

## Deutsche Akkreditierungsstelle GmbH

### Annex to the Accreditation Certificate D-PL-11060-03-00 according to DIN EN ISO/IEC 17025:2018

Valid from: 06.10.2020

Date of issue: 06.10.2020

Holder of certificate:

**DEKRA Automobil GmbH**

with the locations

**Kurt-Schumacher-Damm 28, 13405 Berlin**  
**Stieghorster Straße 86-88, 33605 Bielefeld**  
**Höherweg 111, 40233 Düsseldorf**  
**Borsigallee 24b, 60388 Frankfurt am Main**  
**Magdeburger Chaussee 60, 06118 Halle (Saale)**  
**Essener Bogen 10, 22419 Hamburg**  
**Hanomagstraße 12, 30449 Hannover**  
**Im Mittelfeld 1, 76135 Karlsruhe**  
**Anton-Ditt-Bogen 1a, 80939 München**  
**Industriestraße 28, 70565 Stuttgart**  
**Handwerkstraße 17, 70565 Stuttgart**

Tests in the fields:

**physical, physico-chemical and chemical analysis of water (waste water, surface water, groundwater), sludge, sediments, waste and materials for recycling as well as soil, recovered fuels and biofuels;**  
**selected analysis of soil gas;**

*The management system requirements in DIN EN ISO/IEC 17025 are written in language relevant to operations of testing laboratories and operate generally in accordance with the principles of DIN EN ISO 9001.*

*The certificate together with its annex reflects the status at the time of the date of issue. The current status of the scope of accreditation can be found in the database of accredited bodies of Deutsche Akkreditierungsstelle GmbH.  
<https://www.dakks.de/en/content/accredited-bodies-dakks>*

determination of emissions and immissions;  
determination of inorganic and organic gaseous or particulate airborne substances;  
sampling of airborne polyhalogenated dibenzo-p-dioxins and dibenzofurans as well as dioxin-like PCBs in emissions;  
determination of combustion conditions;  
calibrations and functional tests of continuously operating emission measuring equipment for inorganic and organic gas or particulate airborne substances in systems;  
calibration and functional tests of measuring equipment for combustion chamber measurements;  
determination of noise;  
determination of noise at the workplace;  
determination of aerosols and fibre dusts, inorganic and organic gases and vapours and of selected parameters and areas for workplace measurements in accordance with the German Ordinance on Hazardous Substances, Section 7 (10);  
determination of biological agents;  
sampling and analysis of pollutants in indoor air, house dust, wipe samples, material samples and fibrous dusts;  
selected analysis of aqueous solutions (migrates, engine coolants, acid digestions), petroleum products and materials;  
selected analysis of toys, textiles, leather, candles, commodities and electrical and electronic equipment;  
selected analysis of vehicle parts, vehicle consumables and technical cleanliness;  
Testing of technical textiles and films;  
Module for immission control;  
specialist modules for water, soil and contaminated sites, waste

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

Within the scope of accreditation marked with \*), the testing laboratory is permitted, without being required to inform and obtain prior approval from DAkkS, to use standards or equivalent testing methods listed here with different issue dates.

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

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

B = Berlin	BI = Bielefeld	D = Düsseldorf	F = Frankfurt	HAL = Halle
HH = Hamburg	H = Hanover	KA = Karlsruhe	M = Munich	
S = Stuttgart, Industriestraße 28	S1 = Handwerkstraße 17			

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**1 Analysis of water (waste water, surface water, groundwater), sludge, sediments, waste and materials for recycling \*\*\***

**1.1 Sample pretreatment and preparation**

DIN EN ISO 5667-3 (A 21) 2019-07	Water quality - Sampling - Part 3: Preservation and handling of water samples	HAL
DIN EN ISO 15587-2 2002-07	Water quality - Digestion for the determination of selected elements in water - Part 2: Nitric acid digestion	HAL
DIN EN 12457-4 2003-01	Characterisation of waste - Leaching; Compliance test for leaching of granular waste materials and sludges - Part 4: One stage batch test at a liquid to solid ratio of 10l/kg for materials with particle size below 10 mm (without or with size reduction)	HAL
DIN EN 13346 (S 7a) 2001-04	Characterisation of sludges - Determination of trace elements and phosphorus - Aqua regia extraction methods	HAL
DIN EN 13657 2003-01	Characterisation of waste - Digestion for subsequent determination of aqua regia soluble portion of elements in waste	HAL
DIN EN 16174 2012-11	Sludge, treated biowaste and soil - Digestion of aqua regia soluble fractions of elements	HAL
DIN 19747 2009-07	Investigation of solids - Pretreatment, preparation and processing of samples for chemical, biological and physical investigations	HAL
DIN 38402-A 30 1998-07	Pretreatment, homogenisation and aliquotation of non-homogeneous water samples	HAL

**1.2 Physical and physico-chemical parameters**

DIN 38404-C 4 1976-12	Determination of temperature	HAL
DIN EN ISO 10523 (C 5) 2012-04	Water quality - Determination of pH	HAL
DIN EN 27888 (C 8) 1993-11	Water quality; Determination of electrical conductivity	HAL

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DIN ISO 17289 2014-12	Water quality - Determination of dissolved oxygen - Optical sensor method	D, F, H, M, S
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**1.3 Anions**

DIN 38405-D 4-1 1985-07	Direct determination of fluoride ions by fluoride ion- selective electrode	HAL
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DIN EN 26777 (D 10) 1993-04	Water quality; determination of nitrite; spectrometric method	HAL
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DIN 38405-D 13 2011-04	Determination of cyanides	HAL
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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	HAL
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DIN EN ISO 18412 (D 40) 2007-02	Water quality - Determination of chromium(VI) - Photometric method for weakly contaminated water	HAL
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**1.4 Cations**

DIN EN ISO 12846 (E 12) 2012-08	Water quality - Determination of mercury - Method using atomic absorption spectrometry (AAS) with and without enrichment	HAL
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DIN EN ISO 11885 (E 22) 2009-09	Water quality - Determination of selected elements by inductively coupled plasma optical emission spectrometry (ICP-OES)	HAL
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DIN EN ISO 17294-2 (E 29) 2017-01	Water quality - Application of inductively coupled plasma mass spectrometry (ICP-MS) - Part 2: Determination of 62 elements	HAL
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**1.5 Jointly determinable substances**

DIN EN ISO 10301 (F 4) 1997-08	Water quality - Determination of highly volatile halogenated hydrocarbons - Gas-chromatographic methods	HAL
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DIN EN ISO 17993 (F 18) 2004-03	Water quality - Determination of 15 polycyclic aromatic hydrocarbons (PAHs) in water by HPLC with fluorescence detection after liquid-liquid extraction	HAL
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)	HAL

**1.6 General measures of effects and substances**

DIN 38409-H 1 1987-01	Determination of total dry residue, filtrate residue and residue on ignition	HAL
DIN EN 1484 (H 3) 2019-04	Water analysis - Guidelines for the determination of total organic carbon (TOC) and dissolved organic carbon (DOC)	HAL
DIN 38409-H 9 1980-07	Determination of the settleable matter by volume in water and waste water	HAL
DIN EN ISO 9562 (H 14) 2005-02	Water quality - Determination of adsorbable organically bound halogens (AOX)	HAL
DIN 38409-H 16 1984-06	Determination of the phenol index	HAL
DIN EN 872 (H 33) 2005-04	Water quality - Determination of suspended solids - Method by filtration through glass fibre filters	HAL
DIN EN 12260 (H 34) 2003-12	Water quality - Determination of nitrogen - Determination of bound nitrogen (TNb), following oxidation to nitrogen oxides	HAL
DIN ISO 15705 (H 45) 2003-01	Determination of the chemical oxygen demand index (ST-COD) - Small-scale sealed tube method	HAL
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	HAL
DIN ISO 11349 (H 56) 2015-12	Water quality - Determination of low-volatility lipophilic substances - Gravimetric method	HAL

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**1.7 Analysis of sludge, sediments, waste and materials for recycling**

DIN EN 15933 2012-11	Sludge, treated biowaste and soil - Determination of pH	HAL
DIN 38414-S 17 2017-01	Determination of the organically bound halogens amenable to extraction (EOX)	HAL
DIN EN 13137 (S 30) 2001-12	Characterisation of waste - Determination of total organic carbon (TOC) in waste, sludges and sediments	HAL
DIN EN 14039 2005-01	Characterisation of waste - Determination of hydrocarbon content in the range of C10 to C40 by gas chromatography (GC-FID)	HAL
DIN EN 14346 2007-03	Characterisation of waste - Calculation of dry matter by determination of dry residue or water content	HAL
DIN EN 14582 2016-12	Characterisation of waste - Halogen and sulphur content- Oxygen combustion in closed systems and determination methods	HAL
DIN EN 15169 2007-05	Characterisation of waste - Determination of loss on ignition in waste, sludge and sediments	HAL
DIN EN 15170 2009-05	Characterisation of sludges - Determination of calorific value	HAL
DIN EN 15308 2016-12	Characterisation of waste - Determination of selected polychlorinated biphenyls (PCB) in solid waste by using capillary gas chromatography with electron capture or mass spectrometric detection	HAL
DIN EN 15935 2012-11	Sludge, treated biowaste, soil and waste - Determination of loss on ignition	HAL
DIN EN 15936 2012-11	Sludge, treated biowaste, soil and waste - Determination of total organic carbon (TOC) by dry combustion	HAL
DIN 19528 2009-01	Leaching of solid materials - Percolation method for the joint examination of the leaching behaviour of inorganic and organic substances	HAL
LAGA EW 98p 2017-09	Determination of leachability with aqueous media at constant pH (pH-stat method for determination of acid neutralisation capacity) (short term: EW 98 p)	HAL

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LAGA Guideline KW/04 2009-12	Determination of the content of hydrocarbons in waste	HAL
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**2 Analysis of soil \*\*\***

**2.1 Sample pretreatment and sample preparation**

DIN ISO 19730 2009-07	Soil quality - Extraction of trace elements from soil using ammonium nitrate solution	HAL
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DIN 19747 2009-07	Investigation of solids - Pretreatment, preparation and processing of samples for chemical, biological and physical investigations	HAL
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**2.2 Physical and physico-chemical parameters**

DIN EN 15933 2012-11	Sludge, treated biowaste and soil - Determination of pH	HAL
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DIN EN 15934 2012-11	Sludge, treated biowaste, soil and waste - Calculation of dry matter fraction after determination of dry residue or water content	HAL
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**2.3 Non-metals, anions**

DIN ISO 11262 2012-04	Soil quality - Determination of total cyanide	HAL
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DIN EN 16168 2012-11	Sludge, treated biowaste and soil - Determination of total nitrogen using dry combustion method	HAL
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DIN EN 16318 2016-07	Fertilisers and liming materials - Determination of chromium(VI) by photometry (method A) and by ion chromatography with spectrophotometric detection (method B) (Deviation: <i>Use of method A only</i> )	HAL
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**2.4 Elements**

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	HAL
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DIN ISO 22036 2009-06	Soil quality - Determination of trace elements in extracts of soil by inductively coupled plasma atomic emission spectrometry (ICP-AES)	HAL
VDLUFA I, 6.2.1.1 2012	Determination of phosphorus and potassium in the calcium acetate lactate extract (CAL method)	HAL
VDLUFA I, 6.2.1.2 1991	Determination of phosphorus and potassium in double lactate extract (DL method)	HAL
VDLUFA I, 6.2.4.1 1991	Determination of plant-available magnesium in calcium chloride extract	HAL

**2.5 Organic substances**

DIN EN ISO 10301 (F 4) 1997-08	Water quality - Determination of highly volatile halogenated hydrocarbons - Gas-chromatographic methods (Deviation for soils: <i>Overlay with methanol and headspace analysis or extraction with n-pentane and direct injection, detection with GC-ECD or GC/MS</i> )	HAL
DIN 38409-H 16-3 1984-06	Photometric determination of the phenol index using 4-aminoantipyrine after distillation without colourant extraction) (Deviation for soils: <i>Elutriation of samples with distilled water, pH = 0.5; steam distillation, photometry</i> )	HAL
DIN ISO 10382 2003-05	Soil quality - Gas chromatographic determination of the contents of polychlorinated biphenyls (PCB) and organochloropesticides (OCP)	HAL
DIN ISO 14154 2005-12	Soil quality - Determination of selected chlorophenols in soils - Gas chromatographic method with electron capture detection	HAL
DIN ISO 18287 2006-05	Soil quality - Determination of polycyclic aromatic hydrocarbons (PAH) - Gas chromatographic method with mass spectrometric detection (GC-MS)	HAL
DIN EN ISO 16703 2011-09	Soil quality - Determination of content of hydrocarbon in the range C10 to C40	HAL
DIN EN ISO 22155 2016-07	Soil quality - Gas chromatographic determination of volatile aromatic and halogenated hydrocarbons and selected ethers - Static headspace method	HAL

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DIN EN 16181 2019-08	Soil, treated biowaste and sludge - Determination of polycyclic aromatic hydrocarbons (PAH) by gas chromatography (GC) and high performance liquid chromatography (HPLC)	HAL
Lab-AA-2225 2014-09	GC/MS screening analysis	HAL

**3 Analysis of soil gas \*\*\***

VDI 3865, sheet 3 1998-06	Measurement of organic soil pollutants - Gas-chromatographic determination of volatile organic compounds in soil gas adsorption at activated carbon and desorption with organic solvents	HAL
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**4 Selected analysis of aqueous solutions (migrates, engine coolants, acid digestions), petroleum products and materials \*\*\***

**4.1 Selected analysis of aqueous solutions (migrates, engine coolants, acid digestions)**

DIN EN ISO 10523 (C 5) 2012-04	Water quality - Determination of pH (Deviation: <i>Modified for aqueous solutions, migrates and engine coolants</i> )	S1
DIN EN 27888 (C 8) 1993-11	Water quality; Determination of electrical conductivity (Deviation: <i>Modified for aqueous solutions, migrates and engine coolants</i> )	S1
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: <i>Modified for aqueous solutions, migrates and engine coolants</i> )	S1
DIN EN ISO 11885 (E 22) 2009-09	Water quality - Determination of selected elements by inductively coupled plasma optical emission spectrometry (ICP-OES) (Deviation: <i>Modified for aqueous solutions, migrates and acid digestions</i> )	S1

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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 (Deviation: <i>Modified for aqueous solutions, migrates and acid digestions</i> )	S1
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**4.2 Selected analysis of petroleum products**

DIN EN ISO 13736 2013-08	Determination of flash point - Abel closed-cup method	S1
DIN EN ISO 1523 2002-08	Determination of flash point - Closed cup equilibrium method	S1
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)	HAL
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	HAL
DIN 51423-2 2010-02	Testing of mineral oils - Part 2: Measurement of the relative refractive index with the Abbe-refractometer	S1
DIN 51755 1974-03	Testing of mineral oils and other combustible liquids; Determination of flash point by the closed tester according to Abel-Pensky	S1
DIN 51757 2011-01	Testing of mineral oils and related materials - Determination of density	S1
ASTM D 6450 2016	Standard test method for flash point by continuously closed cup (CCCFP) tester	S1

**4.3 Selected analysis of materials in the construction sector**

DIN EN ISO 12460-5 2016-05	Wood-based panels - Determination of formaldehyde release - Part 5: Extraction method (called the perforator method)	HAL
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DIN EN 717-1 2005-01	Wood-based panels - Determination of formaldehyde release - Part 1: Formaldehyde emission by the chamber method	S1
DIN EN 717-3 1996-05	Wood-based panels - Determination of formaldehyde release - Part 3: Formaldehyde release by the flask method	HAL
DIN EN 16516 2018-01	Construction products - Assessment of release of dangerous substances - Determination of emissions into indoor air	S1
VDI 3866 sheet 5 2017-06	Determination of asbestos in technical products - Scanning electron microscopy method	S1
AltholzV, Anh. IV Section 1.4.4 2002-08	Determination of pentachlorophenol (PCP)	HAL
BIA 7488 2007-04	Determination of the CI value of amorphous mineral fibres	S1
Lab-AA-1224 2018-01	Asbestos fibres in material samples by REM/EDX	S1
Lab-AA-1248 2014-10	Carcinogenicity index	S1

**5 Analysis of hazardous substances subject to the restrictions of the SVHC list and Annex XVII of the REACH Regulation, from products**

**5.1 Analysis of hazardous substances subject to the restrictions of the SVHC list and Annex XVII of the REACH Regulation, from products by gas chromatography with mass spectrometry (GC-MS) \*\***

Lab-AA-1492 2019-11	REACH SVHC substances from material samples - Sample distribution, risk assessment and evaluation	S1
Lab-AA-1495 2019-08	REACH SVHC substances from material samples by GC/MS	S1
Lab-AA-1499 2012-02	Organic compounds by GC-MS from material and product samples after extraction	S1

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Lab-AA-1500 2013-07	Volatile REACH SVHC substances from material samples by GC/MS screening	S1
Lab-AA-2368 2012-02	Volatile REACH SVHC substances from material samples by GC/MS screening	HAL
Lab-AA-2369 2012-02	REACH SVHC substances from material samples by GC/MS	HAL
Lab-AA-2374 2019-06	Organic compounds by GC-MS from material and product samples after extraction	HAL
Lab-AA-2375 2014-02	REACH SVHC substances from material samples - Sample distribution, risk assessment and evaluation	HAL
Lab-AA 2395 2019-05	Organophosphorous flame retardants (TCEP, TOCP, TCDP and TCPP) from textiles and plastics by GC/MS	HAL
Lab-AA-2396 2019-05	Organophosphorous flame retardants (TRIS and TEPA) from textiles and plastics by GC/MS	HAL
Lab-AA-2404 2019-06	Chlorinated paraffins (SCCP, MCCP and Dechlorane plus) from material samples by GC-MS (NCI)	HAL

**5.2 Analysis of hazardous substances subject to the restrictions of the SVHC list and Annex XVII of the REACH Regulation, from products by spectrochemical methods \*\*\***

Lab-AA-1498 2012-02	REACH SVHC screening of material samples by XRF	S1
DIN EN ISO 11885 (E 22) 2009-09	Water quality - Determination of selected elements by inductively coupled plasma optical emission spectrometry (ICP-OES) (Deviation: <i>Acid digestions</i> )	S1
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 (Deviation: <i>Acid digestions</i> )	S1

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**6 Selected analysis of toys, textiles, leather, candles, commodities and electrical and electronic products**

**6.1 Selected analysis of toys \*\*\***

ISO 8124-3 2010-04	Safety of toys - Part 3: Migration of certain elements	HAL, S1
DIN EN 71-3 2019-08	Safety of toys - Part 3: Migration of certain elements	S1
DIN EN 71-3 2019-08	Safety of toys - Part 3: Migration of certain elements (Deviation: <i>Without organotin compounds</i> )	HAL
DIN EN 71-7 2018-05	Safety of toys - Part 7: Finger paints - Requirements and test methods	S1
DIN EN 71-9 2007-09	Safety of toys - Part 9: Organic chemical compounds - Requirements	HAL, S1
DIN EN 71-10 2006-03	Safety of toys - Part 10: Organic chemical compounds - Sample preparation and extraction (Deviation: <i>Only wood preservatives, dyes, formaldehyde, selected solvents, flame retardants, primary aromatic amines</i> )	HAL
DIN EN 71-11 2006-01	Safety of toys - Part 11: Organic chemical compounds - methods of analysis (Deviation: <i>Only wood preservatives, dyes, formaldehyde, selected solvents, flame retardants, primary aromatic amines</i> )	HAL
ASTM F 963 2017	Standard Consumer Safety Specification for Toy Safety Section 4.3.5.1 "Paint and Similar Surface-Coating Materials" (2) Soluble test for metals Section 4.3.5.2 Toy substrate materials Section 8.3: "Test Method for Determination of Heavy Element Content in Toys, Toy Components and Materials"	HAL, S1
CPSC-CH-C1001-09.4 2018-01	Standard Operating Procedure for Determination of Phthalates	HAL, S1
CPSC-CH-E1001-08 2012-11	Standard Operating Procedure for Determining Total Lead (Pb) in Children's Metal Products (Including Children's Metal Jewelry)	HAL, S1

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CPSC-CH-E1002-08 2012-11	Standard Operating Procedure for Determining Total Lead (Pb) in Non-Metal Children's Products	HAL, S1
CPSC-CH-E1003-09 2009-04	Standard Operating Procedure for Determining Lead (Pb) in Paint and Other Similar Surface Coatings	HAL, S1
16 C.F.R. Part 1303 2018-01	Ban of Lead-Containing Paint and Certain Consumer Products Bearing Lead-Containing Paint	HAL, S1
GB 6675.4 2014-05	National Standard of the People's Republic of China - Toys Safety - Part 4: Migration of Certain Elements	S1

**6.2 Analysis of textiles \*\*\***

DIN EN ISO 105-E01 2013-06	Textiles - Tests for colour fastness - Part E01: Colour fastness to water	HAL
DIN EN ISO 105-E01 2013-06	Textiles - Tests for colour fastness - Part E01: Colour fastness to water (Deviation: <i>Only assessment of bleeding</i> )	S1
DIN EN ISO 105-E04 2013-08	Textiles - Tests for colour fastness - Part E04: Colour fastness to perspiration	HAL
DIN EN ISO 105-E04 2013-08	Textiles - Tests for colour fastness - Part E04: Colour fastness to perspiration (Deviation: <i>Only assessment of bleeding</i> )	S1
DIN EN ISO 3071 2006-05	Textiles - Determination of pH of aqueous extract	HAL
DIN EN ISO 14184-1 2011-12	Textiles - Determination of formaldehyde - Part 1: Free and hydrolysed formaldehyde (water extraction method)	HAL
DIN EN ISO 14184-2 2011-12	Textiles - Determination of formaldehyde - Part 2: Released formaldehyde (vapour absorption method)	HAL
DIN EN ISO 14362-1 2017-05	Textiles - Methods for determination of certain aromatic amines derived from azo colourants - Part 1: Detection of the use of certain azo colourants accessible with and without extracting the fibres	HAL



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DIN EN ISO 14362-3 2017-05	Textiles - Methods for determination of certain aromatic amines derived from azo colourants - Part 3: Detection of the use of certain azo colourants, which may release 4-aminoazobenzene	HAL
DIN EN ISO 14389 2014-10	Textiles - Determination of the phthalate content - Tetrahydrofuran method (ISO 14389:2014)	HAL, S1
DIN 54231 2005-11	Textiles - Detection of disperse dyestuffs	HAL
Lab-AA 2405 2019-06	Determination of colourants (disperse dyestuffs) by LC-MS	HAL
Lab-AA 2414 2019-03	Optical brighteners in textiles - Qualitative determination	HAL

**6.3 Analysis of leather \*\*\***

DIN EN ISO 4045 2018-09	Leather - Chemical tests - Determination of pH and difference figure	HAL
DIN EN ISO 17070 2015-05	Leather - Chemical tests - Determination of tetrachlorophenol-, trichlorophenol-, dichlorophenol-, monochlorophenol-isomers and pentachlorophenol content	HAL
DIN EN ISO 17075-1 2017-05	Leather - Chemical determination of chromium(VI) content in leather - Part 1: Colorimetric method	HAL
DIN EN ISO 17226-2 2019-04	Leather - Chemical determination of formaldehyde content - Part 2: Method using colorimetric analysis (ISO 17226-2:2018)	HAL
DIN EN ISO 17234-1 2015-07	Leather - Chemical tests for the determination of certain azo colourants in dyed leathers - Part 1: Determination of certain aromatic amines derived from azo colourants	HAL
DIN EN ISO 17234-2 2011-06	Leather - Chemical tests for the determination of certain azo colourants in dyed leathers - Part 2: Determination of 4-aminoazobenzene	HAL
DIN EN ISO 18219 2016-02	Leather - Determination of chlorinated hydrocarbons in leather - Chromatographic method for short-chain chlorinated paraffins (SCCP)	HAL

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**6.4 Selected analysis of candles \*\*\***

DIN EN ISO 6245 2003-01	Petroleum products -Determination of ash	S1
ASTM D 1833 2017	Standard Test Method for Odor of Petroleum Wax	S1
DGF C-III 10 1997	DGF standard methods for analysis of fats, fat products, surfactants and related substances - Ash	S1
EFW METHOD 002/03 2015	Standard Method for Analysis of Benzene and Toluene Content in Hydrocarbon Waxes by Headspace Gas Chromatography	S1
RAL-GZ 041 2016-09	Candles - Quality assurance	S1
Lab-AA-1419 2019-11	BTEX and other solvents from paraffins	S1

**6.5 Selected analysis of commodity goods \*\*\***

DIN EN 645 1994-01	Paper and board intended to come into contact with foodstuffs - Preparation of a cold water extract	HAL
DIN EN 646 2019-02	Paper and board intended to come into contact with foodstuffs - Determination of colour fastness of dyed paper and board	S1
DIN EN 647 1994-01	Paper and board intended to come into contact with foodstuffs - Preparation of a hot water extract	HAL
DIN EN 1122 2002-02	Plastics - Determination of cadmium - Wet decomposition method	HAL, S1
DIN EN 1186-1 2002-07	Materials and articles in contact with foodstuffs - Plastics - Part 1: Guide to the selection of conditions and test methods for overall migration	S1
DIN EN 1186-3 2002-07	Materials and articles in contact with foodstuffs - Plastics - Part 3: Test methods for overall migration into aqueous simulants by total immersion	S1

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DIN EN 1186-5 2002-07	Materials and articles in contact with foodstuffs - Plastics - Part 5: Test methods for overall into aqueous food simulants by cell	S1
DIN EN 1186-7 2002-07	Materials and articles in contact with foodstuffs - Plastics - Part 7: Test methods for overall migration into aqueous simulants using a pouch	S1
DIN EN 1186-9 2002-07	Materials and articles in contact with foodstuffs - Plastics - Part 9: Test methods for overall into aqueous simulants by article filling	S1
DIN EN 1186-12 2002-07	Materials and articles in contact with foodstuffs - Plastics - Part 12: Test methods for overall migration at low temperatures	S1
DIN EN 1186-13 2002-12	Materials and articles in contact with foodstuffs - Plastics - Part 13: Test methods for overall migration at high temperatures	S1
DIN EN 1186-14 2002-12	Materials and articles in contact with foodstuffs - Plastics - Part 14: Test methods for "substitute tests" for overall migration from plastics intended to come into contact with fatty foodstuffs using test media iso-octane and 95% ethanol	S1
DIN EN 1186-15 2002-12	Materials and articles in contact with foodstuffs - Plastics - Part 15: Alternative test methods to migration into fatty food simulants by rapid extraction into iso-octane and/or 95 % ethanol	S1
DIN EN 1388-1 1995-11	Materials and articles in contact with foodstuffs - Silicate surfaces - Part 1: Determination of the release of lead and cadmium from ceramic ware	S1
DIN EN 1388-2 1995-11	Materials and articles in contact with foodstuffs - Silicate surfaces - Part 2: Determination of the release of lead and cadmium from silicate surfaces other than ceramic ware	S1
DIN EN 1541 2001-07	Paper and board intended to come into contact with foodstuffs - Determination of formaldehyde in an aqueous extract	HAL

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DIN EN 1811 2015-10	Reference test method for release of nickel from all post assemblies which are inserted into pierced parts of the human body and articles intended to come into direct and prolonged contact with the skin	HAL
DIN EN 12472 2009-09	Method for the simulation of wear and corrosion for the detection of nickel release from coated items	HAL
DIN EN 16128 2016-02	Ophthalmic optics - Reference method for the testing of spectacle frames and sunglasses for nickel release	HAL
DIN EN 17163 2019-04	Pulp, paper and board - Determination of primary aromatic amines (PAA) in a water extract by a LC-MS method	HAL
DIN 10955 2004-06	Sensory analysis - Testing of packaging materials and packages for foodstuffs	S1
DIN 53160-1 2010-10	Determination of the colourfastness of articles for common use - Part 1: Test with artificial saliva	HAL
DIN 53160-2 2010-10	Determination of the colour fastness of articles for common use - Part 2: Test with artificial sweat	HAL
DIN 54603 2008-08	Testing of paper, paperboard and board - Determination of glyoxal content	HAL
AfPS GS 2019-05	Testing and assessment of polycyclic aromatic hydrocarbons (PAHs) in the award of the GS mark - Specification as per Section 21 (1) (3) ProdSG	HAL, S1
DIN EN ISO 6401 2008-11	Plastics - Poly(vinyl chloride) - Determination of residual vinyl chloride monomer - Gas-chromatographic method	HAL
BVL B 82.02-1 1985-06	Analysis of commodity goods - Determination of the release of formaldehyde from textile commodity goods	HAL
BVL B 82.02-2 2017-12	Analysis of commodity goods - Methods for determination of certain aromatic amines in textiles derived from azo colourants- Part 1: Detection of the use of certain azo colourants accessible with and without extracting the fibres (adoption of standard of the same name DIN EN 14362 Part 1, May 2017 edition)	HAL

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BVL B 82.02-6 2016-07	Analysis of commodity goods - Reference test method for release of nickel from all post assemblies which are inserted into pierced parts of the human body and articles intended to come into direct and prolonged contact with the skin (adoption of standard of the same name DIN EN 1811, October 2015 edition)	HAL
BVL B 82.02-13 2011-12	Analysis of commodity goods - Determination of the colourfastness of articles for common use - Part 2: Test with artificial sweat (adoption of standard of the same name DIN 53160-2, October 2010 edition)	HAL, S1
BVL B 82.02-14 2013-01	Analysis of commodity goods - Reference test method for release of nickel from those parts of spectacle lenses and sunglasses intended to come into direct and prolonged contact with the skin (adoption of standard of the same name DIN EN 16128, May 2011 edition)	HAL
BVL B 82.02-15 2017-12	Analysis of commodity goods - Methods for determination of certain aromatic amines in textiles derived from azo colourants- Part 3: Detection of the use of certain azo colourants, which may release 4-aminoazobenzene (adoption of standard of the same name DIN EN 14362 Part 3, May 2017 edition)	HAL
BVL B 82.92-3 2011-12	Analysis of commodity goods - Determination of the colourfastness of articles for common use - Part 1: Test with artificial saliva (adoption of standard of the same name DIN 53160-1, October 2010 edition)	HAL, S1
Lab-AA-1284 2019-08	PAHs from material samples by GCMS	S1
Lab-AA-1301 2012-10	GC-MS screening of organic compounds from different matrices	S1
Lab-AA-1424 2019-09	Global migration of commodities	S1
Lab-AA-1479 2019-08	Release of lead and cadmium from commodities	S1

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Lab-AA-1488 2019-08	Volatile components in silicone elastomers in accordance with recommendation "Kunststoffe im Lebensmittelverkehr", Carl-Heymann-Verlag KG, Volume 2 / BII XV 2.2.4/14 1998-10	S1
Lab-AA-1489 2019-05	Colourfastness of dyed commodities made of plastics and other polymers in accordance with the recommendation "Kunststoffe im Lebensmittelverkehr", Carl-Heymann-Verlag KG, Volume 2 / IX 1998-10	S1
Lab-AA-1518 2019-09	Phthalic acid esters from material samples by GC/MS	S1
Lab-AA-2377 2014-02	PAHs from material samples by GCMS	HAL
Lab-AA-2378 2015-09	Phthalic acid esters from material samples by GC/MS	HAL
Lab-AA-2379 2014-02	GC-MS screening of organic compounds from different matrices	HAL

**6.6 Selected analysis of electrical and electronic products \*\*\***

DIN EN 62321 (VDE 0042-1) 2009-12	Electrotechnical products - Determination of levels of six regulated substances (lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls, polybrominated diphenyl ethers)	HAL, S1
DIN EN 62321-2 (VDE 0042-1-2) 2014-09	Determination of certain substances in electrotechnical products - Part 2: Disassembly, disjointment and mechanical sample preparation	HAL, S1
DIN EN 62321-3-1 (VDE 0042-1-3-1) 2014-10	Determination of certain substances in electrotechnical products - Part 3-1: Screening - Lead, mercury, cadmium, total chromium and total bromine by X-ray fluorescence spectrometry	HAL, S1
DIN EN 62321-4 (VDE 0042-1-4) 2018-05	Determination of certain substances in electrotechnical products - Part 4: Mercury in polymers, metals and electronics by CV-AAS, CV-AFS, ICP-OES and ICP-MS	HAL, S1

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DIN EN 62321-5 (VDE 0042-1-5) 2014-10	Determination of certain substances in electrotechnical products - Part 5: Cadmium, lead and chromium in polymers and electronics and cadmium and lead in metals by AAS, AFS, ICP-OES and ICP-MS	HAL, S1
DIN EN 62321-6 (VDE 0042-1-6) 2016-05	Determination of certain substances in electrotechnical products - Part 6: Polybrominated biphenyls and polybrominated diphenyl ethers in polymers by gas chromatography-mass spectrometry	HAL, S1
DIN EN 62321-7-1 (VDE 0042-1-7-1) 2016-09	Determination of certain substances in electrotechnical products - Part 7-1: Determination of the presence of hexavalent chromium (Cr(VI)) in colourless and coloured corrosion-protected coatings on metals by the colorimetric method	HAL, S1
DIN EN 62321-7-2 (VDE 0042-1-7-2) 2017-12	Determination of certain substances in electrotechnical products - Part 7-2: Hexavalent chromium - Determination of hexavalent chromium (Cr(VI)) in polymers and electronics by the colorimetric method	HAL, S1
DIN EN 62321-8 (VDE 0041-1-8) 2017-12	Determination of certain substances in electrotechnical products - Part 8: Phthalates in polymers by gas chromatography-mass spectrometry (GC-MS), gas chromatography-mass spectrometry using a pyrolyzer/thermal desorption accessory (Py/TD-GC-MS)	HAL, S1
DIN EN 62321-9 Draft (VDE 0044-1-9) 2016-05	Determination of certain substances in electrotechnical products - Part 9: Hexabromocyclododecane in polymers by high pressure liquid chromatography-mass spectrometry (HPLC-MS) (IEC 111/409/CD:2015)	HAL, S1
DIN EN 62321-10 Draft (VDE 0042-1-10) 2016-10	Determination of certain substances in electrotechnical products - Part 10: Polycyclic aromatic hydrocarbons (PAHs) in polymers and electronics with gas chromatography-mass spectrometry (GC-MS) (IEC 111/424/CD:2016)	HAL, S1
Lab-AA-1256 2019-08	Chromium(VI) from components by 1,5-diphenylcarbazide in accordance with DIN EN 62321	S1
Lab-AA-1494 2019-08	RoHS screening by XRF on electrotechnical products	S1
Lab-AA-2372 2018-03	RoHS screening by XRF on electrotechnical products	HAL

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Lab-AA-2373 2014-02	Polybrominated flame retardants from material samples by GC/MS	HAL
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**7 Selected analysis of vehicle parts, vehicle consumables and technical cleanliness \*\***

**7.1 Analysis of vehicle parts**

DIN EN ISO 22088-3 2006-11	Plastics - Determination of resistance to environmental stress cracking (ESC) - Part 3: Bent strip method	S1
DIN ISO 12219-4 2013-12	Interior air of road vehicles - Part 4: Method for the determination of the emissions of volatile organic compounds from vehicle interior parts and materials - Small chamber method	S1
DIN ISO 12219-6 2017-08	Interior air of road vehicles- Part 6: Method for the determination of the emissions of semi-volatile organic compounds from vehicle interior parts and materials at higher temperature - Small chamber method	S1
DIN ISO 12219-7 2017-08	Interior air of road vehicles- Part 7: Odour determination in interior air of road vehicles and test chamber air of trim components by olfactory measurements (Deviation: <i>Only test chamber air</i> )	S1
DIN 75201 2011-11	Determination of the fogging characteristics of trim materials in the interior of automobiles	S1
VDA 270 2018-06	Determination of the odour characteristics of trim materials in motor vehicles	S1
VDA 275 1994-07	Moulded parts for vehicle interiors - Determination of formaldehyde release - Measurement method by the modified flask method	HAL
VDA 276 2005-12	Determination of organic emissions from components for the vehicle interior with a 1 m <sup>3</sup> test chamber	S1
VDA 278 2011-09	Thermal desorption analysis of organic emissions for the characterisation of non-metallic materials for automobiles	S1
Lab-AA-1513 2019-09	Test chamber analysis with the VCE 1000 emission cabinet	S1

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**7.2 vehicle consumables**

ASTM D 1177 2017	Standard Test Method for Freezing Point of Aqueous Engine Coolants	S1
Lab-AA-1475 2019-08	IKW cleaning performance of windscreen washer agents (practical test)	S1

**7.3 Technical cleanliness**

ISO 16232 2018-12	Road vehicles - Cleanliness of components and systems	S1
Lab-AA-1469 2019-08	Technical cleanliness in accordance with VDA 19 - Particle contamination of functionally relevant automotive parts ( <i>Automatic enumeration of particles</i> )	S1
VDA 19 2015-03	Quality management in the automotive industry - Testing of technical cleanliness - Particle contamination of functionally relevant automotive parts (automatic enumeration of particles)	S1

**8 Analysis of recovered fuels and biofuels \*\*\***

DIN EN ISO 14780 2017-08	Solid biofuels - Sample preparation	HAL
DIN EN ISO 16948 2015-09	Solid biofuels - Determination of total content of carbon, hydrogen and nitrogen	HAL
DIN EN ISO 16968 2015-09	Solid biofuels - Determination of minor elements	HAL
DIN EN ISO 16994 2016-12	Solid biofuels - Determination of total content of sulphur and chlorine	HAL
DIN EN ISO 17828 2016-05	Solid biofuels - Determination of bulk density	HAL
DIN EN ISO 17829 2016-03	Solid biofuels - Determination of length and diameter of pellets	HAL
DIN EN ISO 17831-1 2016-05	Solid biofuels - Determination of mechanical durability of pellets and briquettes - Part 1: Pellets	HAL

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DIN EN ISO 18122 2016-03	Solid biofuels - Determination of ash content	HAL
DIN EN ISO 18125 2017-08	Solid biofuels - Determination of calorific value	HAL
DIN EN ISO 18134-1 2015-12	Solid biofuels - Determination of moisture content - Oven dry method - Part 1: Total moisture - Reference method	HAL
DIN EN ISO 18134-2 2017-05	Solid biofuels - Determination of moisture content - Oven dry method - Part 2: Total moisture - Simplified procedure	HAL
DIN EN ISO 18846 2016-12	Solid biofuels - Determination of fines content in quantities of pellets	HAL
DIN EN 15400 2011-05	Solid recovered fuels - Determination of calorific value	HAL
DIN EN 15403 2011-05	Solid recovered fuels - Methods for the determination of ash content	HAL
DIN EN 15407 2011-05	Solid recovered fuels - Methods for the determination of carbon (C), hydrogen (H) and nitrogen (N) content	HAL
DIN EN 15408 2011-05	Solid recovered fuels - Methods for determination of sulphur (S), chlorine (Cl), fluorine (F) and bromine (Br) content	HAL
DIN CEN/TS 15414-1 2010-10	Solid recovered fuels - Determination of moisture content using the oven dry method - Part 1: Determination of total moisture by a reference method	HAL
DIN EN 15443 2011-05	Solid recovered fuels - Methods for the preparation of the laboratory sample	HAL

**9 Testing of technical textiles and films \*\*\***

**9.1 Tensile tests on coated fabrics and films**

DIN EN ISO 527-1 2012-06	Plastics - Determination of tensile properties - Part 1: General principles	S1
DIN EN ISO 527-3 2019-02	Plastics - Determination of tensile properties - Part 3: Test conditions for films and sheets	S1

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DIN EN ISO 1421 2017-03	Rubber- or plastics-coated fabrics - Determination of tensile strength and elongation at break	S1
DIN EN ISO 13934-1 2013-08	Textiles - Tensile properties of fabrics - Part 1: Determination of maximum force and elongation at maximum force using the strip method	S1
DIN 53354 1981-02	Testing of artificial leather; tensile test	S1
DIN EN 17117 -1 2019-02	Rubber or plastics-coated fabrics - Mechanical test methods under biaxial stress states - Part 1: Tensile stiffness properties	S1

**9.2 Adhesion tests on coatings**

DIN EN ISO 2411 2018-02	Rubber or plastics-coated fabrics - Determination of coating adhesion	S1
DIN 53357 (Method A) 1982-10	Testing of plastics sheets; adhesion test	S1
DIN 53530 1981-02	Testing of organic materials; Separation test on fabric plies bonded together	S1

**9.3 Tear tests**

DIN 53363 2003-10	Testing of plastic films - Tear test using trapezoidal test specimen with incision	S1
DIN 53859-5 1992-12	Testing of textiles; tear growth test on textile fabrics; trapezoid test	S1
DIN EN 1875-3 1998-02	Rubber- or plastics-coated fabrics - Determination of tear resistance - Part 3: Method with trapezoidal specimens	S1

**9.4 Determination of mass**

DIN EN ISO 2286-2 2017-01	Rubber- or plastics-coated fabrics - Determination of roll characteristics - Part 2: Methods for determination of total mass per unit area, mass per unit area of coating and mass per unit area of substrate	S1
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**9.5 Determination of thickness**

DIN ISO 4593 2019-06	Plastics; film and sheeting; determination of thickness by mechanical scanning	S1
DIN 53370 2006-11	Testing of plastics films - Determination of the thickness by mechanical scanning	S1

**9.6 Cracking tests**

DIN 53359 2006-11	Testing of artificial leather and similar sheet materials - Flex cracking test	S1
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**9.7 Determination of water absorption**

DIN EN ISO 19074 2015-12	Leather - Physical and mechanical tests - Determination of water absorption by capillary action	S1
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**10 Determination of emissions and immissions**

**10.1 Determination of exhaust gas boundary conditions during emission measurements \*\*\***

ISO 10780 1994-11	Stationary source emissions - Measurement of velocity and volume flowrate of gas streams in ducts	B, BI, D, HAL, HH, KA, M, S
DIN EN ISO 16911-1 2013-06	Stationary source emissions - Manual and automatic determination of velocity and volume flow rate in ducts - Part 1: Manual reference method	B, BI, D, HAL, HH, KA, M, S
DIN EN ISO 16911-2 2013-06	Stationary source emissions - Manual and automatic determination of velocity and volume flow rate in ducts - Part 2: Automated measuring systems	B, BI, D, HAL, HH, KA, M, S
DIN EN 13284-1 2018-02	Stationary source emissions - Determination of low range mass concentration of dust - Part 1: Manual gravimetric method	B, BI, D, HAL, HH, KA, M, S
DIN EN 14790 2018-05	Stationary source emissions - Determination of the water vapour in ducts - Standard reference method	B, BI, D, HAL, HH, KA, M, S

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VDI 3862 sheet 8 2015-06	Measurement of gaseous emissions - Measurement of formaldehyde in the exhaust gas of internal combustion engines - FTIR method	BI, HAL, D, HH, M, S
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**10.2 Determination of boundary conditions during immission measurements \*\*\***

The specifications required for ambient air quality measurements in accordance with VDI 4280 sheet 1 (Planning of ambient air quality measurements - General rules) and VDI 4280 sheet 3 (Planning of ambient air quality measurements - Measurement strategies for the determination of air quality characteristics in the vicinity of stationary emission sources) are fulfilled.

VDI 3786 sheet 2 2018-05	Environmental meteorology - Meteorological measurements - Wind	S
VDI 3786 sheet 3 2012-10	Environmental meteorology - Meteorological measurements - Air temperature	S
VDI 3786 sheet 4 2013-06	Environmental meteorology - Meteorological measurements - Air Humidity	S

**10.3 Determination of organic and inorganic compounds in emission measurements**

Sampling (P) is carried out at the named locations.

Laboratory analysis (A) is carried out only at the locations S1 (Stuttgart, Handwerkstr. 17) and HAL (Halle, Magdeburger Chaussee 60)

**10.3.1 Determination of gaseous organic compounds during emission measurements \*\***

Lab-AA-1292 2017-04	Non-polar VOC from emission measurements by GC/FID	A: S1
Lab-AA-1293 2014-06	Polar VOC from emission measurements by GC/FID	A: S1
Lab-AA-1298 2014-10	Polar and non-polar organic compounds from air measurements outside routine analysis	A: S1
Lab-AA-2219 2019-05	Benzene, toluene and xylene in air samples after accumulation with activated carbon by GC	A: HAL
Lab-AA-2220 2020-04	Highly volatile halogenated hydrocarbons in air samples by GC-ECD-FID after accumulation with activated carbon	A: HAL

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Lab-AA 2318  
2019-07

Organic acids from air measurements by GC

A: HAL

**10.3.2 Determination of particulate, particle-adsorbed and filter-passing chemical compounds in emission measurements \*\*\***

Lab-AA-1274  
2019-09

Chromium(VI) as CrO<sub>3</sub> from air measurements in accordance with BGI 505-5, DGUV Information 213-505, Method 2

P: B, BI,  
D, HAL,  
HH, KA,  
M, S

A: S1

**11 Areas of activity regulated by immission control law \*\*\***

**Measurement procedures as per immission control module and Annex A2 to VDI 4220.**

The requirements for emission measurements in accordance with DIN EN 15259:2008 (Measurement of stationary source emissions - Requirements for measurement sections and sites and for the measurement objective, plan and report) are fulfilled.

The specifications required for ambient air quality measurements in accordance with VDI 4280 sheet 1 (Planning of ambient air quality measurements - General rules) and VDI 4280 sheet 3 (Planning of ambient air quality measurements - Measurement strategies for the determination of air quality characteristics in the vicinity of stationary emission sources) are fulfilled.

Sampling (P) is carried out at the named locations.

Laboratory analysis (A) is carried out only at the locations S1 (Stuttgart, Handwerkstr. 17) and HAL (Halle, Magdeburger Chaussee 60)

Test area / ID	Group I.1: Determination of emissions Task area G: Gaseous inorganic compounds				
	Standard / Guideline / Technical rule Title		SRM	QM document	Comments Location
SO <sub>2</sub> continuous	Stationary source emissions - Determination of the mass concentration of sulphur dioxide by instrumental techniques	€-DIN-CEN/TS 17021 2017-05	<input type="checkbox"/>	VA 0018	P: B, BI, D, HAL, HH, KA, M, S

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Test area / ID	Group I.1: Determination of emissions Task area G: Gaseous inorganic compounds				
	Standard / Guideline / Technical rule Title		SRM	QM document	Comments Location
Component	Description				
SO <sub>2</sub>	Stationary source emissions - Determination of mass concentration of sulphur oxides - Standard reference method		DIN EN 14791 2017-05	<input checked="" type="checkbox"/>	Luf-AA-1111 Lab-AA-2321 Lab-AA-1217 P: B, BI, D, HAL, HH, KA, M, S A: HAL, S1
NO <sub>x</sub> continuous	Stationary source emissions - Determination of mass concentration of nitrogen oxides - Standard reference method: Chemiluminescence		DIN EN 14792 2017-05	<input checked="" type="checkbox"/>	Luf-VA-0018 P: B, BI, D, HAL, HH, KA, M, S
HCl	Stationary source emissions - Determination of mass concentration of gaseous chlorides expressed as HCl - Standard reference method		DIN EN 1911 2010-12	<input checked="" type="checkbox"/>	Luf-AA-1113 Lab_AA-2403 Lab-AA-1217 P: B, BI, D, HAL, HH, KA, M, S A: HAL, S1
SO <sub>3</sub>	Measurement of gaseous emissions - Determination of sulphur trioxide in water vapour containing exhaust gas - Condensation method		VDI 2462 sheet 2 2011-11		Luf-AA-1146 Lab-AA-1217 P: B, BI, D, HAL, HH, KA, M, S A: S1
H <sub>2</sub> S	Measurement of gaseous emission; Measurement of the hydrogen sulphide concentration; Iodometric titration method		VDI 3486 sheet 2 1979-04		Luf-AA-1119 Lab-AA-1314 P: B, BI, D, HAL, HH, KA, M, S A: S1
NO <sub>x</sub>	Stationary source emissions - Determination of the mass concentration of nitrogen oxides - Performance characteristics of automated measuring systems		ISO 10849 1996-04		Luf-VA-0018 P: B, BI, D, HAL, HH, KA, M, S
N <sub>2</sub> O continuous	Stationary source emissions - Determination of the mass concentration of dinitrogen monoxide (N <sub>2</sub> O) - Reference method: Non-dispersive infrared method		DIN EN ISO 21258 2010-11	<input checked="" type="checkbox"/>	Luf-AA-0018 P: B, BI, D, HAL, HH, KA, M, S

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Test area / ID	Group I.1: Determination of emissions Task area G: Gaseous inorganic compounds				
	Standard / Guideline / Technical rule Title		SRM	QM document	Comments Location
Component	Description				
NH <sub>3</sub>	Stationary source emissions - Measurement of ammonia (and gaseous ammonium compounds) - Manual method		VDI 3878 2017-09	Luf-AA- 1116  Lab-AA- 1275	P: B, BI, D, HAL, HH, KA, M, S  A: S1
NH <sub>3</sub>	Stationary source emissions - Determination of the mass concentration of ammonia - Manual method		DIN EN ISO 21877:2020-01	Luf-AA- 1116  Lab-AA- 1275	P: B, BI, D, HAL, HH, KA, M, S  A: S1
O <sub>2</sub> continuous	Stationary source emissions - Determination of volume concentration of oxygen (O <sub>2</sub> ) - Reference method: Paramagnetism		DIN EN 14789 2017-05	<input checked="" type="checkbox"/> Luf-AA- 1145	P: B, BI, D, HAL, HH, KA, M, S
CO continuous	Stationary source emissions - Determination of the mass concentration of carbon monoxide - Standard reference method: Non- dispersive infrared spectrometry		DIN EN 15058 2017-05	<input checked="" type="checkbox"/> Luf-AA- 0018	P: B, BI, D, HAL, HH, KA, M, S
CO <sub>2</sub> continuous	Stationary source emissions - Determination of the mass concentration of carbon monoxide, carbon dioxide and oxygen in flue gas - Performance characteristics of automated measuring systems		ISO 12039 2001-06	Luf-AA- 0018	P: B, BI, D, HAL, HH, KA, M, S
HF	Gaseous emission measurement; measurement of gaseous fluorine compounds; absorption method		VDI 2470 sheet 1 1975-10	<input type="checkbox"/> Luf-AA- 1112  Lab-AA- 2252  Lab-AA- 1287	P: B, BI, D, HAL, HH, KA, M, S  A: HAL, S1
Chlorine	Gaseous emission measurement; measurement of chlorine and oxides of chlorine; methyl orange method		VDI 3488 sheet 1 1979-12	<input type="checkbox"/> Luf-AA- 1115  Lab-AA- 2313  Lab-AA- 1263	P: B, BI, D, HAL, HH, KA, M, S  A: S1

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Test area / ID	Group I.1: Determination of emissions				
	Task area G: Gaseous inorganic compounds				
Component	Standard / Guideline / Technical rule		SRM	QM document	Comments Location
	Title	Description			
Water vapour	Stationary source emissions - Determination of the water vapour in ducts - Standard reference method	DIN EN 14790 2017-05	<input checked="" type="checkbox"/>	Luf-AA-1005	P: B, BI, D, HAL, HH, KA, M, S
Volume flow	Stationary source emissions - Manual and automatic determination of velocity and volume flow rate in ducts - Part 1: Manual reference method	DIN EN ISO 16911-1 2013-06	<input checked="" type="checkbox"/>	Luf-AA-1147	P: B, BI, D, HAL, HH, KA, M, S
Volume flow	Stationary source emissions - Guidance on the application of EN ISO 16911-1	DIN CEN/TR 17078 2017-10 DIN SPEC 33978 2017-10	<input type="checkbox"/>	Luf-AA-1147	P: B, BI, D, HAL, HH, KA, M, S
Volume flow	Stationary source emissions - Measurement of velocity and volume flowrate of gas streams in ducts	ISO 10780 1994-11	<input type="checkbox"/>	Luf-AA-1147	P: B, BI, D, HAL, HH, KA, M, S

Test area / ID	Group I.1: Determination of emissions				
	Task area G: Gaseous organic chemical compounds				
Component	Standard / Guideline / Technical rule		SRM	QM document	Comments Location
	Title	Description			
Total carbon Continuous	Stationary source emissions - Determination of the mass concentration of total gaseous organic carbon - Continuous flame ionisation detector method	DIN EN 12619 2013-04	<input checked="" type="checkbox"/>	Luf-AA-1101	P: B, BI, D, HAL, HH, KA, M, S
Total carbon	Gaseous emission measurement - Determination of volatile organic compounds, especially solvents, flame ionization detector (FID)	VDI 3481 sheet 3 1995-10	<input type="checkbox"/>	Luf-AA-1101	P: B, BI, D, HAL, HH, KA, M, S
Total carbon continuous	Gaseous emission measurement - Measurement of the concentrations of total organic carbon and methane carbon using the flame ionisation detector (FID)	VDI 3481 sheet 4 2007-02	<input type="checkbox"/>	Luf-AA-1101	P: B, BI, D, HAL, HH, KA, M, S

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Test area / ID	Group I.1: Determination of emissions Task area G: Gaseous organic chemical compounds				
	Standard / Guideline / Technical rule Title		SRM	QM document	Comments Location
Component	Description				
Benzene	Stationary source emissions - Determination of the mass concentration of individual gaseous organic compounds - Sorptive sampling method followed by solvent extraction or thermal desorption		DIN CEN/TS 13649 2015-03	<input checked="" type="checkbox"/>  Luf-AA-1127 Lab-AA-2219 Lab-AA-1292	P: B, BI, D, HAL, HH, KA, M, S A: HAL, S1
Tetra-chloroethene	Stationary source emissions - Determination of the mass concentration of individual gaseous organic compounds - Sorptive sampling method followed by solvent extraction or thermal desorption		DIN CEN/TS 13649 2015-03	<input checked="" type="checkbox"/>  Luf-AA-1127 Lab-AA-2220 Lab-AA-1292	P: B, BI, D, HAL, HH, KA, M, S A: HAL, S1
PAH	Stationary source emissions - Determination of polycyclic aromatic hydrocarbons (PAH) - GC/MC method		VDI 3874 2006-12	<input checked="" type="checkbox"/>  Luf-AA-1123 Lab-AA-1326	P: B, BI, D, HAL, HH, KA, M, S A: S1
Ethylbenzene, toluene, xylenes and others	Stationary source emissions - Determination of the mass concentration of individual gaseous organic compounds - Sorptive sampling method followed by solvent extraction or thermal desorption		DIN CEN/TS 13649 2015-03	<input checked="" type="checkbox"/>  Luf-AA-1127 Lab-AA-2219 Lab-AA-1292 Lab-AA-1293	P: B, BI, D, HAL, HH, KA, M, S A: HAL, S1
Trichloroethene and other halogenated HC	Stationary source emissions - Determination of the mass concentration of individual gaseous organic compounds - Sorptive sampling method followed by solvent extraction or thermal desorption		DIN CEN/TS 13649 2015-03	<input checked="" type="checkbox"/>  Luf-AA-1127 Lab-AA-2220 Lab-AA-1292 Lab-AA-1293	P: B, BI, D, HAL, HH, KA, M, S A: HAL, S1

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Test area / ID	Group I.1: Determination of emissions Task area G: Gaseous organic chemical compounds					
	Standard / Guideline / Technical rule Title		SRM	QM document	Comments Location	
Component	Description					
Phenols	Ambient air measurement; measurement of gaseous phenolic compounds; p-nitroaniline method		VDI 3485 sheet 1 1988-12	<input type="checkbox"/>	Luf-AA-1139 Lab-AA-2339	P: B, BI, D, HAL, HH, KA, M, S A: HAL,
Aldehydes	Gaseous emission measurement - Measurement of aliphatic and aromatic aldehydes and ketones by DNPH method - Impinger method		VDI 3862 sheet 2 2000-12	<input checked="" type="checkbox"/>	Luf-AA-1130 Lab-AA-2420 Lab-AA-1246	P: B, BI, D, HAL, HH, KA, M, S A: HAL, S1
Aldehydes	Gaseous emission measurement - Measurement of aliphatic and aromatic aldehydes and ketones by DNPH method - Cartridges method		VDI 3862 sheet 3 2000-12	<input type="checkbox"/>	Luf-AA-1130 Lab-AA-2420 Lab-AA-1246	P: B, BI, D, HAL, HH, KA, M, S A: HAL, S1
Formaldehyde	Gaseous emission measurement - Measurement of formaldehyde by the AHMT method		VDI 3862 sheet 4 2001-05	<input checked="" type="checkbox"/>	Luf-AA-1132 Lab-AA-2349 Lab-AA-2410 Lab-AA-1318	P: B, BI, D, HAL, HH, KA, M, S A: HAL, S1
Formaldehyde	Measurement of gaseous emissions - Measurement of formaldehyde in the exhaust gas of combustion engines - FTIR method		VDI 3862 sheet 8 2015-06	<input type="checkbox"/>	Luf-AA-1143	P: B, BI, D, HAL, HH, M, S
Organic acids	Gaseous emission measurement - Chromatographic determination of organic compounds - Sampling of acidic components in alkaline aqueous solution; Analysis by ion chromatography		VDI 2457 sheet 4 2000-12	<input type="checkbox"/>	Luf-AA-1135 Lab-AA-2318	P: B, BI, D, HAL, HH, KA, M, S A: HAL

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Test area / ID	Group I.1: Determination of emissions				
	Task area G: Gaseous organic chemical compounds				
Component	Standard / Guideline / Technical rule		SRM	QM document	Comments Location
	Title	Description			
Methane Continuous	Stationary source emissions - Automatic method for the determination of the methane concentration using flame ionisation detection (FID)	DIN EN ISO 25140 2010-12	<input type="checkbox"/>	Luf-AA-1101	P: B, BI, D, HAL, HH, KA, M, S

Test area / ID	Group I.1: Determination of emissions				
	Task area P: Particulate compounds and chemical compounds adsorbed on particles				
Component	Standard / Guideline / Technical rule		SRM	QM document	Comments Location
	Title	Description			
Dust, Filter head device	Particulate matter measurement - Dust measurement in flowing gases - Gravimetric determination of dust load	VDI 2066 sheet 1 2006-11	<input checked="" type="checkbox"/>	Luf-AA-1120 Lab-AA-2311 Lab-AA-1010	P: B, BI, D, HAL, HH, KA, M, S A: HAL, S1
Dust, Plan filter head device	Stationary source emissions - Determination of low range mass concentration of dust - Part 1: Manual gravimetric method	DIN EN 13284-1 2018-02	<input checked="" type="checkbox"/>	Luf-AA-1120 Lab-AA-2311 Lab-AA-1010	P: B, BI, D, HAL, HH, KA, M, S A: HAL, S1
PAH	Stationary source emissions - Determination of polycyclic aromatic hydrocarbons (PAH) - GC/MC method	VDI 3874 2006-12	<input checked="" type="checkbox"/>	Luf-AA-1123 Lab-AA-1326	P: B, BI, D, HAL, HH, KA, M, S A: S1
Arsenic (As)	Stationary source emissions - Determination of the total emission of As, Cd, Cr, Co, Cu, Mn, Ni, Pb, Sb, Tl and V; reference method	DIN EN 14385 2004-05	<input checked="" type="checkbox"/>	Luf-AA-1121 Lab-AA-2222 Lab-AA-1213	P: B, BI, D, HAL, HH, KA, M, S A: HAL, S1

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Test area / ID	Group I.1: Determination of emissions Task area P: Particulate compounds and chemical compounds adsorbed on particles				
	Standard / Guideline / Technical rule Title		SRM	QM document	Comments Location
Cadmium (Cd)	Stationary source emissions - Determination of the total emission of As, Cd, Cr, Co, Cu, Mn, Ni, Pb, Sb, Tl and V; reference method	DIN EN 14385 2004-05	<input checked="" type="checkbox"/>	Luf-AA-1121 Lab-AA-2222 Lab-AA-1213	P: B, BI, D, HAL, HH, KA, M, S A: HAL, S1
Nickel (Ni)	Stationary source emissions - Determination of the total emission of As, Cd, Cr, Co, Cu, Mn, Ni, Pb, Sb, Tl and V; reference method	DIN EN 14385 2004-05	<input checked="" type="checkbox"/>	Luf-AA-1121 Lab-AA-2222 Lab-AA-1213	P: B, BI, D, HAL, HH, KA, M, S A: HAL, S1
Lead (Pb)	Stationary source emissions - Determination of the total emission of As, Cd, Cr, Co, Cu, Mn, Ni, Pb, Sb, Tl and V; reference method	DIN EN 14385 2004-05	<input checked="" type="checkbox"/>	Luf-AA-1121 Lab-AA-2222 Lab-AA-1213	P: B, BI, D, HAL, HH, KA, M, S A: HAL, S1
Mercury (Hg)	Air quality - Stationary source emissions - Manual method of determination of the concentration of total mercury	DIN EN 13211 2001-06 und Berichtigung 2005-06	<input checked="" type="checkbox"/>	Luf-AA-1122 Lab-AA-2248 Lab-AA-1213 Lab-AA-1214	P: B, BI, D, HAL, HH, KA, M, S A: HAL, S1
Dust, PM 10 and PM 2,5	Particulate matter measurement - Dust measurement in flowing gases - Measurement of PM <sub>10</sub> and PM <sub>2,5</sub> emissions at stationary sources by impaction method	VDI 2066 sheet 10 2004-10		Luf-AA-1120 Lab-AA-1010	P: B, BI, D, HAL, HH, KA, M, S A: S1
Smoke number	Measurement of particles - Dust measurement in flowing gases - Measurement of smoke number in furnaces designed for EL-type fuel oil	VDI 2066 sheet 8 1995-09	<input type="checkbox"/>	Luf-AA-1120	P: B, BI, D, HAL, HH, KA, M, S

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Test area / ID	Group I.1: Determination of emissions Task area P: Particulate compounds and chemical compounds adsorbed on particles				
	Standard / Guideline / Technical rule Title		SRM	QM document	Comments Location
Metals / metalloids	Stationary source emissions - Determination of the total emission of As, Cd, Cr, Co, Cu, Mn, Ni, Pb, Sb, Tl and V; reference method	DIN EN 14385 2004-05	<input checked="" type="checkbox"/>	Luff-AA-1121 Lab-AA-2222 Lab-AA-1213	P: B, BI, D, HAL, HH, KA, M, S A: HAL, S1
Metals	Chemical analysis of particulate matter; determination of Ba, Be, Cd, Co, Cr, Cu, Ni, Pb, Sr, V, Zn in particulate emissions by atomic spectrometric methods	VDI 2268 sheet 1 1987-04		Luf-AA-1121 Lab-AA-2222 Lab-AA-1213	P: B, BI, D, HAL, HH, KA, M, S A: HAL, S1
Metals / metalloids	Determination of total emission of metals, metalloids, and their compounds - Manual measurement in flowing, emitted gases - Sampling system for particulate and filter-passing matter	VDI 3868 sheet 1 1994-12		Luf-AA-1121 Lab-AA-2222 Lab-AA-1213 Lab-AA-1289	P: B, BI, D, HAL, HH, KA, M, S A: HAL, S1

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Test area / ID	Group I.1: Determination of emissions				
	Task area O: Odours				
Component / Source type	Standard / Guideline / Technical rule		SRM	QM document	Comments Location
	Title	Description			
Odours	Air quality - Determination of odour concentration by dynamic olfactometry	DIN EN 13725 2003-07  DIN EN 13725 Berichtigung 1 2006-04	<input checked="" type="checkbox"/>	Luf AA - 4101	A: S
	Olfactometry - Determination of odour concentration by dynamic olfactometry - Supplementary instructions for application of DIN EN 13725	VDI 3884 sheet 1 2015-02			
Odours / sampling	Olfactometry Static sampling	VDI 3880 2011-10	<input checked="" type="checkbox"/>	Luf AA-4101	P: B, BI, D, HAL, KA, M, S
non-flowing diffuse source	Olfactometry - Determination of odour concentration by dynamic olfactometry - Supplementary instructions for application of DIN EN 13725	VDI 3884 sheet 1 2015-02			
flowing diffuse source					
Industrial point source					

Test area / ID	Group I.1: Determination of emissions				
	Task area Sp: Special sampling of substances requiring additional effort for sampling or analysis				
Component	Standard / Guideline / Technical rule		SRM	QM document	Comments Location
	Title	Description			
PCDD/PCDF	Stationary source emissions - Determination of the mass concentration of PCDDs/PCDFs and dioxin-like PCBs - Part 1: Sampling of PCDDs/PCDFs	DIN EN 1948-1 2006-06	<input checked="" type="checkbox"/>	Luf-AA-1142	P: B, BI, D, HAL, KA, M, S
Polychlorinated biphenyls (PCB)	Stationary source emissions - Determination of the mass concentration of PCDDs/PCDFs and dioxin-like PCBs - Part 4: Sampling and analysis of dioxin-like PCBs	DIN EN 1948-4 2014-03		Luf-AA-1138	P: B, BI, D, HAL, KA, M, S

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Test area / ID	Group I.1: Determination of emissions Task area Sp: Special sampling of substances requiring additional effort for sampling or analysis				
	Standard / Guideline / Technical rule Title		SRM	QM document	Comments Location
Fibrous dusts	Stationary source emissions - Measurement of inorganic fibrous particles in exhaust gas - Scanning electron microscopy method	VDI 3861 sheet 2 2008-01		Luf-AA-1125	P: B, S

Test area / ID	Group I.1: Determination of emissions Task area Sa: Special analysis of substances requiring additional effort for sampling or analysis				
	Standard / Guideline / Technical rule Title		SRM	QM document	Comments Location
Fibrous dusts	Stationary source emissions - Measurement of inorganic fibrous particles in exhaust gas - Scanning electron microscopy method	VDI 3861 sheet 2 2008-01	<input checked="" type="checkbox"/>	Lab-AA-1225	A: S1

Test area / ID	Group I.2: Determination of emissions; Measurement tasks that require special equipment and specific experience of specialist personnel				
	Standard / Guideline / Technical rule Title		SRM	QM document	Comments Location
Determination of combustion conditions	Federal uniform practice for the monitoring of emissions - BMU circular of 23.01.2017 - Az.: IG I 2 - 45053/5	GMBI 13/14 2017-04 RdSchr. d. BMU 2017-01 Az.:IG I 2 - 45053/5	<input type="checkbox"/>	Luf-AA-2003	P: B, S



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Test area / ID	Group II.1 and II.2: Verification of proper installation and function and calibration of continuous emission measuring equipment				
Measurement objective	Standard / Guideline / Technical rule		SRM	QM document	Comments Location
	Title	Description			
Certificate of proper installation	Stationary source emissions - Quality assurance of automated measuring systems and data evaluation systems - General requirements	VDI 3950 sheet 1: 2018-06	<input checked="" type="checkbox"/>	Luf-AA-2001	B, BI, D, HAL, KA, M, S
Functional tests	Stationary source emissions - Quality assurance of automated measuring systems and data evaluation systems - General requirements	VDI 3950 sheet 1: 2018-06	<input checked="" type="checkbox"/>	Luf-AA-2001	B, BI, D, HAL, KA, M, S
Calibration	Stationary source emissions - Quality assurance of automated measuring systems and data evaluation systems - General requirements	VDI 3950 sheet 1: 2018-06	<input checked="" type="checkbox"/>	Luf-AA-2001	B, BI, D, HAL, KA, M, S
Calibration TNBZ (only for II.2)	Federal uniform practice for the monitoring of emissions - BMU circular of 23.01.2017 - Az.: IG I 2 - 45053/5	GMBI 13/14 2017-04 RdSchr. d. BMU 2017-01 Az.:IG I 2 - 45053/5	<input type="checkbox"/>	Luf-AA-2001	B, S
Function test	Stationary source emissions - Quality assurance of automated measuring systems	DIN EN 14181 2015-02	<input checked="" type="checkbox"/>	Luf-AA-2001	B, BI, D, HAL, KA, M, S
Calibration	Stationary source emissions - Quality assurance of automated measuring systems	DIN EN 14181 2015-02	<input checked="" type="checkbox"/>	Luf-AA-2001	B, BI, D, HAL, KA, M, S

Test area / ID	Group VI: Determination of immissions Task area G: Gaseous inorganic compounds				
Component	Standard / Guideline / Technical rule		SRM	QM document	Comments Location
	Title	Description			
SO <sub>2</sub>	Ambient air - Standard method for the measurement of the concentration of sulphur dioxide by ultraviolet fluorescence	DIN EN 14212 2012-11	<input checked="" type="checkbox"/>	Luf-AA-3104	P: S

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Test area / ID	Group VI: Determination of immissions Task area G: Gaseous inorganic compounds					
	Standard / Guideline / Technical rule Title		Description	SRM	QM document	Comments Location
NO <sub>2</sub>	Ambient air - Standard method for the measurement of the concentration of nitrogen dioxide and nitrogen monoxide by chemiluminescence		DIN EN 14211 2012-11	<input checked="" type="checkbox"/>	Luf-AA-3103	P: S
O <sub>3</sub>	Ambient air - Standard method for the measurement of the concentration of ozone by ultraviolet photometry		DIN EN 14625 2012-12	<input checked="" type="checkbox"/>	Luf-AA-3105	P: S
CO	Ambient air - Standard method for the measurement of the concentration of carbon monoxide by non-dispersive infrared spectroscopy		DIN EN 14626 2012-12	<input checked="" type="checkbox"/>	Luf-AA-3102	P: S
NO <sub>2</sub>	Ambient air - Method for the determination of the concentration of nitrogen dioxide by diffusive sampling		DIN EN 16339 2013-11	<input type="checkbox"/>	Luf-AA-3120 Lab-AA-1262	P: S A: S1
NH <sub>3</sub>	Measurement of ammonia in ambient air - Sampling with diffusive samplers - Photometric or ion chromatographic analysis		VDI 3869 sheet 4 2012-03	<input type="checkbox"/>	Luf-AA-3120 Lab-AA-1275	P: S A: S1
NH <sub>3</sub>	Ambient air quality - Diffusive samplers for the determination of concentrations of gases and vapours - Requirements and test methods - Part 1: General requirements Part 2: Specific requirements and test methods Part 3: Guide to selection, use and maintenance		DIN EN 13528-1 2002-12  DIN EN 13528-2 2002-12  DIN EN 13528-3 2004-04	<input type="checkbox"/>	Luf-AA-3120 Lab-AA-1275	P: S A: S1
Hg	Determination of suspended particles in ambient air - Measurement of the mass concentration of mercury - Sampling by sorption as amalgam and determination by atomic absorption spectrometry (AAS) with cold vapour technique		VDI 2267 sheet 8 2000-03	<input type="checkbox"/>	Luf-AA-3125 Lab-AA-1214	P: S A: S1

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Test area / ID	Group VI: Determination of immissions Task area G: Gaseous organic chemical compounds					
	Standard / Guideline / Technical rule Title		Description	SRM	QM document	Comments Location
Benzene	Ambient air quality - Standard method for measurement of benzene concentrations - Part 2: Pumped sampling followed by solvent desorption and gas chromatography		DIN EN 14662-2 2005-08	<input checked="" type="checkbox"/>	Luf-AA-3126 Lab-AA-1219	P: S A: S1
PAH	Ambient air - Determination of total (gas and particle phase) polycyclic aromatic hydrocarbons - Collection on sorbent-backed filters with gas chromatographic/mass spectrometric analysis		DIN ISO 12884 2000-12	<input type="checkbox"/>	Luf-AA 3117 Lab-AA-1222	P: S A: S1
Ethylbenzene, toluene, xylenes and others	Ambient air quality - Standard method for measurement of benzene concentrations - Part 2: Pumped sampling followed by solvent desorption and gas chromatography		DIN EN 14662-2 2005-08		Luf-AA-3116 Lab-AA-1219	P: S A: S1
Benzene, ethylbenzene, toluene, xylenes and others	Ambient air quality - Standard method for measurement of benzene concentrations - Part 5: Diffusive sampling followed by solvent desorption and gas chromatography		DIN EN 14662-5 2005-08		Luf-AA-3120 Lab-AA-1219	P: S A: S1
Benzene, ethylbenzene, toluene, xylenes and others	Determination of gaseous compounds in ambient air - Determination of indoor air pollutants - Gas chromatographic determination of organic compounds - Active sampling by accumulation on activated charcoal - Solvent extraction		VDI 2100 sheet 2 2010-11		Luf-AA-3116 Lab-AA-1219	P: S A: S1

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Test area / ID	Group VI: Determination of immissions Task area P: Particulate compounds and chemical compounds adsorbed on particles					
	Standard / Guideline / Technical rule Title		Description	SRM	QM document	Comments Location
Particulate matter (PM10)	Ambient air -Standard gravimetric measurement method for the determination of the PM10 or PM2,5 mass concentration of suspended particulate matter		DIN EN 12341 2014-08	<input checked="" type="checkbox"/>	Luf-AA-3114 Lab-AA-1220	P: S A: S1
Dust deposition	Measurement of atmospheric depositions - Determination of the dust deposition according to the Bergerhoff method		VDI 4320 sheet 2 2012-01	<input type="checkbox"/>	Luf-AA-3111 Lab-AA-1212	P: S A: S1
PAH	Ambient air - Determination of total (gas and particle phase) polycyclic aromatic hydrocarbons - Collection on sorbent-backed filters with gas chromatographic/mass spectrometric analysis		DIN ISO 12884 2000-12	<input type="checkbox"/>	Luf-AA-3117 Lab-AA-1222	P: S A: S1
PAH	PAH from indoor measurements and ambient air in accordance with DIN ISO 12884 by HPLC		Lab-AA-1222 2020-05		Lab-AA-1222	A: S1
Arsenic (As)	Ambient air quality - Standard method for determination of arsenic, cadmium, lead and nickel in atmospheric deposition		DIN EN 15841 2010-04	<input type="checkbox"/>	Luf-AA-1315 Lab-AA-1212 und 1213	P: S A: S1
Cadmium (Cd)	Ambient air quality - Standard method for determination of arsenic, cadmium, lead and nickel in atmospheric deposition		DIN EN 15841 2010-04	<input type="checkbox"/>	Luf-AA-1315 Lab-AA-1212 und 1213	P: S A: S1
Nickel (Ni)	Ambient air quality - Standard method for determination of arsenic, cadmium, lead and nickel in atmospheric deposition		DIN EN 15841 2010-04	<input type="checkbox"/>	Luf-AA-1315 Lab-AA-1212 und 1213	P: S A: S1

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Test area / ID	Group VI: Determination of immissions Task area P: Particulate compounds and chemical compounds adsorbed on particles					
	Standard / Guideline / Technical rule Title		Description	SRM	QM document	Comments Location
Lead (Pb)	Ambient air quality - Standard method for determination of arsenic, cadmium, lead and nickel in atmospheric deposition		DIN EN 15841 2010-04	<input type="checkbox"/>	Luf-AA-1315  Lab-AA-1212 und 1213	P: S A: S1
Particulate matter (PM2.5)	Ambient air -Standard gravimetric measurement method for the determination of the PM10 or PM2,5 mass concentration of suspended particulate matter		DIN EN 12341 2014-08	<input checked="" type="checkbox"/>	Luf-AA-3114  Lab-AA-1220	P: S A: S1
Benzo[a]pyrene	Air quality - Standard method for the measurement of the concentration of benzo[a]pyrene in ambient air		DIN EN 15549 2008-06		Luf-AA-3117  Lab-AA-1222	P: S A: S1
PAK	Air quality -Determination of the deposition of benz[a]anthracene, benzo[b]fluoranthene, benzo[j]fluoranthene, benzo[k]fluoranthene, benzo[a]pyrene, dibenz[a,h]anthracene and indeno[1,2,3-cd]pyrene		DIN EN 15980 2011-08	<input type="checkbox"/>	Lab-AA-1222	A: S1
Metals	Ambient air quality - Standard method for determination of arsenic, cadmium, lead and nickel in atmospheric deposition		DIN EN 15841 2010-04	<input checked="" type="checkbox"/>	Luf-AA-3115  Lab-AA-1212 und 1213	P: S A: S1
Metals	Ambient air quality - Standard method for the measurement of Pb, Cd, As and Ni in the PM10 fraction of suspended particulate matter		DIN EN 14902 2005-10  Correction 2007-01	<input checked="" type="checkbox"/>	Luf-AA-3114  Lab-AA-1218	P: S A: S1

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Test area / ID	Group VI: Determination of immissions Task area P: Particulate compounds and chemical compounds adsorbed on particles				
	Standard / Guideline / Technical rule		SRM	QM document	Comments Location
Component	Title	Description			
Metals	Determination of suspended matter in ambient air - Measurement of the element concentration after sampling on filters - Determination of Al, As, Ba, Ca, Cd, Co, Cr, Cu, Fe, K, Mg, Mn, Na, Ni, Pb, Sb, Se, Sn, Tl, V, and Zn by GF-AAS, ICP-OES, or ICP-MS	VDI 2267 sheet 1 2019-12	<input type="checkbox"/>	Luf-AA-3115 Lab-AA-1213	P: S A: S1
Metals	Determination of suspended matter in ambient air - Measurement of Al, As, Ba, Ca, Cd, Co, Cr, Cu, Fe, K, Mg, Mn, Na, Ni, Pb, Sb, Se, Sn, Tl, V, and Zn as part of the atmospheric deposition after sampling with bulk and wet only collectors using GF-AAS, ICP-OES and ICP-MS	VDI 2267 sheet 2 2019-02		Lab-AA-1213	A: S1

Test area / ID	Group VI: Determination of immissions Task area Sp: Special sampling of substances requiring additional effort for sampling or analysis				
	Standard / Guideline / Technical rule		SRM	QM document	Comments Location
Component	Title	Description			
PCDD/PCDF	Ambient air measurement - Indoor air measurement - Measurement of polychlorinated dibenzo-p-dioxins and dibenzofurans; Method using small filters	VDI 3498 sheet 2 2002-07	<input type="checkbox"/>	LUF-AA-3119	P: S
Low volatile organic substances	Ambient air measurement - Deposition measurement of low volatile organic compounds - Determination of PCDD/F deposition; Bergerhoff sampling device and GC/HRMS analysis (sampling only)	VDI 2090 sheet 1 2001-01	<input type="checkbox"/>	Luf-AA-3118	P: S

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Test area / ID	Group VI: Determination of immissions Task area Sa: Special analysis of substances requiring additional effort for sampling or analysis				
	Standard / Guideline / Technical rule Title		SRM	QM document	Comments Location
Fibrous dusts	Indoor air measurement - Ambient air measurement - Measurement of inorganic fibrous particles - Scanning electron microscopy method		VDI 3492 2013-06	<input type="checkbox"/> Lab-AA-1225	A: S1

**Requirements in accordance with immission control modules and DIN 45688:2014**

Group V: Determination of noise			
Standard / Guideline / Technical rule		QM document	Comments Location
Title	Description		
TA Lärm 1998-08 (2017)	Sixth general administrative provision to the Federal Immission Control Act; (Technical guidance on protection against noise - TA Lärm)	LL-AA-1001 2014-09	BI, S
TA Lärm 1968-07	General administrative provision on installations subject to licensing pursuant to Section 16 Gewerbeordnung (trade regulations); Technical guidance on protection against noise - TA Lärm (in conjunction with: VDI 2058 sheet 1:1985-09 "Assessment of working noise in the vicinity")	LL-AA-1001 2014-09	BI, S

**12 Determination of noise**

**12.1 Determination of neighbourhood noise**

AVV Baulärm 1970-08	General administrative regulation for protection against construction noise - Noise immissions - Section 6 Determination of RATING level	BI, S
16. BImSchV 1990-06 (BGBl. I p. 1036) Last amended 2014-12 (BGBl. I p. 2269)	Sixteenth Ordinance on the Implementation of the Federal Immission Protection Law (Traffic Noise Ordinance - 16th BImSchV) Annex 1 (to Section 3): Calculation of the rating level for roads Annex 2 (to Section 4): Calculation of the rating level for railways (Schall 03)	BI, S

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<p>18. BImSchV 1991-07 (BGBl. I p. 1588, 1790) Last amended 2017-06 (BGBl. I p. 1468)</p>	<p>Eighteenth Ordinance on the Implementation of the Federal Immission Protection Law (Sports Facilities Noise Ordinance - 18th BImSchV) Annex 1 - Determination and assessment procedures</p>	<p>BI, S</p>
<p>LAI-Freizeitlärm-RL 2015</p>	<p>Notes on the assessment of noise generated by leisure facilities - Section 3 Determination and assessment of noise emitted by leisure facilities</p>	<p>BI, S</p>

**12.2 Determination of noises at the workplace \*\*\***

<p>DIN EN ISO 9612 2009-09</p>	<p>Acoustics - Determination of occupational noise exposure - Engineering method</p>	<p>BI, S</p>
<p>DIN EN ISO 11201 2010-10</p>	<p>Acoustics - Noise emitted by machinery and equipment - Determination of emission sound pressure levels at a work station and at other specified positions in an essentially free field over a reflecting plane with negligible environmental corrections</p>	<p>BI, S</p>
<p>DIN EN ISO 11202 2010-10</p>	<p>Acoustics - Noise emitted by machinery and equipment - Determination of emission sound pressure levels at a work station and at other specified positions applying approximate environmental corrections</p>	<p>BI, S</p>
<p>DIN EN ISO 11203 2010-01</p>	<p>Acoustics- Noise emitted by machinery and equipment- Determination of emission sound pressure levels at a work station and at other specified positions from the sound power level</p>	<p>BI, S</p>
<p>DIN 45645-2 2012-09</p>	<p>Determination of rating levels from measurement data - Part 2: Determination of the noise rating level for occupational activities at the work place for the level range underneath the given risk of hearing damage</p>	<p>BI, S</p>
<p>VDI 2058 sheet 2 1988-06</p>	<p>Assessment of noise with regard to the risk of hearing damage</p>	<p>BI, S</p>
<p>VDI 2058 sheet 3 2014-08</p>	<p>Assessment of noise in the working area with regard to specific operations</p>	<p>BI, S</p>
<p>VDI 3760 1996-02</p>	<p>Computation and measurement of sound propagation in workrooms</p>	<p>BI, S</p>

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**13 Determination of aerosols and fibre dusts, inorganic and organic gases and vapours and of selected parameters for workplace measurements in accordance with the German Ordinance on Hazardous Substances, Section 7 (10) \*\*\***

Sampling (P) is carried out at the named locations.

Laboratory analysis (A) is carried out only at the locations S1 (Stuttgart, Handwerkstr. 17) and HAL (Halle, Magdeburger Chaussee 60).

Group 1 Aerosols (without fibrous dusts)	Standard title	Standard Issue date	QM document	Comments/ Location
Section/ Component			VA /AA	
<b><u>Dust mass determination</u></b>				
<u>Alveolar dust fraction</u>	Alveolar fraction	IFA 6068 V/2015	Gef-AA-1001  Lab-AA-1010	P: BI, D, H, HAL, KA, M, S A: S1
<u>Inhalable dust fraction</u>	Inhalable dust fraction	IFA 7284 X/2003	Gef-AA-2012  Lab-AA-1010	P: BI, D, H, HAL, KA, M, S A: S1
<b><u>Wood dust</u></b>	Method for determination of wood dust	BGI 505-41 / DGUV Information 213-541 2006-10	Gef-AA-1013  Lab-AA-1010	P: BI, D, H, HAL, KA, M, S A: S1
<b><u>Metals and metal compounds</u></b>	Aluminium (A-dust) (sampling only)	IFA 6060 X/2003	Gef-AA-1029	P: BI, D, H, HAL, KA, M, S
	Lead (sampling only)	IFA 6310 X/2016	Gef-AA-1029	P: BI, D, H, HAL, KA, M, S
	Chromium (sampling only)	IFA 6645 X/2001	Gef-AA-1029	P: BI, D, H, HAL, KA, M, S
	Copper and its compounds (sampling only)	IFA 7755 X/2003	Gef-AA-1029	P: BI, D, H, HAL, KA, M, S
	Copper smoke (sampling only)	IFA 7757 X/2003	Gef-AA-1029	P: BI, D, H, HAL, KA, M, S
	Hydroxides (LiOH, NaOH, KOH, Ca(OH) <sub>2</sub> ) (sampling only)	IFA 7638 V/2009	Gef-AA-1029	P: BI, D, H, HAL, KA, M, S
	Metals (arsenic, beryllium, cadmium, cobalt, nickel) and their compounds (ICP mass spectrometry)	IFA 7808 XII/2013	Gef-AA-1029	P: BI, D, H, HAL, KA, M, S
	Titanium dioxide (A- dust) (sampling only)	IFA 8765 X/2008	Gef-AA-1029	P: BI, D, H, HAL, KA, M, S

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Group 1 Aerosols (without fibrous dusts)	Standard title	Standard Issue date	QM document	Comments/ Location
Section/ Component			VA /AA	
	Titanium dioxide (E- dust) (sampling only)	IFA 8766 X/2008	Gef-AA-1029	P: BI, D, H, HAL, KA, M, S
	Zinc oxide (sampling only)	IFA 8985 VI/1989	Gef-AA-1029	P: BI, D, H, HAL, KA, M, S
	Zirconium and its compounds (sampling only)	IFA 8996 VIII/2010	Gef-AA-1029	P: BI, D, H, HAL, KA, M, S
	Elements by ICP (sampling only)	NIOSH 7300 2003-02	Gef-AA-1029	P: BI, D, H, HAL, KA, M, S
<u>Chromates</u>	Chromium(VI) compounds	IFA 6665 IV/2013	Gef-AA- 1009 Lab-AA-1274	P: BI, D, H, HAL, KA, M, S A: S1
	Method for the determination of hexavalent chromium	BGI 505-5 / DGUV Information 213-505 - 2017-10	Gef-AA- 1009 Lab-AA-1274	P: BI, D, H, HAL, KA, M, S A: S1
<u>Mercury</u>	MERCURY	NIOSH 6009 1994-08	Gef-AA-1022 Lab-AA-1214	P: BI, D, H, HAL, KA, M, S A: S1
<u>Amorphous silicic acids</u>	Silicic acid, amorphous (sampling only)	IFA 7710 V/2011	Gef-AA-1014	P: BI, D, H, HAL, KA, M, S
<u>Crystalline mineral dusts</u>	Quartz (sampling only)	IFA 8522 IV/2005	Gef-AA-1021	P: BI, D, H, HAL, KA, M, S
<u>Simple organic ingredients</u>	See group 5			

Group 2 Fibrous dusts	Standard title	Standard	QM document	Comments Location
Section/ Component			VA /AA	
<u>Asbestos fibres</u>	Method for separate determination of concentrations of respirable inorganic fibres in work areas - Scanning electron microscopy method	BGI/GUV-I 505-46 / DGUV Information 213-546 2014-02	Gef-AA-2001 Lab-AA-1225	P: BI, D, H, HAL, KA, M, S A: S1
<u>Other fibre dusts</u>	Asbestos fibres and other inorganic fibres	BGI/GUV-I 505-46 / DGUV Information 213-546 2014-02	Gef-AA-2001 Lab-AA-1225	P: BI, D, H, HAL, KA, M, S A: S1

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<b>Group 3 Inorganic gases and vapours</b>	<b>Standard title</b>	<b>Standard</b>	<b>QM document</b>	<b>Comments Location</b>
<b>Section/ Component</b>			<b>VA /AA</b>	
<b><u>Halogens</u></b>				
<b><u>Hydrogen halides and other inorganic acids</u></b>	Inorganic acids, volatile: Hydrogen bromide, hydrogen chloride, nitric acid	IFA 6172 IV/2007	Gef-AA-3002 Lab-AA-1217	P: BI, D, H, HAL, KA, M, S A: S1
	Fluorides and hydrogen fluoride	IFA 7512 V/2006	Gef-AA-3007 Lab-AA-1277	P: BI, D, H, HAL, KA, M, S A: S1
	Hydrogen cyanide (HCN) and cyanides (CN)	IFA 6725 XI/2012 in conjunction with DIN 38405-13 2011-04	Gef-AA-3005 Lab-AA-1319	P: BI, D, H, HAL, KA, M, S A: S1
	Inorganic acids, particulate: Phosphoric acid, sulphuric acid	IFA 6173 V/2016	Gef-AA-3003 Lab-AA-1217	P: BI, D, H, HAL, KA, M, S A: S1
<b><u>Other volatile hydrogen compounds</u></b>	Ammonia	IFA 6150 IV/2008 in conjunction with DIN 38406-5:1983-10	Gef-AA-3001 Lab-AA-1275	P: BI, D, H, HAL, KA, M, S A: S1
	Hydrogen phosphide	DFG-Meth.-Nr. 1 1993-04	Gef-AA-1316 Lab-AA-1245	P: BI, D, H, HAL, KA, M, S A: S1

<b>Group 4 (Organic gases and vapours)</b>	<b>Standard title</b>	<b>Standard</b>	<b>QM document</b>	<b>Comments Location</b>
<b>Section/ Component</b>			<b>VA /AA</b>	
<b><u>Aliphatic and aromatic hydrocarbons</u></b>	HYDROCARBONS, BP 36°-216 °C	NIOSH 1500 2003-03	Gef-AA-4013 Lab-AA-1203	P: BI, D, H, HAL, KA, M, S A: S1
	HYDROCARBONS, AROMATIC	NIOSH 1501 2003-03	Gef-AA-4014 Lab-AA-1203	P: BI, D, H, HAL, KA, M, S A: S1
	Solvent mixtures	DFG-Meth.-Nr. 1 2013-04	Gef-AA-4013 Lab-AA-1203	P: BI, D, H, HAL, KA, M, S A: S1
	Solvent hydrocarbons - RCP	IFA 7735 XI/ 2009	Gef-AA-4012 Lab-AA-1203	P: BI, D, H, HAL, KA, M, S A: S1

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<b>Group 4 (Organic gases and vapours)</b>	<b>Standard title</b>	<b>Standard</b>	<b>QM document</b>	<b>Comments Location</b>
<b>Section/ Component</b>			<b>VA /AA</b>	
<b><u>Volatile halogenated hydrocarbons</u></b>	Chlorinated hydrocarbons, aliphatic I	IFA 6600 X/2006	Gef-AA-4005 Lab-AA-1203 Lab-AA-2220	P: BI, D, H, HAL, KA, M, S  A: S1, HAL
<b><u>Ketones and esters</u></b>	Ketones	IFA 7708 IV/2005	Gef-AA-4011 Lab-AA-1203	P: BI, D, H, HAL, KA, M, S A: S1
	Acetic acid esters	IFA 7322 V/2009	Gef-AA-4009 Lab-AA-1294	P: BI, D, H, HAL, KA, M, S A: S1
	ESTERS 1	NIOSH 1450 2003-03	Gef-AA-4009 Lab-AA-1294	P: BI, D, H, HAL, KA, M, S A: S1
<b><u>Alcohols</u></b>	Ethanol	IFA 7330 IV/1997	Gef-AA-4001 Lab-AA-1294	P: BI, D, H, HAL, KA, M, S A: S1
	1-Propanol	IFA 8414 IV/2018	Gef-AA-4001 Lab-AA-1294	P: BI, D, H, HAL, KA, M, S A: S1
	2-Propanol	IFA 8415 IV/1997	Gef-AA-4001 Lab-AA-1294	P: BI, D, H, HAL, KA, M, S A: S1
	1-Butanol	IFA 6385 IV/1997	Gef-AA-4001 Lab-AA-1294	P: BI, D, H, HAL, KA, M, S A: S1
	Isobutanol	IFA 6387 IV/1997	Gef-AA-4001 Lab-AA-1294	P: BI, D, H, HAL, KA, M, S A: S1
	Tert. butanol	IFA 7970 IV/1997	Gef-AA-4001 Lab-AA-1294	P: BI, D, H, HAL, KA, M, S A: S1
	1-Methoxy-2-propanol	IFA 7569 IV/2013	Gef-AA-4001 Lab-AA-1294	P: BI, D, H, HAL, KA, M, S A: S1
	ALCOHOLS I	NIOSH 1400 1994-08	Gef-AA-4001 Lab-AA-1294	P: BI, D, H, HAL, KA, M, S A: S1
	ALCOHOLS II	NIOSH 1401 1994-08	Gef-AA-4001 Lab-AA-1294	P: BI, D, H, HAL, KA, M, S A: S1

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<b>Group 4 (Organic gases and vapours)</b>	<b>Standard title</b>	<b>Standard</b>	<b>QM document</b>	<b>Comments Location</b>
<b>Section/ Component</b>			<b>VA /AA</b>	
<u>Aldehydes</u>	Aldehydes	IFA 6045 XI/2007	Gef-AA-4002 Lab-AA-1246	P: BI, D, H, HAL, KA, M, S A: HAL, S1
<u>Phenols</u>	Phenol, o-, m- and p- cresol	IFA 8330 X/2016	Gef-AA-4017  Lab-AA-1280	P: BI, D, H, HAL, KA, M, S A: S1
<u>Glycols and their derivatives</u>	Glycol ester, glycol ether, methyl methacrylate	IFA 7569 IV/2013	Gef-AA-4010  Lab-AA-1295	P: BI, D, H, HAL, KA, M, S A: S1
<u>Amines</u>	Amines	DFG-Meth.-Nr. 1 2006-02	Gef-AA- <b>4023</b>  Lab-AA-2290	P: BI, D, H, HAL, KA, M, S A: HAL
<u>Epoxides</u>	Ethylene oxide	OSHA 1010 2014-03	Gef-AA-5002  Lab-AA-1324	P: BI, D, H, HAL, KA, M, S A: S1
<u>Organic acids</u>	Organic acids	In-house methods Lab-AA 1276	Gef-AA-4025  Lab-AA-1276	P: BI, D, H, HAL, KA, M, S A: S1
	Oxalic acid	IFA 8275 X/1999	Gef-AA-4024  Lab-AA-1276	P: BI, D, H, HAL, KA, M, S A: S1
<u>Additional sections / components</u>				
<u>Acrylates</u>	METHYL AND ETHYL METHACRYLATE	NIOSH 2537 2003-03	Gef-AA-4022  Lab-AA-1298	P: BI, D, H, HAL, KA, M, S A: S1

<b>Group 5 Selected parameters</b>	<b>Standard title</b>	<b>Standard</b>	<b>QM document</b>	<b>Comments Location</b>
<b>Section/ Component</b>			<b>VA /AA</b>	
<u>Systems with two-phase sampling with summation</u>	Naphthalene	IFA 8055 2016-02	Gef-AA-5011  Lab-AA-1327	P: BI, D, H, HAL, KA, M, S A: S1
	Glycol ester, glycol ether II	IFA 7569/1 XII/2017	Gef-AA-4010  Lab-AA-1295	P: BI, D, H, HAL, KA, M, S A: S1
	Diethylene glycol, ethylene glycol and 1,2-propylene glycol	IFA 7076 2017-02	Gef-AA-4010  Lab-AA-1295	P: BI, D, H, HAL, KA, M, S A: S1

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Group 5 Selected parameters	Standard title	Standard	QM document	Comments Location
Section/ Component			VA /AA	
<b>Multi-component systems</b>	Cooling lubricants and other complex mixtures containing hydrocarbons, not water-miscible	IFA 7750/1 IV/2020	Gef-AA-5006 Lab-AA-1271	P: BI, D, H, HAL, KA, M, S A: S1
	Cooling lubricants	IFA 7750 1997	Gef-AA-5006 Lab-AA-1271	P: BI, D, H, HAL, KA, M, S A: S1
	Bitumen (vapours and aerosols, mineral oil standard)	IFA 6305/1 2008	Gef-AA-5006 Lab-AA-1271	P: BI, D, H, HAL, KA, M, S A: S1
	Polycyclic aromatic hydrocarbons (PAH), semivolatile	IFA 8408 IV/2018	Gef-AA-5008 Lab-AA-1221	P: BI, D, H, HAL, KA, M, S A: S1
	Method for determination of N-nitrosamines	BGI 505-23 / DGUV Information 213-523 1992-09	Gef-AA-5004	P: BI, D, H, HAL, KA, M, S (except analytics)
	Isocyanates	OSHA 42 1989-03, OSHA 47 1989-03, OSHA PV 2034 1988-04, OSHA PV 2092 1988-04	Gef-AA-5003 Lab-AA-2286	P: BI, D, H, HAL, KA, M, S A: HAL
<b>Diesel engine emissions (DME)</b>	Method for determination of carbon in fine particulate matter - Applicable to particulate diesel engine emissions in workplace	BGI 505-44 / DGUV Information 213-544 1995-06	Gef-AA-5001 Lab-AA-2288	P: BI, D, H, HAL, KA, M, S A: HAL

**Determination of biological agents**

Biological agents	Standard title	Standard	QM document	Comments Location
Component			VA /AA	
<b>Moulds</b>	Method for the determination of mould concentration in air at the workplace	IFA 9420 IV/2003	Gef-AA-5009	P: BI, D, H, HAL, KA, M, S (except analytics)

**Methods for workplace measurements in accordance with the German Ordinance on Hazardous Substances Section 7 (10): Other methods**

Inorganic gases and vapours	Standard title	Standard	QM document	Comments Location
<u>Component</u>			VA /AA	
<u>Other volatile hydrogen compounds</u>	Hydrogen sulphide	VDI 3486 sheet 2 1979-04	Gef-AA-3011 Lab-AA-1314	P: BI, D, H, HAL, KA, M, S A: S1

**14 Other methods related to the determination of air pollutants**

**14.1 Determination of polar and non-polar substances from air measurements by gas chromatographic methods \*\***

Lab-AA-1203 2019-09	Non-polar organic solvents from air samples by GC/FID	S1
Lab-AA-1294 2016-11	Alcohols and esters from air measurements by GC/FID	S1
Lab-AA-1295 2019-09	Glycols from air measurements by GC/FID	S1
Lab-AA-1298 2014-10	Polar and non-polar organic compounds from air measurements outside routine analysis	S1
Lab-AA-1325 2019-08	Volatile organic compounds (VOC) from air measurements by TDS-GC-MSD	S1
Lab-AA-2220 2019-01	Highly volatile halogenated hydrocarbons in air samples by GC-ECD-FID after accumulation with charcoal	HAL
LAB-AA-2290 2019-01	Amines from air measurements by GC-MS	HAL

**14.2 Determination of volatile substances from air measurements by high-performance liquid chromatography with standard detectors \*\***

Lab-AA-1246 2016-03	Aldehydes and ketones from air measurements by HPLC	S1
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Lab-AA-2420 2019-07	Aldehydes and ketones from air measurements by HPLC	HAL
Lab-AA-2286 2019-07	Isocyanates in air samples by HPLC	HAL

**14.3 Determination of elements from air measurements using standard inorganic analysis methods on a spectrometric basis \*\*\***

VDI 2267 sheet 1 2019-12	Determination of suspended matter in ambient air - Measurement of the element concentration after sampling on filters - Determination of Al, As, Ba, Ca, Cd, Co, Cr, Cu, Fe, K, Mg, Mn, Na, Ni, Pb, Sb, Se, Sn, Tl, V, and Zn by GF-AAS, ICP-OES, or ICP-MS	S1
VDI 2267 sheet 3 2015-03	Determination of suspended matter in ambient air - Digestion variants for dust samples for the subsequent determination of the mass concentration of Al, Sb, As, Pb, Cd, Ca, Cr, Co, Fe, K, Cu, Mg, Mn, Na, Ni, Se, V and Zn	S1

**15 Sampling and analysis of pollutants in indoor air, house dust, wipe samples, material samples and fibrous dusts \*\*\***

**Sampling (P) is carried out at the named locations.**

**Laboratory analysis (A) is carried out only at the locations S1 (Stuttgart, Handwerkstr. 17) and HAL (Halle, Magdeburger Chaussee 60).**

**15.1 Sampling and analysis of airborne substances in indoor air, house dust, wipe samples, material samples**

For the sampling part of the indoor air tests listed below, the requirements of the sampling strategies DIN EN ISO 16000-1, 2006-06, (general requirements), 5, 2007-05 (VOC), 7, 2007-11 (asbestos fibres), 12, 2008-08 (PCB, PCDD/PCDF) are fulfilled.

DIN ISO 16000-3 2013-01	Indoor air - Part 3: Determination of formaldehyde and other carbonyl compounds in indoor air and test chamber air - Active sampling method	P: BI, D, F, H, HAL, HH, KA, M, S A: S1
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DIN ISO 16000-6 2012-11	Indoor air - Part 6: Determination of volatile organic compounds in indoor and test chamber air by active sampling on Tenax TA® sorbent, thermal desorption and gas chromatography using MS or MS-FID	P: BI, D, F, H, HAL, HH, KA, M, S A: S1
DIN EN ISO 16000-9 2008-04	Indoor air - Part 9: Determination of the emission of volatile organic compounds from building products and furnishing - Emission test chamber method	S1
VDI 2100 sheet 2 2010-11	Determination of gaseous compounds in ambient air - Determination of indoor air pollutants - Gas chromatographic determination of organic compounds - Active sampling by accumulation on activated charcoal - Solvent extraction	P: BI, D, H, HAL, HH, KA, M, S A: S1
VDI 2100 sheet 3 2011-10	Determination of gaseous compounds in ambient air - Determination of indoor air pollutants - Gas chromatographic determination of organic compounds - Active sampling by accumulation on adsorbents - Thermal desorption	P: BI, D, F, H, HAL, HH, KA, M, S A: S1
VDI 2464 sheet 1 2009-09	Ambient air measurement - Indoor air measurement - Measurement of polychlorinated biphenyls (PCBs) - GC/MS method for PCB 28, 52, 101, 138, 153, 180 (Analysis by GC-ECD)	P: BI, D, F, H, HAL, HH, KA, M, S A: S1
VDI 2464 sheet 4 2019-07	Ambient air measurement - Outdoor and indoor air measurement - Measurement of semi-volatile and persistent organic pollutants (POPs) with GC-HRMS (Analysis for PAH by HPLC)	P: BI, D, F, H, HAL, HH, KA, M, S A: S1
Lab-AA 2347 2019-07	Wood preservatives (PCP / lindane) in air samples after sampling on PU foams by GC	HAL
Lab-AA-1298 2014-10	Polar and non-polar organic compounds from air measurements outside routine analysis	A: S1
Geb-AA- 6008 2019-08	PCB sampling and assessment	P: BI, D, F, H, HAL, HH, KA, M, S

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Geb-AA- 6017  
2019-08

PAH sampling and assessment

P: BI, D,  
F, H,  
HAL, HH,  
KA, M, S

**15.2 Sampling and analysis of inorganic fibrous particles**

VDI 3492  
2013-06

Indoor air measurement - Ambient air measurement -  
Measurement of inorganic fibrous particles - Scanning  
electron microscopy method

P: BI, D,  
F, H, HAL,  
HH, KA,  
M, S  
A: S1

VDI 3877 sheet 1  
2011-09

Indoor air pollution - Measurement of fibrous dust  
settled on surfaces - Sampling and analysis (REM/EDXA)

P: BI, D,  
F, H, HAL,  
HH, KA,  
M, S  
A: S1

**16 Test method list for specialist module for WATER**  
**Revised: LAWA of 18.10.2018**

**Section 1: Sampling and general parameters**

Parameter	Method	Was	Sur	Raw	Loca- tion
Sampling of waste water	<b>DIN 38402-A 11: 2009-02</b>	<input type="checkbox"/>			
Sampling from running waters	DIN EN ISO 5667-6: 2016-12 (A 15)		<input checked="" type="checkbox"/>		S, D, F, H, M
Sampling from aquifers	DIN 38402-A 13: 1985-12			<input checked="" type="checkbox"/>	S, D, F, H, M
Sampling from barrages and lakes	DIN 38402-A 12: 1985-06		<input checked="" type="checkbox"/>		S, D, F, H, M
Homogenisation of samples	<b>DIN 38402-A 30: 1998-07</b>	<input type="checkbox"/>	<input type="checkbox"/>		
Temperature	DIN 38404-C 4: 1976-12	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	S, D, F, H, M
pH value	<b>DIN EN ISO 10523: 2012-04 (C 5)</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	S, D, F, H, M

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Parameter	Method	Was	Sur	Raw	Location
Conductivity (25 °C)	DIN EN 27888: 1993-11 (C 8)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	S, D, F, H, M
Odour	DIN EN 1622: 2006-10 (B 3) Annex C	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	S, D, F, H, M
Colouring	DIN EN ISO 7887: 2012-04 (C 1), Method A	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	S, D, F, H, M
Turbidity	DIN EN ISO 7027: 2000-04 (C 2)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	S, D, F, H, M
Oxygen	DIN EN ISO 5814: 2013-03 (G 22)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	S, D, F, H, M
	DIN ISO 17289: 2014-12 (G 25)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	S, D, F, H, M
	DIN EN 25813: 1993-01 (G 21)		<input type="checkbox"/>	<input type="checkbox"/>	
Redox potential	<b>DIN 38404-C 6: 1984-05</b>	<input type="checkbox"/>		<input checked="" type="checkbox"/>	S, D, F, H, M

**Section 2: Photometry, ion chromatography, titrimetry**

not used

**Section 3: Elemental analysis**

not used

**Section 4/5: Group and sum parameters**

not used

**Section 6: Gas chromatographic methods**

not used

**Section 7: HPLC methods**

not used

**Section 8: Microbiological methods**

not used

**Section 9.1: Biological methods, bio-assays (part 1)**

not used

Valid from: 06.10.2020

Date of issue: 06.10.2020

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**Section 9.2: Biological methods, bio-assays (part 2)**

not used

**17 Test method list for specialist module for SOIL AND CONTAMINATED SITES**  
Revised: LABO dated 16.08.2012

**Test area 1: Solids**

**Section 1.1: Sampling and on-site examination**

Test parameters	Methods/notes	Method		Location
Design of sampling programs		BBodSchV DIN ISO 10381-1: 2003 DIN ISO 10381-5: 2007	<input checked="" type="checkbox"/>	D, F, H, M, S
Sampling for the analysis of suspected contaminated sites and contaminated sites	Manual drilling, sampling on diggings, small percussion bore holes 50 - 80 mm, samples in undisturbed bedding	DIN ISO 10381-2: 2003 DIN EN ISO 22475-1: 2007	<input checked="" type="checkbox"/>	D, F, H, M, S
	heap of debris sampling	LAGA PN 98: 2001		
Sampling after soil digestion for analysis of suspected contaminated sites and contaminated sites for volatile pollutants	The extraction agent must be present in the sample vessels prior to sampling	Handbuch Altlasten, Volume 7, Part 4, HLUG 2000	<input checked="" type="checkbox"/>	D, F, H, M, S
Sampling for investigation of natural, near-natural and cultivated sites		DIN ISO 10381-4: 2004 VDLUFA Methodenhandbuch Volume 1, A1	<input checked="" type="checkbox"/>	D, F, H, M, S
Sampling of sediments		DIN 38414-11: 1987	<input checked="" type="checkbox"/>	D, F, H, M, S
Sampling of suspended solids - <b>optional</b>		DIN 38402-24: 2007	<input type="checkbox"/>	
Sample description		Arbeitshilfe für die Bodenansprache im vor- und nachsorgenden Bodenschutz, excerpt from KA5, 2009 Bodenkundliche Kartieranleitung 5th Edition (KA5): 2005	<input checked="" type="checkbox"/>	D, F, H, M, S
	Series of standards on geotechnical investigation and testing	DIN EN ISO 14688-1: 2011 DIN EN ISO 14689-1: 2011 DIN EN ISO 22475-1: 2007	<input checked="" type="checkbox"/>	D, F, H, M, S

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Test parameters	Methods/notes	Method		Location
Determination of soil type	Feel test in the field	Arbeitshilfe für die Bodenansprache im vor- und nachsorgenden Bodenschutz, excerpt from KA5, 2009 Bodenkundliche Kartieranleitung 5th Edition (KA5): 2005 DIN 19682-2: 2007	<input checked="" type="checkbox"/>	D, F, H, M, S
Sample storage, sample pretreatment in the field, sample transport		DIN 19747: 2009 DIN ISO 10381-1: 2003 DIN ISO 10831-2: 2003 DIN ISO 18512: 2009	<input checked="" type="checkbox"/>	D, F, H, M, S
	Overlay of soil with solvent in the field for analysis for volatile pollutants	DIN ISO 22155: 2006		

**Section 1.2: Laboratory - Analysis of inorganic parameters**

not used

**Section 1.3: Laboratory - Analysis of organic parameters**

not used

**Test area 1.4: Analysis - Dioxins and furans**

not used

**Test area 2: Eluates and percolates, aqueous media**

**Section 2.1: Sampling and on-site examination**

Sampling				
Test parameters	Methods/notes	Method		Location
Design of sampling programmes and sampling techniques		DIN EN ISO 5667-1: 2007	<input checked="" type="checkbox"/>	D, F, H, M, S
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	<input checked="" type="checkbox"/>	D, F, H, M, S
Sampling of leachate		No standardised method currently available Where applicable E-DWA-M 905: 2008	<input checked="" type="checkbox"/>	D, F, H, M, S

Valid from: 06.10.2020

Date of issue: 06.10.2020

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Sampling				
Test parameters	Methods/notes	Method		Location
Sampling of surface water (running waters)	AQS Data Sheet P 8/3: 1998	DIN 38402-15: 2010	<input checked="" type="checkbox"/>	D, F, H, M, S
Sampling of surface water (barrages and lakes)		DIN 38402-12: 1985	<input checked="" type="checkbox"/>	D, F, H, M, S

On-site testing				
Test parameters	Methods/notes	Method		Location
Colouring		DIN EN ISO 7887: 2012	<input checked="" type="checkbox"/>	D, F, H, M, S
Turbidity		DIN EN ISO 7027: 2000	<input checked="" type="checkbox"/>	D, F, H, M, S
Odour		DEV B1/2 1971	<input checked="" type="checkbox"/>	D, F, H, M, S
Temperature		DIN 38404-4: 1976	<input checked="" type="checkbox"/>	D, F, H, M, S
pH value		DIN EN ISO 10523: 2012	<input checked="" type="checkbox"/>	D, F, H, M, S
Oxygen content		DIN EN 25814: 1992	<input checked="" type="checkbox"/>	D, F, H, M, S
Electrical conductivity		DIN EN 27888: 1993	<input checked="" type="checkbox"/>	D, F, H, M, S
Redox potential		DIN 38404-6: 1984	<input checked="" type="checkbox"/>	D, F, H, M, S
Sample storage, sample pretreatment, sample transport		DIN EN ISO 5667-3: 2004	<input checked="" type="checkbox"/>	D, F, H, M, S

**Section 2.2: Laboratory - Analysis of eluates/percolates for inorganic parameters**

not used

**Section 2.3: Laboratory - Analysis of eluates/percolates for organic parameters**

not used

**Test area 3 - Soil gas, landfill gas**

**Section 3.1: Sampling and on-site examination**

Sampling				
Test parameters	Methods/notes	Method		Location
Pile core drilling		DIN ISO 10381-2: 2003 DIN EN ISO 22475-1: 2007	<input checked="" type="checkbox"/>	D, F, H, M, S
Sampling of soil gas		VDI 3865 sheet 2: 1998 VDI 3865 sheet 1: 2005 DIN ISO 10381-7: 2007	<input checked="" type="checkbox"/>	D, F, H, M, S

On-site testing				
Test parameters	Methods/notes	Method		Location
Carbon dioxide (CO <sub>2</sub> )	Direct-display instrument		<input checked="" type="checkbox"/>	D, F, H, M, S
Methane (CH <sub>4</sub> )	Direct-display instrument		<input checked="" type="checkbox"/>	D, F, H, M, S
Hydrogen sulphide (H <sub>2</sub> S)	Direct-display instrument		<input checked="" type="checkbox"/>	D, F, H, M, S
Oxygen (O <sub>2</sub> )	Direct-display instrument		<input checked="" type="checkbox"/>	D, F, H, M, S
Sum parameter trace gases	Direct-display instrument		<input checked="" type="checkbox"/>	D, F, H, M, S

**Section 3.2: Laboratory - Analysis of soil gas, landfill gas**

not used

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Revised 20 October 2000

Test area 1: Solids, inorganic parameters

Test parameters	Procedure	Method		Location
<b>Sampling</b>				
Sampling for the analysis of suspected contaminated sites and contaminated sites	Manual drilling	DIN 19671 sheet 1; 1964	<input checked="" type="checkbox"/>	D, F, H, M, S
	Pile core drilling	E DIN ISO 10381-2 Section 8.5.6; 02.96	<input checked="" type="checkbox"/>	D, F, H, M, S
		DIN 4021, 10.90	<input checked="" type="checkbox"/>	D, F, H, M, S
	Samples in undisturbed bedding	E DIN ISO 10381-2 Section 8.3; 02.96	<input checked="" type="checkbox"/>	D, F, H, M, S
		DIN 19672, Part 1; 1968	<input checked="" type="checkbox"/>	D, F, H, M, S
Sampling for investigation of natural, near-natural and cultivated sites		E DIN ISO 10381-4; 02.96	<input checked="" type="checkbox"/>	D, F, H, M, S
		Bodenkundliche Kartieranleitung 4th Edition, 1994, reprinted in 1996	<input checked="" type="checkbox"/>	D, F, H, M, S
		VDLUF A Methodenhandbuch Volume 1	<input checked="" type="checkbox"/>	D, F, H, M, S
Work safety during sampling		E DIN ISO 10381-3; 02.96	<input checked="" type="checkbox"/>	D, F, H, M, S
		ZH 1/183: 1997	<input checked="" type="checkbox"/>	D, F, H, M, S
<b>On site</b>				
Grain-size distribution	Feel test in the field #	Bodenkundliche Kartieranleitung 4th Edition, 1994, reprinted in 1996	<input checked="" type="checkbox"/>	D, F, H, M, S
		DIN 19682-2: 04.97	<input checked="" type="checkbox"/>	D, F, H, M, S
<b>Laboratory</b>				
Sample pretreatment, sample preparation		DIN ISO 11464; 12.96	<input type="checkbox"/>	
Dry matter	Field-fresh or air-dried soil samples	DIN ISO 11465; 12.96	<input type="checkbox"/>	

# Cannot be used on contaminated surfaces with regard to work safety.



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Test parameters	Procedure	Method		Location
Organic carbon and total carbon after dry combustion	Air-dried soil samples	DIN ISO 10694; 08.96	<input type="checkbox"/>	
pH value (CaCl <sub>2</sub> )	Field-fresh or air-dried soil samples, c(CaCl <sub>2</sub> ): 0.01 mol/l	DIN ISO 10390; 05.97	<input type="checkbox"/>	
Grain-size distribution	1) Sieving, dispersion, pipette analysis	E DIN ISO 11277; 06.94	<input type="checkbox"/>	
		DIN 19683-2; 04.97	<input type="checkbox"/>	
	2) Sieving, dispersion, hydrometer method	DIN 18123; 11.96	<input type="checkbox"/>	
		E DIN ISO 11277; 06.94	<input type="checkbox"/>	
Bulk density	Drying of a suitable volume of soil sample at 105 °C, reweigh	E DIN ISO 11272; 01.94	<input type="checkbox"/>	
		DIN 19683-12; 04.73	<input type="checkbox"/>	
Aqua regia extract	From milled ground samples (particle size < 150 µm)	DIN ISO 11466; 06.97	<input type="checkbox"/>	
Ammonium nitrate extract		DIN 19730; 06.97	<input type="checkbox"/>	
Arsenic (As)	Extraction with aqua regia	ICP - AES DIN EN ISO 11885; 04.98	<input type="checkbox"/>	
		ICP - MS DIN 38406-29 ; 05.99	<input type="checkbox"/>	
		ET - AAS by analogy with E DIN ISO 11047; 06.95	<input type="checkbox"/>	
		Hydrid AAS DIN EN ISO 11969; 11.96	<input type="checkbox"/>	
Cadmium (Cd)	Extraction with aqua regia	AAS E DIN ISO 11047; 06.95	<input type="checkbox"/>	
		ICP - AES DIN EN ISO 11885; 04.98	<input type="checkbox"/>	
		ICP - MS DIN 38406-29 ; 05.99	<input type="checkbox"/>	
Chromium (total)	Extraction with aqua regia	AAS E DIN ISO 11047; 06.95	<input type="checkbox"/>	
		ICP - AES DIN EN ISO 11885; 04.98	<input type="checkbox"/>	
		ICP - MS DIN 38406-29 ; 05.99	<input type="checkbox"/>	
Chromium (VI)	Extraction with phosphate buffered aluminium sulphate solution	Spectrophotometry DIN 19734; 01.99	<input type="checkbox"/>	

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Test parameters	Procedure	Method		Location
Copper (Cu)	Extraction with aqua regia	AAS E DIN ISO 11047; 06.95	<input type="checkbox"/>	
		ICP - AES DIN EN ISO 11885; 04.98	<input type="checkbox"/>	
		ICP - MS DIN 38406-29; 05.99	<input type="checkbox"/>	
Nickel (Ni)	Extraction with aqua regia	AAS E DIN ISO 11047; 06.95	<input type="checkbox"/>	
		ICP - AES DIN EN ISO 11885; 04.98	<input type="checkbox"/>	
		ICP - MS DIN 38406-29; 05.99	<input type="checkbox"/>	
Lead (Pb)	Extraction with aqua regia	AAS E DIN ISO 11047; 06.95	<input type="checkbox"/>	
		ICP - AES DIN EN ISO 11885; 04.98	<input type="checkbox"/>	
		ICP - MS DIN 38406-29; 05.99	<input type="checkbox"/>	
Thallium (Tl)	AAS	E DIN ISO 11047: 06.95	<input type="checkbox"/>	
	ICP-AES (ICP-MS possible)	DIN EN ISO 11885: 04.98	<input type="checkbox"/>	
Mercury (Hg)	AAS - Cold vapour technique Extraction with aqua regia Drying temperature may not exceed 400 °C	DIN EN 1483; 08.97 Reduction with Sn(II) chloride or NaBH <sub>4</sub>	<input type="checkbox"/>	
Zinc (Zn)	Extraction with aqua regia	AAS E DIN ISO 11047; 06.95	<input type="checkbox"/>	
		ICP - AES DIN EN ISO 11885; 04.98	<input type="checkbox"/>	
		ICP - MS DIN 38406-29; 05.99	<input type="checkbox"/>	
Cyanide		E DIN ISO 11262; 06.94	<input type="checkbox"/>	

**Test area 2: Solids, organic parameters**

Test parameters	Procedure	Method		Location
<b>Sampling</b>				
Sampling for the analysis of suspected contaminated sites and contaminated sites	Manual drilling	DIN 19671 sheet 1; 1964	<input checked="" type="checkbox"/>	D, F, H, M, S
	Pile core-drilling	E DIN ISO 10381-2 Section 8.5.6; 02.96	<input checked="" type="checkbox"/>	D, F, H, M, S
		DIN 4021, 10.90	<input checked="" type="checkbox"/>	D, F, H, M, S
	Samples in undisturbed bedding	E DIN ISO 10381-2 Section 8.3; 02.96	<input checked="" type="checkbox"/>	D, F, H, M, S
DIN 19672, Part 1; 1968		<input checked="" type="checkbox"/>	D, F, H, M, S	
Sampling for investigation of natural, near-natural and cultivated sites		E DIN ISO 10381-4; 02.96	<input checked="" type="checkbox"/>	D, F, H, M, S
		Bodenkundliche Kartieranleitung 4th Edition, 1994, reprinted in 1996	<input checked="" type="checkbox"/>	D, F, H, M, S
		VDLUFA Methodenhandbuch Volume 1	<input checked="" type="checkbox"/>	D, F, H, M, S
Work safety during sampling		E DIN ISO 10381-3; 02.96 ZH 1/183: 1997	<input checked="" type="checkbox"/>	D, F, H, M, S
<b>On site</b>				
Grain-size distribution	Feel test in the field	Bodenkundliche Kartieranleitung 4th Edition, 1994, reprinted in 1996	<input checked="" type="checkbox"/>	D, F, H, M, S
		E DIN 19682-2; 04.97	<input checked="" type="checkbox"/>	D, F, H, M, S
<b>Laboratory</b>				
Sample treatment, Sample preparation		E DIN ISO 14507; 02.96	<input type="checkbox"/>	
Dry matter	Field-fresh or air-dried soil samples (parallel)	DIN ISO 11465; 12.96	<input type="checkbox"/>	
Organic carbon and total carbon after dry combustion	Air-dried soil samples	DIN ISO 10694; 08.96	<input type="checkbox"/>	
pH value (CaCl <sub>2</sub> )	Field-fresh or air-dried soil samples, c(CaCl <sub>2</sub> ): 0.01 mol/l	DIN ISO 10390; 05.97	<input type="checkbox"/>	
Grain-size distribution	1) Sieving, dispersion, pipette analysis	E DIN ISO 11277; 06.94	<input type="checkbox"/>	
		DIN 19683-2; 04.97	<input type="checkbox"/>	
	2) Sieving, dispersion, hydrometer method	DIN 18123; 11.96	<input type="checkbox"/>	
		E DIN ISO 11277; 06.94	<input type="checkbox"/>	

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Test parameters	Procedure	Method		Location
Bulk density	Drying of a suitable volume of soil sample at 105 °C, weigh again	E DIN ISO 11272; 01.94	<input type="checkbox"/>	
		DIN 19683; 04.73	<input type="checkbox"/>	
Polycyclic aromatic hydrocarbons (PAH)	1) Soxhlet extraction with acetone/toluene or acetone/cyclohexane, chromatographic clean-up	GC - MS Data Sheet 1 LUA NRW, 1994	<input type="checkbox"/>	
16 PAH (EPA)	2) Extraction with tetrahydrofuran or acetonitrile	HPLC-UV/DAD/F* Data Sheet 1 LUA NRW, 1994*	<input type="checkbox"/>	
Benzo(a)pyrene	3) Extraction with acetone, addition of petroleum ether, removal of acetone, chromatographic purification of petroleum ether extract, absorption in acetonitrile	HPLC - UV/F E DIN ISO 13877, 06.95 GC - MS, HPLC - UV/DAD/F	<input type="checkbox"/>	
Note: Acenaphthylene cannot be determined by fluorescence detector	4) Extraction with a water/acetone/petroleum ether mixture in the presence of NaCl	VDLUFA Methodenbuch, Volume VII, 3.3.3.1 Handbuch Altlasten Volume 7, LfU Hessen	<input type="checkbox"/>	
Hexachlorobenzene	Extraction with acetone/cyclohexane mixture or acetone/petroleum ether, possibly chromatographic purification after removal of acetone	GC - ECD, GC - MS E DIN ISO 10382; 02.98	<input type="checkbox"/>	
Pentachlorophenol	Soxhlet extraction with heptane or acetone/heptane (50:50); derivatisation with acetic acid anhydride	GC - ECD, GC - MS E DIN ISO 14154; 10.97	<input type="checkbox"/>	
Aldrin, DDT, HCH mixture	1) Extraction with petroleum ether or acetone/petroleum ether mixture, chromatographic purification 2) Extraction with water/acetone/petroleum ether mixture	GC - ECD, GC - MS E DIN ISO 10382; 02.98	<input type="checkbox"/>	
		GC-ECD, GC-MS VDLUFA Methodenbuch, Volume VII, 3.3.2	<input type="checkbox"/>	

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Test parameters	Procedure	Method		Location
PCB	Extraction with heptane or acetone/petroleum ether, chromatographic purification, Soxhlet extraction with heptane, hexane or pentane, chromatographic purification on AgNO <sub>3</sub> / silica gel column extraction with a water/acetone/petroleum ether mixture in the presence of NaCl	E DIN ISO 10382: 02.98	<input type="checkbox"/>	
		DIN 38414-20: 01.96	<input type="checkbox"/>	
		VDLUFA Methodenbuch, Volume VII, 3.3.2	<input type="checkbox"/>	

**Test area 3: Solids, dioxins and furans**

not used

**Test area 4: Groundwater, leachate, surface water**

Test parameters	Method		Location
<b>Sampling</b>			
Sampling of groundwater	DIN EN ISO 25667, Part 2	<input checked="" type="checkbox"/>	D, F, H, M, S
	DIN 38402-13; 1985	<input checked="" type="checkbox"/>	D, F, H, M, S
	Länderarbeitsgemeinschaft Wasser (LAWA): Groundwater Guideline , Part 3; 03.93 AQS Data Sheet P 8/2; 01.96	<input checked="" type="checkbox"/>	D, F, H, M, S
	Deutscher Verband für Wasserwirtschaft und Kulturbau (DVWK) (German Association for Water Management and Land Improvement): DVWK Rules 128/92 DVWK Data Sheet 245/1997	<input checked="" type="checkbox"/>	D, F, H, M, S
Sampling of leachate	No standardised method currently available	<input checked="" type="checkbox"/>	D, F, H, M, S
Sampling of surface water (running waters)	DIN 38402-15; 07.86	<input checked="" type="checkbox"/>	D, F, H, M, S
	AQS Data Sheet P 8/3; 05.98	<input checked="" type="checkbox"/>	D, F, H, M, S
Sampling of surface water (barrages and lakes)	DIN 38402-12; 06.85	<input checked="" type="checkbox"/>	D, F, H, M, S
<b>On site</b>			
Temperature	DIN 38404-4; 12.76	<input checked="" type="checkbox"/>	D, F, H, M, S

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Test parameters	Method		Location
pH value	DIN 38404-5; 01.84	<input checked="" type="checkbox"/>	D, F, H, M, S
Oxygen content	DIN EN 25814; 11.92	<input checked="" type="checkbox"/>	D, F, H, M, S
Electrical conductivity	DIN EN 27888; 11.93	<input checked="" type="checkbox"/>	D, F, H, M, S
<b>Laboratory</b>			
Elution method 1 (soil saturation extract)	According to specifications of BBodSchV (Annex 1, 3.1.2)	<input type="checkbox"/>	
Elution method 2 (modified S4 method)	DIN 38414-4; 10.84 taking into account the procedural instructions of BBodSchV Annex 1, 3.1.2)	<input type="checkbox"/>	
Elution method 3 (column or lysimeter test)	No standardised method currently available; possibilities for implementation of column or lysimeter tests using the state-of-the-art of analysis methods must be proven	<input type="checkbox"/>	
Antimony (Sb)	ICP - AES based on DIN EN ISO 11885; 04.98	<input type="checkbox"/>	
	ICP - MS DIN 38406-29; 05.99	<input type="checkbox"/>	
	Hydride - AAS E DIN 38405-32; 11.96	<input type="checkbox"/>	
Arsenic (As)	ICP - AES based on DIN EN ISO 11885; 04.98	<input type="checkbox"/>	
	ICP - MS DIN 38406-29; 05.99	<input type="checkbox"/>	
	Hydride - AAS DIN EN ISO 11969; 11.96	<input type="checkbox"/>	
Lead (Pb)	ICP - AES based on DIN EN ISO 11885; 04.98	<input type="checkbox"/>	
	ICP - MS DIN 38406-29; 05.99	<input type="checkbox"/>	
	AAS E DIN 38406-6; 06.97	<input type="checkbox"/>	
Cadmium (Cd)	ICP - AES based on DIN EN ISO 11885; 04.98	<input type="checkbox"/>	
	ICP - MS DIN 38406-29; 05.99	<input type="checkbox"/>	
	AAS DIN EN ISO 5961; 05.95	<input type="checkbox"/>	
Chromium (Cr), total	ICP - AES based on DIN EN ISO 11885; 04.98	<input type="checkbox"/>	
	ICP - MS DIN 38406-29; 05.99	<input type="checkbox"/>	
	AAS DIN EN 1233; 08.96	<input type="checkbox"/>	
Chromium (Cr VI)	Spectrophotometry DIN 38405-24; 05.87	<input type="checkbox"/>	
	Ion chromatography DIN EN ISO 10304-3; 11.97	<input type="checkbox"/>	
Cobalt (Co)	ICP - AES based on DIN EN ISO 11885; 04.98	<input type="checkbox"/>	
	AAS DIN 38406-24; 03.93	<input type="checkbox"/>	
Copper (Cu)	ICP - AES based on DIN EN ISO 11885; 04.98	<input type="checkbox"/>	
	ICP - MS DIN 38406-29; 05.99	<input type="checkbox"/>	
	AAS DIN 38406-7; 09.91	<input type="checkbox"/>	

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Test parameters	Method		Location
Molybdenum (Mo)	ICP - AES based on DIN EN ISO 11885; 04.98	<input type="checkbox"/>	
	ICP - MS DIN 38406-29; 05.99	<input type="checkbox"/>	
Nickel (Ni)	ICP - AES based on DIN EN ISO 11885; 04.98	<input type="checkbox"/>	
	ICP - MS DIN 38406-29; 05.99	<input type="checkbox"/>	
	AAS DIN 38406-11; 09.91	<input type="checkbox"/>	
Mercury (Hg)	AAS - cold vapour technique DIN EN 1483; 08.97	<input type="checkbox"/>	
Selenium (Se)	ICP - AES based on DIN EN ISO 11885; 04.98	<input type="checkbox"/>	
	ICP - MS DIN 38406-29; 05.99	<input type="checkbox"/>	
	AAS DIN 38405-23; 10.94	<input type="checkbox"/>	
Zinc (Zn)	ICP - AES based on DIN EN ISO 11885; 04.98	<input type="checkbox"/>	
	ICP - MS DIN 38406-29; 05.99	<input type="checkbox"/>	
	AAS DIN 38406-8; 10.80	<input type="checkbox"/>	
Tin (Sn)	ICP - AES based on DIN EN ISO 11885; 04.98	<input type="checkbox"/>	
	ICP - MS DIN 38406-29; 05.99	<input type="checkbox"/>	
Cyanide, total	Spectrophotometry DIN 38405-13; 02.81	<input type="checkbox"/>	
	E DIN EN ISO 14403; 05.98	<input type="checkbox"/>	
Cyanide (CN <sup>-</sup> ), readily liberated	Spectrophotometry DIN 38405-13; 02.81	<input type="checkbox"/>	
Fluoride (F <sup>-</sup> )	Fluoride-sensitive electrode DIN 38405-4; 07.85	<input type="checkbox"/>	
	Ion chromatography DIN EN ISO 10304-1; 04.95	<input type="checkbox"/>	
BTEX	GC - FID DIN 38407-9; 05.91 (note matrix load)	<input type="checkbox"/>	
Volatile halogenated hydrocarbons	GC - ECD DIN EN ISO 10301; 08.97	<input type="checkbox"/>	
Aldrin	GC - ECD, GC - MS possible DIN 38407-2; 02.93	<input type="checkbox"/>	
DDT	GC - ECD, GC - MS possible DIN 38407-2; 02.93	<input type="checkbox"/>	
Phenols	GC - ECD ISO DIS 8165-2; 01.97	<input type="checkbox"/>	
Chlorophenols	GC - ECD, GC - MS E DIN EN 12673; 02.97	<input type="checkbox"/>	
Chlorobenzenes	GC - ECD, GC - MS possible DIN 38407-2; 02.93	<input type="checkbox"/>	
Polychlorinated biphenyls (PCB): 6 PCB congeners (no. 28, 52, 101, 138, 163, 180, Ballschmitter)	GC - ECD, GC - MS DIN 38407-2; 02.93	<input type="checkbox"/>	
	E DIN 38407-3; 10.95	<input type="checkbox"/>	
16 PAH (EPA)	HPLC - F DIN 38407-18; 05.99	<input type="checkbox"/>	
Naphthalene	GC - FID, GC - MS DIN 38407-9; 05.91	<input type="checkbox"/>	
Petroleum hydrocarbons	Extraction with petroleum ether; Gas chromatographic determination in accordance with ISO/TR 11064; 06.94	<input type="checkbox"/>	

**Test area 5: Soil gas, landfill gas**

Test parameters	Method		Location
<b>Sampling</b>			
Sampling of soil gas	Verein Deutscher Ingenieure (Association of German Engineers) VDI 3865 sheet 2, Section 4.4.3	<input checked="" type="checkbox"/>	D, F, H, M, S
	VDI 3865 sheet 2, Section 4.4.4	<input checked="" type="checkbox"/>	D, F, H, M, S
	VDI 3865 sheet 2, Section 4.4.5	<input checked="" type="checkbox"/>	D, F, H, M, S
<b>On site</b>			
Carbon dioxide (CO <sub>2</sub> )	Direct-indicating instrument	<input checked="" type="checkbox"/>	D, F, H, M, S
Methane (CH <sub>4</sub> )	Direct-indicating instrument	<input checked="" type="checkbox"/>	D, F, H, M, S
Hydrogen sulphide (H <sub>2</sub> S)	Direct-indicating instrument	<input checked="" type="checkbox"/>	D, F, H, M, S
Oxygen (O <sub>2</sub> )	Direct-indicating instrument	<input checked="" type="checkbox"/>	D, F, H, M, S
Sum parameter trace gases	Direct-indicating instrument	<input checked="" type="checkbox"/>	D, F, H, M, S
<b>Laboratory</b>			
BTEX	VDI 3865 sheet 3, Section 3.2	<input type="checkbox"/>	
Volatile halogenated hydrocarbons	VDI 3865 sheet 3, Section 3.2	<input type="checkbox"/>	

**Test area 6: Dry and wet deposition**

not used

**Test area 7: Examination of forest soil**

not used

**Test area 8: Analysis for the assessment of terrestrial ecotoxicity of pollutants**

not used



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**19 Test method list for specialist module for WASTE**  
Revised: LAGA, May 2018

**Test area 1: Sewage sludge**

not used

**Test area 2: Soil**

**Section 2.1**

not used

2.2	Heavy metals	Section 4 (1) AbfKlärV Section 9 (2) BioAbfV		
	Aqua regia digestion	DIN EN 16174 (11.12)	<input checked="" type="checkbox"/>	HAL
		DIN EN 13657 (01.03)	<input checked="" type="checkbox"/>	HAL
	Lead, cadmium, chromium, copper, nickel, zinc, (from aqua regia digestion)	DIN ISO 11047 (05.03)	<input type="checkbox"/>	
		DIN EN ISO 17294-2 (01.17)	<input type="checkbox"/>	
		DIN ISO 22036 (06.09)	<input checked="" type="checkbox"/>	HAL
		DIN EN 16170 (01.17)	<input type="checkbox"/>	
		DIN EN 16171 (01.17)	<input type="checkbox"/>	
		DIN EN ISO 11885 (09.09)	<input checked="" type="checkbox"/>	HAL
	Mercury (from aqua regia digestion)	DIN ISO 16772 (06.05)	<input checked="" type="checkbox"/>	HAL
		DIN EN 12846 (08.12)* a method incorrectly specified in legislation; DIN EN ISO 12846 (08.12) correct	<input checked="" type="checkbox"/>	HAL
		EN 16175-1 (12.16)	<input type="checkbox"/>	
		EN 16175-2 (12.16)	<input type="checkbox"/>	
		DIN EN 16171 (01.17)	<input type="checkbox"/>	
		DIN EN ISO 17852 (04.08)	<input type="checkbox"/>	

<b>2.3</b>	<b>Physical parameters, phosphate</b>	<b>Section 4 (1) AbfKlärV Section 9 (2) BioAbfV</b>		
	Phosphate (from CAL/DL extract; P-content determination must be converted to o-phosphate)	VDLUFA Methodenbuch, Volume I, Method A 6.2.1.1 (6th Part 2012)	<input checked="" type="checkbox"/>	HAL
		VDLUFA Methodenbuch, Volume I, Method A 6.2.1.2 (Main Volume	<input checked="" type="checkbox"/>	HAL
		DIN EN ISO 10304-1 (07.09)	<input type="checkbox"/>	
		DIN ISO 22036 (06.09)	<input checked="" type="checkbox"/>	HAL
	Soil type (clay content)	DIN 19682-2 (07.14)	<input type="checkbox"/>	
		DIN 18123 (04.11)	<input checked="" type="checkbox"/>	HAL
	pH value	DIN EN 15933 (11.12)	<input checked="" type="checkbox"/>	HAL
		ISO 10390 (02.05)	<input checked="" type="checkbox"/>	HAL
		VDLUFA Methodenhandbuch I A 5.1.1	<input type="checkbox"/>	
	Dry residue	DIN EN 15934 (11.12)	<input checked="" type="checkbox"/>	HAL
		DIN EN 12880 (02.01)	<input type="checkbox"/>	

	<b>Organic substances</b>	<b>Section 4 (2) AbfKlärV</b>		
<b>2.4</b>	<b>Polychlorinated biphenyls (PCB)</b>	DIN ISO 10382 (05.03)	<input checked="" type="checkbox"/>	HAL
		DIN EN 16167 (11.12)	<input type="checkbox"/>	
<b>2.5</b>	<b>Benzo(a)pyrene (BaP)</b>	DIN ISO 18287 (05.06)	<input checked="" type="checkbox"/>	HAL
		DIN CEN TS 16181; DIN SPEC 91243 (12.13)	<input checked="" type="checkbox"/>	HAL
		DIN 38414-23 (02.02)	<input type="checkbox"/>	

**Test area 3: Biowaste**

not used

**Test area 4: Waste oil, insulating liquid**

not used

Valid from: 06.10.2020

Date of issue: 06.10.2020

**Test area 5: Landfill waste**

	Sections/ Parameter	Basis/ Method		Locations
		Section 6 (2), Section 8 (1), (3) and (5) DepV		
5.1	Sampling	LAGA PN 98 (12.01)	<input checked="" type="checkbox"/>	

**Sections 5.2 - 5.4**

not used

**Test area 6: Wood waste**

not used

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The methods listed in section 11 comply with the requirements of the  
“Specialist customer certificate for determination in the area of immission control”  
“LAI specialist module for immission control” (updated version by L/W/V of 30.01.2018)  
Competence is confirmed for the testing and technical areas of activity regulated by immission  
control law

Group I.1 G, P, O, Sp, I.2, II.1, II.2, IV G, P, Sp, V

The methods listed in section 13 comply with the requirements for determining the concentration of hazardous substances at workplaces. Together with the review of the reports submitted in sufficient numbers for the individual groups, competence for

Group 1

Group 2

Group 3

Group 4

Group 5 Systems with two-phase sampling with summation: Naphthalene, glycol ether / ester, glycols

Multi-component systems: Cooling lubricants, bitumen, polycyclic aromatic hydrocarbons (PAH), N-nitrosamines, isocyanates, diesel engine emissions, DME

for the determination and assessment of concentrations of hazardous substances in air in workplaces in accordance with the German Ordinance on Hazardous Substances Section 7 (10) is confirmed.

**Abbreviations used:**

AbfKlärV	German Sewage Sludge Ordinance
AltholzV	German Waste Wood Ordinance
AQS	Analytische Qualitätssicherung (Analytical Quality Assurance)
ASTM	American Society for Testing and Materials
AVV	Allgemeine Verwaltungsvorschrift (general administrative regulation)
BGBI	Bundesgesetzblatt (Federal Law Gazette)
BGI	Berufsgenossenschaftliche Informationen (trade association information)
BIA	Berufsgenossenschaftliches Institut für Arbeitsschutz (German Institute for Occupational Safety and Health)
BBodSchV	Ordinance on the Federal Soil Protection Act
BImSchV	Ordinance on the Federal Immission Control Act
BioAbfV	German Biowaste Ordinance
BVL	Bundesamt für Verbraucherschutz und Lebensmittelsicherheit (Federal Office of Consumer Protection and Food Safety)
C.F.R.	Code of Federal Regulations
CEN	Comité Européen de Normalisation
CPSC	Consumer Product Safety Commission
DEV	Deutsche Einheitsverfahren (German standard methods)
DFG	Deutsche Forschungsgemeinschaft (German Research Foundation)
DGF	Deutsche Gesellschaft für Fettwissenschaft e.V. (German Society for Fat Research)
DIN	Deutsches Institut für Normung (German Institute for Standardization)
DVGW	Deutscher Verein des Gas- und Wasserfaches e.V. (German Association of the Gas and Water Industry)
E	Draft
EC	European Community
EN	European standard
EWF	Essential Work of Fracture
GB	National Standard of the People's Republic of China
Gef-AA	Work instruction of DEKRA Automobil GmbH in the area of hazardous substances measurements
GMBI	Gemeinsames Ministerialblatt (Joint Ministerial Gazette)
Raw	Groundwater
IFA	Institut für Arbeitsschutz der Deutschen Gesetzlichen Unfallversicherung (Institute for Occupational Safety and Health of the German Social Accident Insurance)
IKW	Industrieverband Körperpflege und Waschmittel e.V. (German Cosmetic, Toiletry, Perfumery and Detergent Association)
ISO	International Organization for Standardization
Lab-AA	Laboratory work instruction of DEKRA Automobil GmbH
LAGA	Länderarbeitsgemeinschaft Abfall (Regional Working Group on Waste)
LAI	Länderausschuss für Immissionsschutz (Immission Control Committee of Germany's federal states)
LAWA	Länderarbeitsgemeinschaft Wasser (Regional Working Group on Water)
LL-AA	Work instruction of DEKRA Automobil GmbH in the area of noise measurements
Luf-AA	Work instruction of DEKRA Automobil GmbH in the immission control module

Valid from: 06.10.2020

Date of issue: 06.10.2020

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NIOSH	National Institute for Occupational Safety and Health
Sur	Surface water
OSHA	Occupational Safety and Health Administration
RAL	Reichsausschuss für Lieferbedingungen (Imperial Commission for Delivery Terms and Quality Assurance)
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals (Regulation (EC) No 1907/2006)
DIR	Directive
RoHS	Restriction of Hazardous Substances (EC Directive 2002/95/EC)
SPEC	Standard Performance Evaluation Corporation
SVHC	Substance of Very High Concern
TA	Technische Anleitung (technical instruction)
TS	Technische Spezifikation (technical specification)
VDA	Verband der Automobilindustrie (Association of the German Automotive Industry)
VDE	Verband der Elektrotechnik (VDE Testing and Certification Institute)
VDI	Verein deutscher Ingenieure (Association of German Engineers)
VDLUFA	Verband Deutscher Landwirtschaftlicher Untersuchungs- und Forschungsanstalten (Association of German Agricultural Testing and Research Institutions)
VOC	Volatile Organic Compounds