Analysis	DIN EN 15192: 2007	☐	
Extraction for Determination of Thallium – **optional**	HNO_3, H_2O_2	DIN ISO 20279: 2006	☐	
Arsenic (As) Antimony (Sb)	ICP-OES	DIN ISO 22036: 2009	☒	PI
	ICP-MS	DIN EN ISO 17294-2: 2005	☒	PI
	ET-AAS or Hydride AAS	DIN ISO 20280: 2010	☐	

Analysis of Inorganic Parameters				
Test Parameters	**Methods/Notes**	**Method**	**Acc**	**Loc**
Cadmium (Cd) Chromium (Cr), Total Cobalt (Co) Copper (Cu) Nickel (Ni) Lead (Pb) Zinc (Zn)	ET-AAS	DIN ISO 11047: 2003	☐	
	ICP-OES	DIN ISO 22036: 2009	☒	PI
	ICP-MS	DIN EN ISO 17294-2: 2005	☒	PI
Mercury (Hg)	AAS	DIN EN 1483: 2007	☒	PI
	Cold Vapour AAS or Cold Vapour AFS	DIN ISO 16772: 2005	☒	PI
Cyanide		DIN ISO 17380: 2011	☒	PI
		DIN ISO 11262: 2012	☒	PI
Chromium(VI) – **optional**	IC with Photometric Detection	DIN EN 15192: 2007	☐	
Molybdenum (Mo) Vanadium (V) – **optional**	ICP-OES	DIN ISO 22036: 2009	☒	PI
	ICP-MS	DIN EN ISO 17294-2: 2005	☒	PI
Selenium (Se) – **optional**	ICP-OES	DIN ISO 22036: 2009	☒	PI
	ICP-MS	DIN EN ISO 17294-2: 2005	☒	PI
	ET-AAS or Hydride AAS	DIN ISO 20280: 2010	☐	
Thallium (Tl) from the HNO_3/H_2O_2 Extract – **optional**	ET-AAS	DIN ISO 20279: 2006	☐	
	ICP-OES	DIN ISO 22036: 2009	☒	PI
	ICP-MS	DIN EN ISO 17294-2: 2005	☒	PI
Uranium (U) Tungsten (W) – **optional**	ICP-OES	DIN ISO 22036: 2009	☒	PI
	ICP-MS	DIN EN ISO 17294-2: 2005	☒	PI

Section 1.3: Laboratory – Analysis of Organic Parameters

Basic Parameters and Sample Preparation				
Test Parameters	**Methods/Notes**	**Method**	**Acc**	**Loc**
Sample Preparation and Reconditioning		DIN 19747: 2009	☒	PI, HI, GE, FG
Dry Matter		DIN ISO 11465: 1996	☒	PI, HI, GE, FG
		DIN EN 14346: 2007	☒	PI, GE,-HI
Organic Carbon and Total Carbon after Dry Combustion (TOC)	Air-Dried Soil Samples	DIN ISO 10694: 1996	☒	PI, GE
		DIN EN 13137: 2001	☒	PI, GE
		DIN EN 15936: 2012	☒	PI

Basic Parameters and Sample Preparation				
Test Parameters	**Methods/Notes**	**Method**	**Acc**	**Loc**
pH Value ($CaCl_2$)		DIN ISO 10390: 2005	☒	PI, HI, GE, FG
Gross Density – **optional**		DIN ISO 11272: 2001	☒	GE
Particle Size Distribution – **Optional**	Pipette Analysis	DIN ISO 11277: 2002	☐	
	Hydrometer Method	DIN 18123: 2011 with LAGA PN98	☒	PI, GE

Analysis of Organic Parameters				
Test Parameters	**Methods/Notes**	**Method**	**Acc**	**Loc**
Polycyclic Aromatic Hydrocarbons (PAH) 16 PAH (EPA)	GC-MS	DIN ISO 18287: 2006	☒	PI, GE, HI
	HPLC-UV/F Acenaphthylene cannot be determined by Fluorescence Detector	DIN ISO 13877: 2000	☐	
		DIN 38414-23: 2002	☐	
Hexachlorobenzene	GC-ECD, GC-MS	DIN ISO 10382: 2006	☒	PI
Pentachlorophenol	GC-ECD, GC-MS	DIN ISO 14154: 2005	☒	PI
Aldrin, DDT, HCH Mixture	GC-ECD, GC-MS	DIN ISO 10382: 2003	☒	PI
		DIN EN 15308: 2008	☒	PI, GE
Polychlorinated Biphenyls (PCB)	GC-ECD, GC-MS Extraction with Acetone/Petroleum Ether or Soxhlet Extraction The Type of Summation must be indicated (PCB6/PCB7)	DIN ISO 10382: 2003	☒	PI, HI
		DIN EN 15308: 2008	☒	PI, GE
		DIN 38414-20: 1996	☒	PI
Typical Explosive Compounds (HPLC) – **optional**	Extraction with Methanol or Acetonitrile and Quantification using HPLC-UV/DAD	E DIN ISO 11916-1: 2011	☒	PI
Typical Explosive Compounds (GC) – **optional**	Extraction with Methanol. Dissolution in Toluene and Quantification using GC-ECD or GC-MS	E DIN ISO 11916-2: 2011	☒	PI
Petroleum Hydrocarbons (C10-C40) – optional	GC-FID	DIN ISO 16703: 2005	☒	PI
		LAGA KW/04: 2009	☒	PI, HI, GE
BTEX Aromatic Compounds, VOC – **optional**	Headspace, GC	DIN ISO 22155: 2006	☒	PI, HI

Test Area 1.4: Analysis – Dioxins and Furans

Basic Parameters and Sample Preparation				
Test Parameters	**Methods/Notes**	**Method**	**Acc**	**Loc**
Sample Preparation and Reconditioning		DIN 19747: 2009	☒	PI
Dry Matter		DIN ISO 11465: 1996	☒	PI
		DIN EN 14346: 2007	☒	PI
Organic Carbon and Total Carbon after Dry Combustion (TOC)	Air-Dried Soil Samples	DIN ISO 10694: 1996	☒	PI
		DIN EN 13137: 2001	☒	PI
		DIN EN 15936: 2012	☒	PI
pH Value ($CaCl_2$)		DIN ISO 10390: 2005	☒	PI
Gross Density – **optional**		DIN ISO 11272: 2001	☐	
Particle Size Distribution – **Optional**	Pipette Analysis	DIN ISO 11277: 2002	☐	
	Hydrometer Method	DIN 18123: 2011 with LAGA PN98	☒	PI

Analysis – PCDD, PCDF and Dioxin-like PCB				
Test Parameters	**Methods/Notes**	**Method**	**Acc**	**Loc**
PCDD / PCDF, DL-PCBs	GC-MS, Analysis in accordance with the Internal Standard Method using the relevant 13C12-labelled standards for a congener in each case	DIN 38414-24: 2000 DL-PCB: Making allowance for DIN 38407-3: 1998	☒	PI

Test Area 2: Eluates and Percolates, Aqueous Media
Section 2.1: Sampling and On-Site Examination

Sampling				
Test Parameters	**Methods/Notes**	**Method**	**Acc**	**Loc**
Sampling Programmes and Sampling Techniques		DIN EN ISO 5667-1: 2007	☒	PI, GE, HI, FG
Sampling of Groundwater	AQS Data Sheet P 8/2: 1996	ISO 5667-11: 2009 DIN 38402-13: 1985 DVGW Work Sheet S W 112: 2011	☒	PI, GE, HI, FG
Sampling of Seepage Water		No standardised method currently available Ggf. E-DWA-M 905: 2008	☒	PI, GE, HI
Sampling of Surface Water (Running Waters)	AQS Data Sheet P 8/3: 1998	DIN 38402-15: 2010	☒	PI, GE, HI, FG

Sampling				
Test Parameters	**Methods/Notes**	**Method**	**Acc**	**Loc**
Sampling of Surface Water (Barrages and Lakes)		DIN 38402-12: 1985	☒	PI, GE, HI, FG

On-Site Testing				
Test Parameters	**Methods/Notes**	**Method**	**Acc**	**Loc**
Colouring		DIN EN ISO 7887: 2012	☒	PI, GE, FG
Turbidity		DIN EN ISO 7027: 2000	☒	PI
Odour		DEV B1/2 1971	☒	PI, GE, HI, FG
Temperature		DIN 38404-4: 1976	☒	PI, GE, HI, FG
pH Value		DIN EN ISO 10523: 2012	☒	PI, GE, HI, FG
Oxygen Content		DIN EN 25814: 1992	☒	PI, GE, HI, FG
Electrical Conductivity		DIN EN 27888: 1993	☒	PI, GE, HI, FG
Redox Potential		DIN 38404-6: 1984	☒	PI, GE, HI, FG
Sample Storage, Sample Pretreatment, Sample Transport		DIN EN ISO 5667-3: 2004	☒	PI, GE, HI, FG

Section 2.2: Laboratory – Analysis of Eluates/Percolates for Inorganic Parameters

Eluates/Percolates				
Test Parameters	**Methods/Notes**	**Method**	**Acc**	**Loc**
Batch Test – Elution of Inorganic Substances		DIN 19529: 2009	☒	PI, HI, GE
Batch Test – Elution of Organic Substances		DIN 19527: 2012	☒	HI, GE

Eluates/Percolates				
Test Parameters	**Methods/Notes**	**Method**	**Acc**	**Loc**
Batch Test – Elution of Inorganic Substances – **optional**		DIN EN 12457-4: 2003	☒	PI, HI, GE, FG
Percolation Method for Organic and Inorganic Substances – **optional**		DIN 19528: 2009	☒	HI
Examination for Absorption Availability – **optional**		DIN 19738: 2004	☒	HI

Analysis – Inorganic Parameters				
Test Parameters	**Methods/Notes**	**Method**	**Acc**	**Loc**
Antimony (Sb) Arsenic (As)	ICP-OES	DIN EN ISO 11885: 2009	☒	PI
	ICP-OES	DIN ISO 22036: 2009	☒	PI
	ICP-MS	DIN EN ISO 17294-2: 2005	☒	PI
	ET-AAS or hydride AAS	DIN ISO 20280: 2010	☐	
Lead (Pb) Cadmium (Cd) Chromium (Cr), total Cobalt (Co) Copper (Cu) Molybdenum (Mo) Nickel (Ni) Zinc (Zn)	ET-AAS	DIN EN ISO 15586: 2004	☐	
	ICP-OES	DIN EN ISO 11885: 2009	☒	PI
	ICP-OES	DIN ISO 22036: 2009	☒	PI
	ICP-MS	DIN EN ISO 17294-2: 2005	☒	PI
Mercury (Hg)	AAS	DIN EN 1483: 2007	☒	PI
	Cold Vapour AAS or Cold Vapour AFS	DIN ISO 16772: 2005	☐	
Cyanide (CN-), total Cyanide, readily liberated	Spectrophotometry	DIN EN ISO 14403: 2002	☒	PI
		DIN 38405-13: 2011	☒	PI
		DIN EN ISO 17380: 2011	☒	PI
Fluoride, Chloride, Sulphate	Ion Chromatography	DIN EN ISO 10304-1:2009	☒	PI, HE
	Individual Method	DIN 38405-1, -4, -5: 1985	☐	FG, only D4

Analysis – Inorganic Parameters				
Test Parameters	**Methods/Notes**	**Method**	**Acc**	**Loc**
Vanadium (V) – **optional**	ET-AAS	DIN EN ISO 15586: 2004	☐	
	ICP-OES	DIN EN ISO 11885: 2009	☒	PI
	ICP-OES	DIN ISO 22036: 2009	☒	PI
	ICP-MS	DIN EN ISO 17294-2: 2005	☒	PI
Uranium (U) –**optional**	ICP-MS	DIN EN ISO 17294-2: 2005	☒	PI
Tin (Sn) Thallium (Tl) Tungsten (W) – **optional**	ICP-OES	DIN EN ISO 11885: 2009	☒	PI
	ICP-OES	DIN ISO 22036: 2009	☒	PI
	ICP-MS	DIN EN ISO 17294-2: 2005	☒	PI
Selenium (Se) – **optional**	ET-AAS	DIN EN ISO 15586: 2004	☐	
	ICP-OES	DIN EN ISO 11885: 2009	☒	PI
	ICP-OES	DIN ISO 22036: 2009	☒	PI
	ICP-MS	DIN EN ISO 17294-2: 2005	☒	PI
	ET-AAS or Hydride AAS	DIN ISO 20280: 2010	☐	
Chromium (Cr VI)	Spectrophotometry	DIN 38405-24: 1987	☒	PI
	Ion Chromatography	DIN EN ISO 10304-3: 1997	☐	

Section 2.3: Laboratory – Analysis of Eluates/Percolates for Organic Parameters

Eluates/Percolates				
Test Parameters	**Methods/Notes**	**Method**	**Acc**	**Loc**
Batch Test – Elution of Inorganic Substances		DIN 19529: 2009	☒	PI, HI, GE
Batch Test – Elution of Organic Substances		DIN 19527: 2012	☒	HI, GE
Batch Test – Elution of Inorganic Substances – **optional**		DIN EN 12457-4: 2003	☒	PI, HI, GE, FG
Percolation Method for Organic and Inorganic Substances – **optional**		DIN 19528: 2009	☒	HI
Examination for Absorption Availability – optional		DIN 19738: 2004	☒	HI

Analysis – Organic Parameters				
Test Parameters	**Methods/Notes**	**Method**	**Acc**	**Loc**
Aromatics (BTEX)	Purge + Trap / Desorption, GC-MS	DIN EN ISO 15680: 2004	☒	PI, GE
	Liquid Extraction and Headspace, GC	DIN 38407-9: 1991	☒	PI, HI
	Headspace-SPME, GC-MS	DIN 38407-41: 2011	☐	
Volatile Halogenated Hydrocarbons (VOC)	Purge + Trap / Desorption, GC-MS	DIN EN ISO 15680: 2004	☒	PI, GE
	Liquid Extraction and Headspace, GC	DIN EN ISO 10301: 1997	☒	PI, HI, GE
	Headspace-SPME, GC-MS	DIN 38407-41: 2011	☐	
Aldrin	GC-ECD, GC-MS	DIN EN ISO 6468: 1997	☒	PI
		DIN 38407-2: 1993	☒	PI
Dichlorodiphenyltrichloroethane (DDT)	GC-ECD, GC-MS	DIN EN ISO 6468: 1997	☒	PI
		DIN 38407-2: 1993	☒	PI
Chlorophenols	GC-ECD, GC-MS	DIN EN 12673: 1999	☒	PI
Chlorobenzenes (Cl3-Cl6)	GC-ECD, GC-MS	DIN 38407-2: 1993	☒	PI
	Liquid Extraction, GC-ECD, GC-MS	DIN EN ISO 6468: 1997	☒	PI
Chlorobenzenes (Cl1-Cl3)	Liquid Extraction and Headspace, GC-ECD, MS where applicable	DIN EN ISO 10301: 1997	☒	PI, GE
Polychlorinated Biphenyls (PCB)	GC-ECD, GC-MS Type of Summation (PCB6 / PCB7) must be specified	DIN 38407-2: 1993	☒	PI
		DIN 38407-3: 1998	☒	PI
16 PAH (EPA)	HPLC-F	DIN EN ISO 17993: 2004	☐	
	GC-MS	DIN 38407-39: 2011	☒	PI, GE
Naphthalene	GC-FID, GC-MS	DIN EN ISO 15680: 2004	☒	GE
		DIN 38407-9: 1991	☒	PI
Petroleum hydrocarbons (C10-C40)	GC-FID	DIN EN ISO 9377-2: 2001	☒	PI, HI, GE
Typical Explosive Compounds (HPLC) – **optional**	HPLC / UV Detection	DIN EN ISO 22478: 2006	☒	PI

Analysis – Organic Parameters				
Test Parameters	**Methods/Notes**	**Method**	**Acc**	**Loc**
Typical Explosive Compounds (GC) – **optional**	Determination of Selected Nitroaromatic Compounds using GC	DIN 38407-17: 1999	☒	PI
Phenols – **optional**	GC-ECD, GC-MS	ISO 8165-2: 1999	☒	PI
		DIN EN 12673: 1999	☒	PI

Test area 3 – Soil Gas, Landfill Gas
Section 3.1: Sampling and On-Site Examination

Sampling				
Test Parameters	**Methods/Notes**	**Method**	**Acc**	**Loc**
Pile Core Probing		DIN ISO 10381-2: 2003 DIN EN ISO 22475-1: 2007	☐	
Sampling of Soil Gas		VDI 3865 Blatt 2: 1998 VDI 3865 Blatt 1: 2005 DIN ISO 10381-7: 2007	☒	PI, GE

On-Site Testing				
Test Parameters	**Methods/Notes**	**Method**	**Acc**	**Loc**
Carbon Dioxide (CO_2)	Direct-display Instrument		☒	GE
Methane (CH_4)	Direct-display Instrument		☒	GE
Hydrogen Sulphide (H_2S)	Direct-display Instrument		☒	GE
Oxygen (O_2)	Direct-display Instrument		☒	GE
Sum Parameter Trace Gases	Direct-display Instrument		☒	GE

Section 3.2: Laboratory – Analysis of Soil Gas, Landfill Gas

Test Parameters	**Methods/Notes**	**Method**	**Acc**	**Loc**
Aromatics (BTEX)		VDI 3865 Blatt 3: 1998	☒	PI
		VDI 3865 Blatt 4: 2000	☐	
Volatile Halogenated Hydrocarbons (VOC)		VDI 3865 Blatt 3: 1998	☒	PI
		VDI 3865 Blatt 4: 2000	☐	

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Test Area 1: Sewage Sludge

	Sections / Parameter	**Basis /** Method	**Accr.**	**Location**
		AbfKlärV		
1.1	**Sampling and sample preparation**	**§ 32 Abs. 3 and 4 AbfKlärV**	☒	PI, HI, GE
a)	**Sampling**	**DIN EN ISO 5667-13 (08.11) and DIN 19698-1 (05.14)**	☒	PI, HI, GE
b)	**Sample preparation**	**DIN 19747 (07.09)**	☒	PI, HI, GE, FG
1.2	**Heavy Metals and chrome VI** [1]	**§ 5 Annex 1 Number 1 AbfKlärV**	☒	PI
	Heavy Metals		☒	PI
	Aqua Regia Digestion	**DIN EN 16174 (11.12)**	☒	PI, HI
		DIN EN 16174 method A (11.12)	☒	PI, HI
		DIN EN 13346 method A (04.01)	☒	PI, HI
	Arsenic, lead, cadmium, chrome, copper, nickel, zinc, iron (from Aqua Regia Digestion)	**DIN EN ISO 11885 (09.09)**	☒	PI
		DIN ISO 11047 (05.03)	☐	
		DIN EN ISO 17294-2 (01.17)	☒	PI
		DIN EN 16170 (01.17)	☐	
		DIN EN 16171 (01.17)	☒	PI
		CEN/TS 16172; DIN SPEC 91258 (04.13)	☐	
		DIN ISO 22036 (06.09)	☒	PI
	Thallium (from Aqua Regia Digestion)	**DIN EN ISO 11885 (09.09)**	☒	PI
		DIN ISO 11047 (05.03)	☐	
		DIN EN ISO 17294-2 (01.17)	☒	PI
		DIN 38406-26 (07.97)	☐	
		DIN EN 16170 (01.17)	☐	
		DIN EN 16171 (01.17)	☒	PI
		CEN/TS 16172; DIN SPEC 91258 (04.13)	☐	
		DIN ISO 22036 (06.09)	☒	PI

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

	Quicksilver (from Aqua Regia Digestion)	**DIN EN ISO 17852 (04.08)**	☐	
		DIN EN 16175-1 (12.16)	☐	
		DIN EN 16175-2 (12.16)	☐	
		DIN EN 16171 (01.17)	☒	PI
		DIN EN 12846 (08.12)	☒	PI
	Chrome VI (from alkaline hot extract)[2]	**DIN EN 16318 (07.16)**	☒	PI, GE
		DIN EN 15192 (02.07)	☐	
		DIN 10304-3 (11.97)[3]	☐	
		DIN EN ISO 17294-2 (01.17)[3]	☐	

1.3	**Adsorbed Organic Bound Halogens**	**§ 5 Annex 1 No. 2 AbfKlärV**	☐	
	AOX (from Dry Residue)	**DIN 38414-18 (11.89)**	☐	
		DIN EN 16166 (11.12)	☐	

1.4	**Physical Parameters, Nutrients**	**§ 5 Abs. 1 Nrn. 3 - 9 AbfKlärV**	☒	PI
	Dry Residue	**DIN EN 15934 (11.12)**	☒	PI, HI, GE, FG
		DIN EN 12880 (02.01)	☒	PI, HI, GE, FG
	Organic Substance as loss on Ognition (from Dry Residue)	**DIN EN 15935 (11.12)**	☒	PI, HI, GE, FG
		DIN EN 12879 (02.01)	☒	PI, HI, GE, FG
	pH Value	**DIN EN 15933 (11.12)**	☒	PI, HI, GE, FG
		DIN 38414-5 (07.09)	☒	PI, HI, GE, FG
	Alkaline Agents as CaO	**Methodbook of VDLUFA Band II.2, method 4.5.1**	☒	PI
	Ammonium Nitrogen (NH_4-N)	**DIN 38406-5 (10.83)**	☒	PI
	Total Nitrogen (N_{total})	**DIN EN 13342 (01.01)**	☒	PI
		DIN EN 16169 (11.12)	☒	PI
		DIN ISO 11261 (05.97)	☒	PI
	Aqua Regia Digestion	**DIN EN 16174 (11.12)**	☒	PI, HI
		DIN EN 13346 Verfahren A (04.01)	☒	PI, HI

[2] For the alkaline hot extract the method according to DIN EN 16318 or DIN EN 15192 is appropiate.

[3] Instead of post column derviatisation with 1,5-Diphenylcarbazid the determiation of Cr (VI) can be carried out after the ion chromatographic separation according to DIN 10304-6 with coupling of ICP-MS detectionon on the basis of DIN EN ISO 17294-2.

	Phosphorus (P) (from Aqua Regia Digestion) (Conversion: Phosphorus (P) = 2,291 for phosphorus pentoxide (P_2O_5))	**DIN EN ISO 11885 (09.09)**	☒	PI
		DIN EN ISO 6878 (09.04)	☐	
		DIN EN ISO 17294-2 (01.17)	☒	PI
		DIN EN 16171 (01.17)	☒	PI
		DIN EN 16170 (01.17)	☐	
	Persistent Organic Pollutants:	**§ 5 Abs. 2 Nrn. 1 – 4 AbfKlärV**	☒	PI
1.5	**Polychloridized biphenyl (PCB)**	**DIN 38414-20 (01.96)**	☒	PI, HI, GE
		DIN EN 16167 (11.12)	☒	PI,HI
1.6	**Polychlorinated dibenzofuranes and -furane (PCDD/PCDF) as well as polychlorinated dioxin-like biphenyls (dl-PCB))**	**DIN CEN/TS 16190; DIN SPEC 91267 (05.12)**	☐	
		DIN 38414-24 (10.00)	☒	PI
1.7	**Benzo(a)pyrene (B(a)P)**	**DIN EN 15527 (09.08)**	☒	PI, HI, GE
		DIN 38414-23 (02.02)	☐	
		DIN CEN/TS 16181; DIN SPEC 91243 (12.13)	☒	PI, HI
1.8	**Polyfluorinated compounds (PFC) with the singular substances Perfluoroctanacid and Perfluoroctansulfonacid (PFOA/PFOS)**	**DIN 38414-14 (08.11)**	☒	PI

Test Area 2: Base

	Section / Parameter	**Basis/** Method	**Accr.**	**Location**
		AbfKlärV and BioAbfV		
2.1	**Sampling and sample preparation**	**§ 32 Abs. 2 AbfKlärV and § 9 BioAbfV**	☐	
a)	**Sampling**	**DIN ISO 10381-1 (08.03) and DIN ISO 10381-4 (04.04)**	☐	
b)	**Sample preparation**	**DIN ISO 19747 (07.09)**	☒	PI, HI, GE, FG

2.2	**Heavy metal**	**§ 4 Abs. 1 AbfKlärV § 9 Abs. 2 BioAbfV**	☒	PI
	Aqua Regia Digestion	**DIN EN 16174 (11.12)**	☒	PI, HI
		DIN EN 13657 (01.03)	☒	PI, HI
	Lead, Cadmium, Chromium, copper, nickel, zinc (from aqua regia digestion)	**DIN ISO 11047 (05.03)**	☐	
		DIN EN ISO 17294-2 (01.17)	☒	PI
		DIN ISO 22036 (06.09)	☒	PI
		DIN EN 16170 (01.17)	☐	
		DIN EN 16171 (01.17)	☒	PI
		DIN EN ISO 11885 (09.09)	☒	PI
	Quicksilver (from aqua regia digestion)	**DIN ISO 16772 (06.05)**	☒	PI
		DIN EN 12846 (08.12)	☒	PI
		EN 16175-1 (12.16)	☐	
		EN 16175-2 (12.16)	☐	
		DIN EN 16171 (01.17)	☒	PI
		DIN EN ISO 17852 (04.08)	☐	
2.3	**Physical Parameters, Phosphate**	**§ 4 Para. 1 AbfKlärV § 9 Para. 2 BioAbfV**	☒	PI
	Phosphate (from CAL/DL-extract; P- Quantification convert to o-phosphate)	**VDLUFA-methodbook, Volume I, Method A 6.2.1.1 (6. Teillfg. 2012)**	☒	PI
		VDLUFA-methodbook, Volume I, Method A 6.2.1.2 (bed-plate)	☒	PI
		DIN EN ISO 10304-1 (07.09)	☐	
		DIN ISO 22036 (06.09)	☒	PI
	soil texture (clay content)	**DIN 19682-2 (07.14)**	☐	
		DIN 18123 (04.11)	☒	PI
	pH-value	**DIN EN 15933 (11.12)**	☒	PI, HI, GE, FG
		ISO 10390 (02.05)	☒	PI, HI, GE, FG
		VDLUFA-methodbooks I, A 5.1.1	☒	PI
	Dry residue	**DIN EN 15934 (11.12)**	☒	PI, HI, GE, FG
		DIN EN 12880 (02.01)	☒	PI, HI, GE, FG

	Organic substance	**§ 4 Annex 2 AbfKlärV**	☒	PI
2.4	**Polychloridized biphenyl (PCB)**	**DIN ISO 10382 (05.03)**	☒	PI, HI
		DIN EN 16167 (11.12)	☒	PI,HI
2.5	**Benzo(a)pyrene (B(a)P)**	**DIN ISO 18287 (05.06)**	☒	PI, HI, GE
		DIN CEN TS 16181; DIN SPEC 91243 (12.13)	☒	PI, HI
		DIN 38414-23 (02.02)	☐	

Test Area 3: Biowaste

	Sections/ Parameter	**Basis/** Method	**Acc**	**Location**
		§ 4 BioAbfV		
3.1	**Sampling and sample preparation**	**§ 4 Abs. 9 BioAbfV**	☒	GE, PI
a)	**Sampling**	**DIN EN 12579 (01.00) and DIN 51750-1 (12.90) and DIN 51750-2 (12.90) and** DIN EN ISO 5667-13 (08.11)	☒	GE, PI
b)	**Sample preparation**	DIN 19747 (07.09) In conjunction with annex 3 point 3.3	☒	GE, PI
		DIN EN 13040 (02.07)	☒	PI, HI, GE, FG
3.2	**Heavy metals**	**§ 4 Abs. 5 BioAbfV**		
	Aqua Regia Digestion	**DIN EN 13650 (01.02)**	☒	PI
		DIN EN 16174 (11.12)	☒	PI, HI
		DIN EN 13657 (01.03)	☒	PI, HI
		DIN EN 13346 (04.01)	☒	PI, HI
	Lead (from Aqua Regia Digestion)	**DIN 38406-6 (07.98)**	☐	
		DIN ISO 11047 (05.03)	☐	
		DIN EN ISO 11885 (04.98)	☐	
		DIN EN ISO 17294-2 (02.05)	☒	PI
		DIN EN ISO 11885 (09.09)	☒	PI
		DIN EN ISO 22036 (06.09)	☒	PI

	Cadmium (from Aqua Regia Digestion)	**DIN EN ISO 5961 (05.95)**	☐	
		DIN ISO 11047 (05.03)	☐	
		DIN EN ISO 11885 (04.98)	☐	
		DIN EN ISO 17294-2 (02.05)	☒	PI
		DIN EN ISO 17294-2 (01.17)	☒	PI
		DIN EN ISO 11885 (09.09)	☒	PI
		DIN EN ISO 22036 (06.09)	☒	PI
	Chromium (from Aqua Regia Digestion)	**DIN EN 1233 (08.96)**	☐	
		DIN ISO 11047 (05.03)	☐	
		DIN EN ISO 11885 (04.98)	☐	
		DIN EN ISO 17294-2 (02.05)	☒	PI
		DIN EN ISO 17294-2 (01.17)	☒	PI
		DIN EN ISO 11885 (09.09)	☒	PI
		DIN EN ISO 22036 (06.09)	☒	PI
	Copper (from Aqua Regia Digestion)	**DIN 38406-7 (09.91)**	☐	
		DIN ISO 11047 (05.03)	☐	
		DIN EN ISO 11885 (04.98)	☐	
		DIN EN ISO 17294-2 (02.05)	☒	PI
		DIN EN ISO 17294-2 (01.17)	☒	PI
		DIN EN ISO 11885 (09.09)	☒	PI
		DIN EN ISO 22036 (06.09)	☒	PI
	Nickel (from Aqua Regia Digestion)	**DIN 38406-11 (09.91)**	☐	
		DIN ISO 11047 (05.03)	☐	
		DIN EN ISO 11885 (04.98)	☐	
		DIN EN ISO 17294-2(02.05)	☒	PI
		DIN EN ISO 17294-2 (01.17)	☒	PI
		DIN EN ISO 11885 (09.09)	☒	PI
		DIN EN ISO 22036 (06.09)	☒	PI
	Quicksilver (fromAqua Regia Digestion)	DIN EN 1483 (07.07)	☒	PI
		DIN EN 12338 (10.98)	☐	
		DIN EN 12846 (08.12)	☒	PI

	Zinc (from Aqua Regia Digestion)	**DIN 38406-8 (10.04)**	☐	
		DIN ISO 11047 (05.03)	☐	
		DIN EN ISO 11885 (04.98)	☐	
		DIN EN ISO 17294-2 (02.05)	☒	PI
		DIN EN ISO 17294-2 (01.17)	☒	PI
		DIN EN ISO 11885 (09.09)	☒	PI
		DIN EN ISO 22036 (06.09)	☒	PI
3.3	**Physical parameters, foreign matter**	**§ 4 Abs. 5 BioAbfV**		
	Dry Residue	**DIN EN 13040 (02.07)**	☒	PI, HI, GE, FG
		DIN EN 13040 (01.08)	☒	PI, HI, GE, FG
	pH-value	**DIN EN 13037 (02.00)**	☐	
		DIN EN 13037 (01.12)	☒	PI, GE
	Salt Content	**DIN EN 13038 (02.00)**	☐	
		DIN EN 13038 (01.12)	☒	PI, GE
	Organic Substance as loss on Ignition (from dry residue)	**DIN EN 13039 (02.00)**	☒	PI,GE
	Stones and foreign matter	**Annex 3 BioAbfV, Nr. 3.3 methodbook for analysis of organic fertilizer, soil conditioner and substrate of the Bundesgütegemeinschaft Kompost e.V.**	☒	PI, GE
3.4	**Process Inspection**	**§ 3 Para. 4 BioAbfV**		
	Determination of Minimum Holding Time			
	Tracer Test with Spores of Bacillus globigii	**Annex 2 BioAbfV**	☐	
	Tracer Test with Lithium	**Annex 2 BioAbfV**	☐	
	Epidemic Hygiene			
	Salmonella senftenberg W 775 (H2S-neg.)	**Annex 2 BioAbfV**	☐	
	Phyto hygiene			
	Plasmodiophora brassicae (Clubroot)	**Annex 2 BioAbfV**	☐	
	Tomato Seeds		☐	

	Tabacco Mosaic Virus (TMV)		☐	
3.5	**Testing of Sanitised Biowaste**	**§ 3 Para.4 BioAbfV**		
	Disease hygiene			
	Salmonella	**Annex 2 BioAbfV**	☒	HH
	Phyto hygiene			
	Viable Seeds and Parts of Plants capable of Producing Shoots	**Annex 2 BioAbfV**	☒	PI, GE

Test Area 4: Waste Oil, Insulating Liquid

	Sections/ Parameter	**Basis/** Method	**Acc**	**Location**
		§ 5 Abs. 3 AltölV		
4.1	**Sampling**	**Annex 2 No. 1**		
		DIN 51750- 1 (08.83)	☐	
		DIN 51750- 1 (12.90)	☐	
		DIN 51750- 2 (03.84)	☐	
		DIN 51750- 2 (12.90)	☐	
4.2	**PCB, Halogen (only in accordance with AltölV)**	**Annex 2 No. 2, 3**		
	PCB	**DIN EN 12 766-1 (11.00) in conjunction with DIN EN 12 766- 2 (12.01), method B**	☒	GE
	Total Halogen (for AltölV only)	**Annex 2, No. 3 AltölV**	☒	GE

Test area 5: Waste for Depostion

	Sections/ Parameter	**Basis/** Method	**Acc**	**Location**
		§ 6 Para. 2, § 8 Para. 1, 3 and 5 DepV		
5.1	**Sampling**	**LAGA PN 98 (12.01)**	☒	FG, GE, HI, PI
5.2	**Determination of the total content in solid materials**			
	Sample Preparation	**DIN 19747 (07.09)**	☒	FG, GE, HI, PI

	Digestion Method (aqua regia)	**DIN EN 13657 (01.03)**	☒	PI, HI
	Loss on Ignition	**DIN EN 15169 (05.07)**	☒	PI, GE, HI, FG
	TOC (Total organic carbon)	**DIN EN 13137 (12.01)**	☒	PI, GE
	BTEX (Benzene and Derivatives)	**DIN 38407-F9 (05.91) Handbuch Altlasten HLUG, Volume 7, analyse method, part 4 (2000)**	☒	GE, PI, HI
		DIN EN ISO 22155 (07.16)	☒	PI, HI, GE
	PCB (Polychlorinated Biphenyls)	**DIN EN 15308 (05.08)**	☒	PI, HI, GE
	Petroleum Hydrocarbons	**DIN EN 14039 (01.05) i. V. with LAGA KW/04 (12.09)**	☒	PI, HI, GE
	PAK (Polycyclic Aromatic Hydrocarbons)	**DIN ISO 18287 (05.06)**	☒	PI, HI, GE
	Density	**DIN 18125-2 (03.11)**	☒	GE
	Gross Calorific Value	**DIN EN 15170 (05.09)**	☒	HE
	Cadmium, chromium, nickel, lead and zinc	**DIN ISO 11047 (05.03)**	☐	
		DIN EN ISO 11885 (09.09)	☒	PI
		DIN ISO 22036 (06.09)	☒	PI
	Quicksilver	**DIN EN 12846 (08.12)**	☒	PI
		DIN EN ISO 17852 (04.08)	☐	
	Extractable lipophilic substances	**LAGA KW/04 (12.09)**	☒	PI, HI, GE
5.3	**Determination eluat content**			
	Preparation of eluates with a liquid to solid ratio of 10/1	**DIN EN 12457- 4 (01.03)**	☒	FG, GE, HI, PI
	Preparation of eluates with a constant pH-value of 4 and 11 / acid neutralisation capacity	**LAGA-guideline EW 98 (2002)**	☒	GE, HI, PI, FG
	Up-flow Percolation test	**DIN CEN/TS 14405 (09.04)**	☐	
		DIN 19528 (01.09)	☒	HI
	pH-value of eluate	**DIN 38404- 5 (07.09)**	☒	PI, HI, GE, FG
	DOC	**DIN EN 1484 (08.97)**	☒	PI, GE
	DOC of a pH-value between 7,5 and 8	**LAGA-guideline EW 98 p (2002)**	☐	
	Phenols	**DIN 38409- 16 (06.84)**	☒	PI
		DIN EN ISO 14402 (12.99)	☒	PI
		DIN 38407- 27 (10.12)	☒	PI

	Arsenic	**DIN EN ISO 11969 (11.96)**	☐	
		DIN EN ISO 11885 (09.09)	☒	PI
		DIN ISO 22036 (06.09)	☒	PI
		DIN EN ISO 15586 (02.04)	☐	
		DIN EN ISO 17294- 2 (02.05)	☒	PI
		DIN EN ISO 17294-2 (01.17)	☒	PI
	Lead, cadmium, copper, nickel, zinc, chromium	**DIN EN ISO 15586 (02.04)**	☐	
		DIN EN ISO 17294- 2 (02.05)	☒	PI
		DIN EN ISO 11885 (09.09)	☒	PI
		DIN ISO 22036 (06.09)	☒	PI
		DIN EN ISO 17294-2 (01.17)	☒	PI
	Quicksilver	**DIN EN 12846 (08.12)**	☒	PI
		DIN EN ISO 17852 (04.08)	☐	
	Barium, Molybdenum, Selenium	**DIN ISO 22036 (06.09)**	☒	PI
		DIN EN ISO 11885 (09.09)	☒	PI
		DIN EN ISO 17294- 2 (02.05)	☒	PI
		DIN EN ISO 17294-2 (01.17)	☒	PI
	Antimony	**DIN ISO 22036 (06.09)**	☒	PI
		DIN EN ISO 11885 (09.09)	☒	PI
		DIN EN ISO 15586 (02.04)	☐	
		DIN 38405- 32 (05.00)	☐	
		DIN EN ISO 17294- 2 (02.05)	☒	PI
		DIN EN ISO 17294-2 (01.17)	☒	PI
	Total dissolved solids	**DIN EN 15216 (01.08)**	☒	PI, GE, HI
		DIN 38409- 1 (01.87)	☒	PI, HI, GE, FG
		DIN 38409- 2 (03.87)	☒	PI, HI, GE, FG
	Conductivity of eluate	DIN EN 27888 (C 8) (11.93)	☒	PI, HI, GE, FG
	Determination of dry residue	**DIN EN 14346 (03.07)**	☒	PI, HI, GE, FG

	Chloride	**DIN EN ISO 10304- 1 (07.09)**	☒	PI, HE
		DIN 38405- 1 (12.85)	☐	
		DIN EN ISO 15682 (01.02)	☐	
	Sulfate	DIN EN ISO 10304-1 (D20) (07.09)	☒	PI, HE
		DIN 38405-D 5(01.85)	☐	
	Cyanide, easily liberatable	**DIN 38405- 13 (04.11)**	☒	PI
		In waste containing sulfide: DIN ISO 17380 (05.06)	☒	PI
		DIN EN ISO 14403- 1 (10.12)	☐	
	Fluoride (from eluate)	DIN 38405-4 (07.85)	☒	PI, HE, FG
		DIN EN ISO 10304 (07.09)	☒	PI, HE
5.4	**Biodegradability of dry residue in the original substance**	**Annex 4 No. 3.3 DepV**		
	Breathability over 4 Days (AT4)	**Annex 4 No. 3.3.1 DepV**	☒	GE
	Gas Formation Rate over 21 Days (GB21)	**Annex 4 No. 3.3.2 DepV**	☒	GE

Test Area 6: Wood Waste

	Section/ Parameter	**Basis/** Method	**Acc**	**Standort**
		AltholzV		
6.1	**Sampling, Sample Preparation**	**§ 6 Para. 6 AltholzV**		
a)	Sampling	LAGA PN 98 in conjunction with **Annnex IV Nr. 1.1 AltholzV**	☒	FG, GE, HI, PI
	Sample Preparation	DIN 19747 (07.09) in conjunction with **Annex IV Nr. 1.3**	☒	HI, GE
	Preparation of Laboratory Sample	DIN 19747 (07.09) in conjunction with **DIN 51701- 3 (08.85)**	☒	HI, GE
	Moisture Content	DIN 52183 (11.77)	☒	PI, HI, GE, FG
6.2	**Heavy metals**	**Annex IV No. 1.4.3 AltholzV**		
	Aqua Regia Digestion	**E DIN EN 13657 (10.99)**	☒	PI, HI
		DIN EN 13657 (01.03)	☒	PI, HI

	Arsenic (from Aqua regia digestion)	**DIN EN ISO 11969 (11.96)**	☐	
		DIN ISO 11047 (05.03)	☐	
		DIN EN ISO 11885 (09.09)	☒	PI
		DIN EN ISO 22036 (06.09)	☒	PI
		DIN EN ISO 17294-2 (01.17)	☒	PI
	Lead (from Aqua regia digestion)	**DIN 38406-6 (07.98)**	☐	
		DIN EN ISO 11885 (04.98)	☐	
		DIN ISO 11047 (05.95)	☐	
		DIN ISO 11047 (05.03)	☐	
		DIN EN ISO 17294-2 (01.17)	☒	PI
		DIN EN ISO 11885 (09.09)	☒	PI
		DIN EN ISO 22036 (06.09)	☒	PI
	Cadmium (from Aqua regia digestion)	**DIN EN ISO 5961 (05.95)**	☐	
		DIN EN ISO 11885 (04.98)	☐	
		DIN ISO 11047 (06.95)	☐	
		DIN ISO 11047 (05.03)	☐	
		DIN EN ISO 17294-2 (01.17)	☒	PI
		DIN EN ISO 11885 (09.09)	☒	PI
		DIN EN ISO 22036 (06.09)	☒	PI
	Chromium (from Aqua regia digestion)	**DIN EN 1233 (08.96)**	☐	
		DIN EN ISO 11885 (04.98)	☐	
		DIN ISO 11047 (06.95)	☐	
		DIN ISO 11047 (05.03)	☐	
		DIN EN ISO 17294-2 (01.17)	☒	PI
		DIN EN ISO 11885 (09.09)	☒	PI
		DIN EN ISO 22036 (06.09)	☒	PI
	Copper (from Aqua regia digestion)	**DIN 38406-7 (09.91)**	☐	
		DIN EN ISO 11885 (04.98)	☐	
		DIN ISO 11047 (06.95)	☐	
		DIN ISO 11047 (05.03)	☐	
		DIN EN ISO 17294-2 (01.17)	☒	PI
		DIN EN ISO 11885 (09.09)	☒	PI

		DIN EN ISO 22036 (06.09)	☒	PI
	Quicksilver (from Aqua regia digestion)	DIN EN 1483 (08.97)	☐	
		DIN EN ISO 12338 (10.98)	☐	
		DIN EN 12846 (08.12)	☒	PI
		DIN EN ISO 17852 (04.08)	☐	
6.3	**Halogen**	**Annex IV No. 1.4.2 AltholzV**		
	Fluorine, Chlorine	DIN 51727 (06.01)	☒	HE
		DIN 51727 (11.11)	☒	HE
		DIN EN 14582 (06.07) **in conjunction with DIN EN ISO 10304- 1 (04.95)**	☒	HE
		DIN EN ISO 10304-1 (07.09)	☒	HE
6.4	**Organic Parameters**	**Annex IV No. 1.4.4 and 1.4.5 AltholzV**		
	Pentachlorphenol (PCP)	**Annex IV AltholzV, No. 1.4.4**	☒	PI,GE
		DIN ISO 14154 (12.05)	☒	PI,GE
	Polychlorinated Biphenyls (PCB)	**Annex IV AltholzV, No. 1.4.5 In conjunction with DIN 38414- 20 (01.96)**	☒	PI, GE

13 Test Methods in Accordance with the German Drinking Water Ordinance – TrinkwV –

Sampling

Parameter	Method	Location
DIN EN ISO 5667-01 (A4) 2007-04	Guidance on the design of sampling programmes and sampling techniques	PI, HI, GE, HE, HH, FG
DIN EN 5667-5 (A14) 2011-02	Guidance on sampling of drinking water from treatment works and piped distribution systems	PI, HI, GE, HE, HH, FG
DIN EN ISO 5667-3 (A21) 2013-03	Preservation and handling of water samples	PI, HI, GE, HE, HH, FG
DIN EN ISO 19458 (K 19) 2006-12	Water quality – Sampling for microbiological analysis	PI, HI, GE, HE, HH, FG
Bundesgesundheitsblatt – Gesundheitsforschung – Gesundheitsschutz 2004 47: 296-300	Assessment of the quality of drinking water with respect to the parameter lead, copper and nickel	PI, HI, GE, HE, HH, FG

ANNEX 1: MICROBIOLOGICAL PARAMETERS

PART I: General Requirements for Drinking Water

Seq. no.	Parameter	Method	Location
1	Escherichia coli (E. coli)	DIN EN ISO 9308-1 (K12) 2017-09	HH
		DIN EN ISO 9308-02 (K 6-1) 2014-06	HH
2	Enterococci	DIN EN ISO 7899-2 (K 15) 2000-11	HH

PART II: Requirements for drinking water intended for transfer in sealed containers

Seq. no.	Parameter	Method	Location
1	Escherichia coli (E. coli)	DIN EN ISO 9308-1 (K12) 2017-09	HH
		DIN EN ISO 9308-02 (K 6-1) 2014-06	HH
2	Enterococci	DIN EN ISO 7899-2 (K 15) 2000-11	HH
3	Pseudomonas aeruginosa	DIN EN ISO 16266 (K 11) 2008-05	HH

ANNEX 2: CHEMICAL PARAMETERS

PART I: Chemical Parameters whose Concentration does not usually increase in the Distribution Network, including the Building Installation

Seq. no.	Parameter	Method	Location
1	Acrylamide	DIN 38413-P6 2007-02	PI
2	Benzene	DIN 38407-F 9-1 1991-05 DIN 38407-F43 2014-10 DIN EN ISO 15680 (F 19) 2004-04	PI, GE **PI** GE
3	Boron	DIN EN ISO 11885 (E 22) 2009-09 DIN EN ISO 17294-2 (E29) 2005-02	PI
4	Bromate	DIN EN ISO 15061 (D 34) 2001-12	PI
5	Chromium	DIN EN ISO 11885 (E 22) 2009-09 DIN EN ISO 17294-2 (E29) 2005-02	PI
6	Cyanide	DIN EN ISO 14403-2 (D 3) 2012-10	PI
7	1,2-Dichloroethane	DIN EN ISO 10301 (F4) 1997-08 DIN 38407-F43 2014-10	PI, GE PI
8	Fluoride	DIN 38405-D 4 1985-07 DIN EN ISO 10304-1 (D20) 2009-07	PI, FG PI, HE
9	Nitrate	DIN EN ISO 10304-1 (D20) 2009-07 DIN EN ISO 13395 (D28) 1996-12	PI, HE PI

Seq. no.	Parameter	Method	Location
10	Plant Protection Product Agents and Biocidal Products	DIN 38407-F35 2010-10 DIN EN ISO 10695 (F6) 2000-12 DIN 38407-F36 2014-09 DIN 38407-F37 2013-11 ISO 16308 2014-09	PI PI PI PI PI
11	Plant Protection Product Agents and Total Biocidal Products	DIN 38407-F35 2010-10 DIN EN ISO 10695 (F6) 2000-12 DIN 38407-F36 2014-09 DIN 38407-F37 2013-11 ISO 16308 2014-09	PI PI PI PI PI
12	Mercury	DIN EN ISO 12846 (E12) 2012-08 DIN EN ISO 17294-2 (E29) 2005-02	PI
13	Selenium	DIN EN ISO 11885 (E 22) 2009-09 DIN EN ISO 17294-2 (E29) 2005-02	PI
14	Tetrachloroethene and Trichloroethylene	DIN EN ISO 10301 (F4) 1997-08 DIN 38407-F43 2014-10	PI, GE PI
15	Uranium	DIN EN ISO 17294-2 (E 29) 2005-02 DIN EN ISO 17294-2 (E 29) 2017-01	PI

PART II: Chemical Parameters whose Concentration may increase in the Distribution Network, including the House Installation

Seq. no.	Parameter	Method	Location
1	Antimony	DIN EN ISO 11885 (E 22) 2009-09 DIN EN ISO 17294-2 (E29) 2005-02	PI
2	Arsenic	DIN EN ISO 11885 (E 22) 2009-09 DIN EN ISO 17294-2 (E29) 2005-02	PI
3	Benzo[a]pyrene	DIN 38407-F 39 2011-09 DIN ISO 28540 (F 40) 2014-05	PI, GE PI
4	Lead	DIN EN ISO 11885 (E 22) 2009-0 DIN EN ISO 17294-2 (E29) 2005-02	PI
5	Cadmium	DIN EN ISO 11885 (E 22) 2009-09 DIN EN ISO 17294-2 (E29) 2005-02	PI
6	Epichlorohydrin	DIN EN 14207 (P9) 2003-09	PI
7	Copper	DIN EN ISO 11885 (E 22) 2009-09 DIN EN ISO 17294-2 (E29) 2005-02	PI
8	Nickel	DIN EN ISO 11885 (E 22) 2009-09 DIN EN ISO 17294-2 (E29) 2005-02	PI
9	Nitrite	DIN EN ISO 13395 (D28) 1996-12 DIN EN ISO 10304-1 (D20) 2009-07	PI HE
10	Polycyclic Aromatic Hydrocarbons	DIN 38407-F 39 2011-09 DIN ISO 28540 (F 40) 2014-05	PI, GE PI
11	Trihalomethanes	DIN EN ISO 10301 (F4) 1997-08 DIN 38407-F43 2014-10	PI, GE PI

Seq. no.	Parameter	Method	Location
12	Vinyl chloride	DIN EN ISO 15680 (F19) 2004-04 DIN 38407-F43 2014-10	GE PI

ANNEX 3: INDICATOR PARAMETERS

Part I: General Indicator Parameters

Seq. no.	Parameter	Method	Location
1	Aluminium	DIN EN ISO 11885 (E 22) 2009-09 DIN EN ISO 17294-2 (E29) 2005-02	PI
2	Ammonia	DIN EN ISO 11732 (E 23) 2005-05	PI, GE
3	Chloride	DIN EN ISO 10304-1 (D 20) 2009-07	PI, HE
4	Clostridium Perfringens (including Spores)	DIN EN ISO 14189 2016-11	HH
5	Coliform Bacteria	DIN EN ISO 9308-1 (K 12) 2017-09 DIN EN ISO 9308-2 (K 6-1) 2014-06	HH
6	Iron	DIN EN ISO 11885 (E 22) 2009-09 DIN EN ISO 17294-2 (E29) 2005-02	PI
7	Colouring (Spectral Absorption Coefficient Hg 436 nm)	DIN 38404-C 3 2005-07 DIN EN ISO 7887 (C 1) 2012-04	PI
8	Odour (as TON)	DIN EN 1622–B 3 2016-10	PI
9	Taste	DEV-B1/2 Part a 1971	PI, HI
10	Colony Count at 22 °C	TrinkwV § 15 Annex (1c)	HH
		DIN EN ISO 6222 (K 5) 1999-07	HH
11	Colony Count at 36 °C	TrinkwV § 15 Annex (1c)	HH
		DIN EN ISO 6222 (K 5) 1999-07	HH
12	Electrical Conductivity	DIN EN 27888-C 8 (1993-11)	PI, HI, GE, FG, HH, HE
13	Manganese	DIN EN ISO 11885 (E 22) 2009-09 DIN EN ISO 17294-2 (E29) 2005-02	PI
14	Sodium	DIN EN ISO 11885 (E 22) 2009-09 DIN EN ISO 17294-2 (E29) 2005-02	PI
15	Organically Bound Carbon (TOC)	DIN EN 1484 (H3) 1997-08	PI, GE
16	Oxidisability	DIN EN ISO 8467 (H5) 1995-05	PI, FG
17	Sulphate	DIN EN ISO 10304-1 (D 20) 2009-07	PI, HE
18	Turbidity	DIN EN ISO 7027-C 2 2000-04	PI
19	Hydrogen Ion Concentration	DIN EN ISO 10523 (C5) 2012-04	PI, HI, GE, FG, HH, HE
20	Calcite Dissolving Capacity	DIN 38404-C10 2012-10	PI, GE

Part II: Specific Requirements for Drinking Water in Systems in the Drinking Water Installation

Parameter	Method	Location
Legionella spec.	ISO 11731 2017-05,	HH
	ISO 11731 1998-05 (withdrawn) DIN EN ISO 11731 (K 22) 2008-06 UBA Recommendation 2012-08 Usable until 28.02.2019	HH

Annex 3a: Requirements for Drinking Water with Regard to Radioactive Substances
not used

Parameters not included in Annexes 1 to 3 of the German Drinking Water Ordinance
Additional Periodic Testing

Parameter	Method	Location
Calcium	DIN EN ISO 11885 (E 22) 2009-09 DIN EN ISO 17294-2 (E29) 2005-02	PI
Potassium	DIN EN ISO 11885 (E 22) 2009-09 DIN EN ISO 17294-2 (E29) 2005-02	PI
Magnesium	DIN EN ISO 11885 (E 22) 2009-09 DIN EN ISO 17294-2 (E29) 2005-02	PI
Acid Capacity	DIN 38409-H 7 2004-03	PI, GE, FG
Phosphate	DIN EN ISO 10304-1 (D 19) 1995-04 DIN EN ISO 10304-1 (D 20) 2009-07 DIN EN ISO 15681-2 (D 46) 2005-05 DIN EN 1189 (D 11) 1996-12 DIN EN ISO 6878 (D 11) 2004-09	HE HE PI PI PI

The accreditation does not replace the recognition or approval procedure of the competent authority pursuant to § 15 (4) TrinkwV.

14 Analysis of Industrial Water in Accordance with the German Ordinance on Evaporative Cooling Systems, Cooling Towers and Wet Separators – 42nd BImSchV Section 3 (8) of 12 July 2017

Sampling at the Locations FG, HI, PI, SV, GE

Method	Title
DIN EN ISO 19458 (K 19) 2006-12	Water quality – Sampling for microbiological analysis
	Recommendation of the Federal Environmental Agency for the sampling and detection of Legionella in evaporative cooling plants, cooling towers and wet separators dated 02.06.2017, Sections C and D

Microbiological Analysis at the Hamburg Location

Parameter	Method
Legionella	ISO 11731 2017-05
	Recommendation of the Federal Environmental Agency for the sampling and detection of Legionella in evaporative cooling plants, cooling towers and wet separators dated 02.06.2017, Sections E and F taking into account Annexes 1 and 2
Colony count at 22 °C and 36 °C	DIN EN ISO 6222 (K 5) 1999-07

Abbreviations used:

AbfKlärV	Abfall- und Klärschlamm-Verordnung (Waste and Sewage Sludge-Regulation)	ISBT	International Society of Beverage Technologists
AltölV	Altöl-Verordnung (Waste Oil Regulation)	LAGA	Länderarbeitsgemeinschaft Abfall (Regional Working Group on Waste)
Ann	Annex	LAWA	Länderarbeitsgemeinschaft Wasser (Regional Working Group on Water)
ASU	Amtliche Sammlung von Untersuchungsverfahren (Official Collection of Test Methods)	LUA	Landesuntersuchungsamt (Regional Testing Authority)
WW	Waste water (including landfill seepage water)	SW	Surface water
BioAbfV	Bioabfall-Verordnung (Biowaste Regulation)	Ph. Eur.	European Pharmacopoeia
CEN/TS	European Committee for Standardization / Technical Specifications	SPW	Swimming pool and bathing pool water
DIN	Deutsches Institut für Normung (German Institute for Standardization)	SW	Seepage water
DIN SPEC	A kind of prestandard	TL Streu	Technical delivery conditions for de-icing salt
DepV	Deponie-Verordnung (Landfill Regulation)	TrinkwV	Trinkwasser-Verordnung (Drinking Water Regulation)
DGF	Deutsche Gesellschaft für Fettwissenschaft e.V. (German Society for Fat Research)	UB	Umweltbehörde (Environmental Protection Agency)
EGA IGC	Eurepean Industrial Gases Association	USP	U.S. Pharmacopeial Convention
EN	European standard	VDI	Verein deutscher Ingenieure (Association of German Engineers)
FCC	Food Chemicals Codex	VDLUFA	Verband deutscher landwirtschaftlicher Untersuchungs- und Forschungsanstalten (Association of German Agricultural Testing and Research Institutions)
RW	Running waters	VGB-M	VGB PowerTech data sheet
FHH	Freie und Hansestadt Hamburg (Free and Hanseatic City of Hamburg)	WA	Water
GW	Raw and groundwater	WRS	Water from Re-cooling Systems
ISO	International Organization for Standardization		