

Deutsche Akkreditierungsstelle GmbH

Annex to the Accreditation Certificate D-PL-17150-01-00 according to DIN EN ISO/IEC 17025:2018

Valid from: 24.05.2022

Date of issue: 24.05.2022

Holder of certificate:

Henkel AG & Co. KGaA
Corporate Scientific Solutions
Henkelstraße 67, 40589 Düsseldorf

Tests in the fields:

physical, physico-chemical, chemical and safety technical investigations of chemical products (such as inorganic and organic chemicals, biological materials, textiles and fibers, dyestuffs and pigments, oils, fats, waxes, resins, emulsifiers, additives, surfactants, polymers, ceramics, minerals, glass, foils, rubber, plastics and plastic additives as well as of gases, dust, metals and coal, food additives, biocidal products and preservatives as well as raw materials, intermediate and final products of cosmetics, disinfectants, detergents and cleansing agents, adhesives and sealants and cooling lubricants);

efficacy testing of disinfectants and antiseptics;

microbiological analysis of plastics and other sealing materials;

investigations of cosmetic products and their ingredients;

physical, physico-chemical, chemical und microbiological investigation of water (wastewater, raw water, process water, industrial water, leakage water and of pipeline bound water dispensers);

sampling of raw water, process water as well as of pipeline bound water dispensers;

microbiological and selected chemical analyses according to Drinking Water Regulation;

sampling of raw water and drinking water

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

The certificate together with the annex reflects the status as indicated by the date of issue.

The current status of any given scope of accreditation may be found respectively in the database of accredited bodies of Deutsche Akkreditierungsstelle GmbH <https://www.dakks.de/en/content/accredited-bodies-dakks>.

Abbreviations used: see last page

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

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

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

Within the given testing field marked with *, the testing laboratory is permitted, without being required to inform and obtain prior approval from DAkkS, to apply the standardized or equivalent test methods in different versions listed in this document.**

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

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1 Investigation of chemical products

1.1 Physical, physico-chemical and chemical investigations of chemical raw materials, intermediate and final products

1.1.1 Determination via NMR-spectroscopy for structure elucidation **

11X12004. E3 2016-10	Assay Determination of L-Lysine Hydrochloride via ¹ H-NMR
11X13001. E3 2016-10	Assay Determination of Histidine via ¹ H-NMR
11X13002. E3 2016-10	Assay Determination of Ornithine hydrochloride via ¹ H-NMR
11K15001.03 2021-10	Qualitative Determination of Functional Groups in Chemical Products and Raw Materials via ¹ H-NMR-Spectroscopy
11K15003.03 2021-10	Qualitative Determination of Functional Groups in Chemical Products and Raw Materials via ¹³ C-NMR-Spectroscopy

1.1.2 Determination of parameters via infrared spectroscopy (FT-IR) **

13X14001.01 2014-05	Investigation of the curing process of polyurethane-hotmelts via infrared spectroscopy
13K02001.02 2015-12	Determination of the mixing ratio resin/curing agent in cured PU laminating adhesives via infrared spectroscopy
13K21001.02 2021-10	Qualitative Determination of Functional Groups in Chemical Products and Raw Materials via FT-IR-Spectroscopy in Transmission, Reflexion and ATR
13X20001.01 2020-12	Determination of Resins in Bonderite L-FM FL Products via IR-Spectroscopy

1.1.3 Determination of ingredients and additives as well as contaminants via gas chromatography with conventional detectors (GC-FID, GC-TEA-detection) **

21X13001.02 2021-10	Determination of organic solvents in aqueous or water containing matrices by the example of disinfectants via GC-FID
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26X14001.03 2021-10	Determination of the N-NO-content (total N-Nitroso) in chemical products and raw materials according to the chemiluminescence-method
21X18001.02 2021-10	Determination of volatile organic compounds (solvents) in the weight percent range in solvent-based chemical products and raw materials via GC-FID
21X18003.02 2021-10	Determination of purity of Octocrylene via GC-FID
21X18005.02 2021-10	Quantitative determination of acrylic acid, methacrylic acid and their esters and ethyl acetate in acryl based matrices in the ppm range via GC-FID
21X21001.02 2021-10	Determination of fatty acids after silylation in chemical products and raw materials via GC-FID

1.1.4 Determination of ingredients and additives as well as contaminants via High Performance Liquid Chromatography with conventional detectors (HPLC-PDA, HPLC-ELSD, HPLC-FLD, HPLC-RID, HPLC-LFD) **

22X04004.03 2015-12	Liquid chromatographic trace analysis of 2,4-diaminotoluene, 2,6-diaminotoluene, 2,2'-diaminodiphenylmethane, 2,4'-diaminodiphenylmethane and 4,4'-diaminodiphenylmethane in acetic acid migrates
22X07010.E1 2007-03	Liquid-Chromatographic Trace Analysis of Alkyl (C12-C18)-Amine Polyethylene Glycol Ether (6-20 EO) and Alkyl (C12-C18)-Polyethylene Glycol (< 8 EO)-Polypropylene Glycol (< 8 PO) Ether in Rinse Water Samples in the Context of a Cleaning Validation
22X07014.01 2007-06	Determination of preservatives in cosmetics
22X13004.02 2015-12	Liquid chromatographic determination of formaldehyde und acetaldehyde in wash solutions from emission measurements
22X13005.01 2013-06	Liquid chromatographic determination of ethanolamine and diethanolamine in wash solutions from emission measurements
22X14006.01 2014-12	Liquid chromatographic determination von D-panthenol in cosmetic formulations via UPLC™
22X14007.02 2015-12	Liquid chromatographic determination of formaldehyde in dispersion adhesives via UPLC™

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22X14008.01 2015-01	Liquid chromatographic determination of vitamin E and vitamin E-acetate in cosmetic formulations via UPLC™
22X14009.01 2015-01	Liquid chromatographic determination of alpha-bisabolol in cosmetic formulations via UPLC™
22X14010.01 2015-01	Liquid chromatographic determination of cetylpyridiniumchloride in cosmetic formulations via UPLC™
22X18001.01 2019-07	Liquid chromatographic determination of isocyanates via fluorescence detection in foils
22X18002.01 2019-09	Liquid chromatographic determination of isocyanates via fluorescence detection in adhesives

1.1.5 Determination of ingredients and additives as well as parameters via gel-permeation-chromatography (GPC-UVD, GPC-UVD-RID) **

22X05019.01 2005-12	Determination of the molar mass average and molar mass distribution of polymers soluble in tetrahydrofuran via gel permeation chromatography
22X08002.E1 2008-04	Determination of Monomeric 4,4'-Methylene-bis-(Phenyl Isocyanate) and 2,4-Toluylene Diisocyanate in Isocyanate-Containing Products Using Gel Permeation Chromatography
22X19002.01 2020-07	Determination of free 2,4'-Methylene-bis-(phenylisocyanate), 4,4'-Methylen-bis-(phenylisocyanate) und 2,4-Toluylenediisocyanate in polyurethane containing products using gel permeation chromatography with APC-technique

1.1.6 Determination of ingredients and additives, contaminants as well as elements via ion chromatography with conventional detectors (IC-LFD, IC-UV/VIS-detection) **

23X96002.04 2018-02	Ion chromatographic determination of optical brighteners in detergents
23X06001.02 2015-11	Ion chromatographic determination of chloride and sulfate in rolling oil emulsions
23X09002.02 2016-12	Ion chromatographic determination of tetraacetythyldiamine (TAED) in raw materials, detergents and cleansing agents

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23X10002.01 2010-08	Ion chromatographic determination of quaternary ammonium compounds in disinfectants
23X16001.02 2018-01	Trace determination of fluorine and sulfur in fatty acid esters via combustion IC
23X17001.E1 2018-01	Determination of the Stabilizer Hydroxyethane-1,1-Diphosphonic Acid (HEDP) in Peracetic Acid Solutions using Ion Chromatography and Conductivity Detection
23X18004.02 2021-11	Quantification of bromide, chloride, fluoride, nitrate, nitrite, phosphate and sulfate in aqueous solution via ion chromatography and conductivity or UV-VIS-detection
23X20001.02 2021-11	Quantification of acetate, citrate, formate, lactate and oxalate in aqueous solution via ion chromatography and conductivity or UV-VIS-detection

1.1.7 Determination of ingredients and additives via thin layer chromatographic investigations (DC) **

24X96001.03 2018-11	Thin layer chromatographic determination of Alkyl Polyglucosides in Consumer Products
24X00001.01 2000-09	Thin layer chromatographic determination of fatty acid-EO-methylester in Glucopon 600
24X00002.01 2000-08	Determination of free glycerol via quantitative thin layer chromatography
24X11001.01 2011-11	Thin layer chromatographic quantification of amphotensides in detergents and cleansing agents as well as cosmetic products
24X12001.01 2012-04	Determination of polyethyleneglycol in detergents and cleansing agents
24X12002.01 2012-04	Determination of amines in technical products

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1.1.8 Determination of ingredients and additives as well as contaminants via gas chromatography with mass selective detectors (GC-MS-; thermo desorption-GC-MS-, GC/GC-TOF-MS-coupling techniques) **

21X13002.02 2021-10	Quantification of volatile compounds in chemical products and raw materials using a deuterated standard via head-space-GC/MS by the example of 1,4-dioxane
21X13004.02 2021-10	Quantification of volatile compounds in chemical products and raw materials via head-space-GC/MS with the standard addition method by the example of 1,4-dioxane
26X13001.02 2021-10	Determination of the emission of volatile organic compounds (VOC) from flooring adhesives via simplified test-chamber process via TDS-GC/MS
26X13007.03 2021-10	Quantification of organic substances using deuterated internal standards by the example of dimethylsulfate (DMS) in chemical products and raw materials via GC/MS
26X14004.02 2021-10	Determination of phthalic acid esters in chemical products and raw materials via GC/GC-TOF-MS
26X16002.02 2021-10	Determination of water solubility using the flask method according to the OECD-test guideline 105 in chemical products and raw materials by the example of bisabolol via GC/MS
26X16003.02 2021-10	Determination of water solubility using the column elution method according to the OECD-test guideline 105 in chemical products and raw materials by the example of nonylphenoethoxylate via GC/MS
26X17001.01 2017-04	Determination of benzyl benzoate in ethyl hexyl benzoate via GCxGC-TOF/MS-coupling
26X20001.02 2021-10	Determination of glyoxal in neutral, acidic, aqueous and fatty cosmetic raw materials after derivatization with p-phenylenediamine via GC/MS
26K21001.01 2021-06	Acquisition and interpretation of mass spectra from organic compounds in chemical raw materials, intermediate and final products via GC/MS-EI (electron impact ionization)

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1.1.9 Determination of ingredients and additives as well as contaminants via High Performance Liquid Chromatography with mass selective detectors (HPLC-ESI-MS-, APCI-MS-coupling techniques) **

26X12003.01 2021-10	Trace quantification of didecyldimethylammoniumchloride in foils via HPLC-ESI-MS
26X13002.02 2021-10	Trace quantification of Bitrex (denatoniumbenzoate) in chemical products and raw materials via LC-ESI-MS
26X13003.02 2021-10	Trace quantification of benzalconiumchloride (BAC) in chemical products and raw materials via HPLC-ESI-MS
26X21004.E2 2021-10	Determination of Bronopol in water-based adhesives using HPLC-ESI-MS/MS
26X21002.E2 2021-10	Determination of Bitrex in traces in chemical products and raw materials by LC-ESI-MS/MS in ethanolic solutions and polymers
26X21003.E1 2021-06	Determination of Dianol 320 and Dianol 240 in migrate solutions and adhesives by LC-ESI-MS/MS

1.1.10 Determination of ingredients and additives as well as parameters by photometric investigations (UV-VIS-range) **

31N14001.01 2015-01	Colorimetric characterization of glycerol expressed as Hazen-colour scale
31X00002.05 2021-10	Enzymatic determination of citric acid via test-combination of Böhlinger corp. in detergents and cleansing agents
31X01001.01 2004-02	Determination of cellulase activity in enzyme preparations and finished products at pH 6.5
31X16001.01 2016-10	Photometric determination of proteins according to the Bradford-method

1.1.11 Titrimetric determination of ingredients and parameters **

35N77001.03 2015-09	Saponification number
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35N81001.02 2000-09	Acid number
35N84001.02 2000-09	Peroxide number
35N99001.E3 2003-02	Determination of Epoxy Equivalent
35N99003.03 2018-09	Assay of primary, secondary and tertiary amine nitrogen
32X95001.02 2000-07	Water Determination according to Karl Fischer (2-component titration) in various matrices
32X98007.03 2007-02	Quantitative determination of anionic surfactants in raw materials as well as detergents and cleansing agents via potentiometric two-phase titration
32X99011.06 2017-06	Potentiometric determination of active oxygen and active oxygen carriers in detergents and cleansing agents as well as raw materials
32X99019.03 2007-04	Quantitative determination of fatty acids or soaps in raw materials and detergents via potentiometric two-phase titration
32X02001.03 2007-08	Determination of the alkaline or acid reserve as well as of the pH-value for classification of a product (irritative, caustic according to Young et al.)
32X07001.01 2007-01	Manganometric determination of hydrogen peroxide in liquid bleach
32X16001.E1 2016-01	Quantitative Determination of Hydrogen Peroxide in Hydrogen Peroxide containing Formulations by means of Iodometric Titration
32X16008.E1 2016-07	Quantitative Determination of Active Chlorine in a Powdered Detergent by means of Iodometric Titration
33X95002.03 2012-12	Trace determination of water in various substances via coulometric Karl Fischer titration
35X02001.01 2003-01	Carbonyl number

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1.1.12 Incident light, incident light and scattered light measurement ***

ISO 13320 Particle size analysis - Laser diffraction methods
2020-01

1.1.13 Conventional methods ***

Commission Regula- Surface tension of aqueous solutions
tion (EC) no. 440/2008
method A.5
2008-05

34N08001.02 Determination of the density
2019-05

34N12002.02 Determination of the refractive index
2019-05

34X17001.02 Determination of the contact resistance of metallic surfaces
2018-07

1.1.14 Determination of sum parameters via gravimetry **

36X99001.03 Gravimetric determination of carbonate in detergents and cleansing agents
2017-06 via easily released CO₂ under acidic conditions by the example of sodium
carbonate

36X07001.01 Total volatile components in detergents and cleansing agents
2007-04

36X07002.01 Determination of ethanol-soluble parts in liquid detergents and cleansing
2007-05 agents

36X09001.01 Determination of nonionic parts in detergents and cleansing agents
2009-09

1.1.15 Determination of elements via inductively coupled plasma atomic emission spectrometry (ICP-OES) **

41X14004.01 Determination of heavy metals in detergents and dishwashing detergents
2015-01 via atomic emission spectrometry (ICP-OES)

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41X14005.01 Determination of elements in ACC-baths via ICP-OES
2015-01

41X20005.01 Determination of element traces in aqueous solutions and digestions via
2020-04 atomic emission spectrometry (ICP-OES)

1.1.16 Determination of elements via inductively coupled plasma mass spectrometry (ICP-MS) **

41X13001.03 Trace determination of heavy metals in nitric acid soluble organic
2020-08 compounds via plasma mass spectrometry (ICP-MS)

41X14007.04 Trace determination of heavy metals in pigment containing samples and
2021-05 raw materials via plasma mass spectrometry (ICP-MS) after pressure
 digestion according to § 64 LFGB, K 84.00-29

41X17003.02 Determination of elemental impurities according to ICH Q3D in
2020-07 chlorobutanol and penicillamine after mineralization via plasma mass
 spectrometry (ICP-MS)

41X18001.03 Determination of element traces in aqueous solutions and digestions via
2020-11 plasma mass spectrometry

1.1.17 Determination of elements, ingredients and additives via X-Ray fluorescence analysis (XRF) of solid fusion samples **

42X00001.04 Determination of silicon, aluminium, sodium and phosphorus in detergents
2021-11 and cleansing agents and their raw materials

42X06001.02 Assay of silicon in Silicea Calcium capsules
2006-12

42X09001.01 X-Ray fluorescence determination of fillers in adhesives and sealants
2009-08

42X09002.01 Determination of zinc in various phosphating agents
2009-08

42X11001.01 Determination of sodium, magnesium, potassium, manganese, iron, copper,
2011-03 zinc and molybdenum in multi element-chelates

42X12001.01 Determination of the element composition in deposits from metal
2012-04 treatment baths

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42X12002.01 Quantitative determination of volatile element species via X-Ray
2012-12 fluorescence analysis (XRF) by using a low-melting borate bead by the
example of organic silicon compounds

1.1.18 Determination of elements via elemental analysis after combustion **

43X90002.03 Determination of oxygen in organic substances
2012-03

43X00003.03 Simultaneous determination of carbon, hydrogen and nitrogen in organic
2019-07 substances with Vario EL (Elementar Analysensysteme corp.)

43X00004.01 Simultaneous determination of sulfur and carbon in inorganic and organic
2000-09 substances after combustion using the elemental analyzer SC-144DR (Leco
corp.)

1.1.19 Analytical methods according to Commission Regulation (EC) no. 1907/2006 of the European Parliament and the of the Council concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) ***

Commission Regulation Degradability – abiotic degradation: hydrolysis depending on the pH-value
(EC) no. 440/2008
method C.7
2008-05

Commission Regulation Water solubility
(EC) no. 440/2008
method A.6
2014-03

Commission Regulation Partition coefficient
(EC) no. 440/2008
method A.8
2008-05

Commission Regulation 1-Octanol/water partition coefficient: Slow stirring method
(EC) no. 440/2008
method A.23
2014-03

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1.1.20 Electron microscopic investigations for characterization of inorganic and organic materials via REM and TEM as well as semi-quantitative determination of the elemental composition via EDX **

61K00001.03 2017-06	Investigation of surface morphologies / particle sizes using a scanning electron microscope
61K00003.03 2018-11	Electron microscopic investigations regarding the mechanism of formation of encrustations using soluble siliceous detergent builders
62K00001.04 2020-03	Cryo preparation and characterization of vesicles via transmission electron microscopy
62K00002.03 2021-10	Investigation of morphologies, particle sizes and crystal structures in solids and dispersions using a transmission electron microscope
64K00001.03 2017-06	Determination of the elemental composition via energy dispersive X-Ray-micro-analysis of surfaces

1.1.21 Characterization and semi-quantitative phase determination via X-Ray-diffraction (XRD) **

65K00004.03 2020-08	Detection of active chlorine carriers and metasilicates in dishwashing detergents
65K00001.05 2021-04	Creation of X-Ray diffraction spectra of crystalline and amorphous substances
65K13001.03 2020-05	X-Ray diffraction of organic substances

1.1.22 Determination of the caloric characteristics via calorimetric methods **

DIN 51006 2005-07	Thermal analysis (TA) - Thermogravimetry (TG) - basics
DIN 51007 1994-06	Thermal analysis (TA); differential thermal analysis (DTA); basics
(S)31X93002.02 2004-07	Determination of the boiling point (T _b) of solid and liquid compounds via DSC
(S)31X02001.01 2004-06	Risk of explosion of solid and liquid compounds, preliminary test via DSC

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(S)31X07001.01 2007-05	Determination of the vapor pressure curve of solid and liquid compounds via DSC
(S)31X10001.01 2010-11	Determination of the specific heat capacity cp of solid and liquid compounds via DSC
(S)31K04003.01 2004-07	TGA-overview diagram under nitrogen atmosphere or in air using standard conditions and general information
(S)23K06015.01 2006-07	Discoloration Temperature

1.1.23 Determination of flash point and fire point via positive ignition in the gas phase **

(S)21N04003.03 2017-08	Determination of flash point of flammable liquids in the range of 40 °C to 370 °C, closed-cup procedure according to Pensky-Martens
(S)21N04004.02 2004-09	Determination of flash and fire point of flammable liquids in the range of 80 °C to 400 °C, open-cup procedure according to Cleveland
(S)21N04005.04 2017-06	Determination of flash point of flammable liquids in the range of -30 °C to 300 °C, equilibrium method using a closed-cup for 2 ml / 4 ml respectively
(S)21N04007.03 2014-01	Determination of sustained combustion of liquids with a flash point of 23°C to 60°C

1.2 Safety-technological tests

1.2.1 Determination of the fire behavior using conventional methods ***

VDI guideline 2263, sheet 1, 1.2, 1990-05	Dust fires and dust explosions; hazards, assessment, protective measures; test methods for the determination of the safety characteristic of dusts
UN manual test O.1 - section 34.4.1; ST/SG/AC.10/11/ rev. 6, 2015	Recommendations for the transport of dangerous goods, manual of tests and criteria: test for oxidizing solids
VDI guideline 2263, sheet 1, 1.3, 1990-05	Dust fires and dust explosions; hazards, assessment, protective measures; test methods for the determination of the safety characteristic of dusts (here: smolder temperature)

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UN manual test O.2 - section 34.4.2; ST/SG/AC.10/11/ rev. 7, 2019	Recommendations for the transport of dangerous goods, manual of tests and criteria: test for oxidizing solids
Council Regulation (EC) No 440/2008 Method A.21 2008-05	Oxidizing properties (liquids)
UN manual test N.1 – section 33.2.4; ST/SG/AC.10/11/ rev. 7, 2019	Recommendations for the transport of dangerous goods, manual of tests and criteria: Test method for flammable solids
Council Regulation (EC) No 440/2008 Method A.10 2008-05	Flammability (solids)
UL 94 2018-05	Tests for Flammability of Plastic Materials for in Devices and Appliances (limitation: <i>only Horizontal Burning Test HB, 50W Vertical Burning Test, 500W Vertical Burning Test</i>)

1.2.2 Determination of the ignition behavior via detection of spontaneous temperature rise or visual inspected ignition *

UN manual test H.4 - section 28.4.4; ST/SG/AC.10/11/ rev. 6, 2015	Recommendations for the transport of dangerous goods, manual of tests and criteria: heat accumulation storage test
UN manual test N.4 - section 33.3.1.6; ST/SG/AC.10/11/ rev. 6, 2015	Recommendations for the transport of dangerous goods, manual of tests and criteria: test methods for self-heating substances
Council Regulation (EC) No 440/2008 Method A.16 2008-05	Relative self-ignition temperature for solids

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VDI guideline 2263, sheet 1, 1.4, 1990-05	Dust fires and dust explosions; hazards, assessment, protective measures; test methods for the determination of the safety characteristic of dusts (here: autoignition)
DIN EN 50281-2-1 1999-11	Electrical apparatus for use in the presence of combustible dust - Part 2-1: test methods; methods for determining the minimum ignition temperatures of dust
VDI guideline 2263, sheet 1, 2.6, 1990-05	Dust fires and dust explosions; hazards, assessment, protective measures; test methods for the determination of the safety characteristic of dusts (here: ignition temperature)
Commission Regulation (EC) no. 440/2008 method A.13 2008-05	Pyrophoric properties of solid and liquid substances
UN manual test N.2 - section 33.4.4 ST/SG/AC.10/11/ rev. 7, 2019	Recommendations for the transport of dangerous goods, manual of tests and criteria: test method for pyrophoric solids
UN manual test N.3 - section 33.4.5 ST/SG/AC.10/11/ rev. 7, 2019	Recommendations for the transport of dangerous goods, manual of tests and criteria: test method for pyrophoric liquids
DIN 51794 2003-05	Investigation of petroleum-derived hydrocarbons – determination of ignition point
DIN EN 14522 2005-12	Determination of the auto ignition temperature of gases and vapours
UN manual test N.5 - section 33.5.4 ST/SG/AC.10/11/ rev. 7, 2019	Recommendations for the transport of dangerous goods, manual of tests and criteria: test method for substances which in contact with water emit flammable gases
Commission Regulation (EC) no. 440/2008 method A.12 2008-05	Flammability (water contact)

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1.2.3 Determination of physical properties of auxiliary value for safety-technological tests according to chapter 1.2 ***

DIN 66165-2 2016-08	Particle size analysis – sieve analysis - part 2: procedure
AdR, chapter 2.3.4 2014-12	Test for determination of flow properties (AdR: Accord européen relatif au transport international des marchandises dangereuses par Route)
(S)52N10001.02 2015-09	Metal corrosiveness

1.2.4 Determination of explosion behavior of dust material by using safety testing devices ***

DIN EN 13821 2003-03	Potentially explosive atmospheres – explosion prevention and protection – determination of minimum ignition energy of dust/air-mixtures
DIN EN 14034-1 2011-04	Determination of explosion characteristics of dust clouds – part 1: determination of the maximum explosion pressure p_{max} of dust clouds
DIN EN 14034-2 2011-04	Determination of explosion characteristics of dust clouds – part 2: determination of the maximum rate of explosion pressure rise $(dp/dt)_{max}$ of dust clouds
DIN EN 14034-3 2011-04	Determination of explosion characteristics of dust clouds – part 3: determination of the lower explosion limit LEL of dust clouds
(S)23N05001.02 2018-07	Determination of minimum ignition energy of solid substances

1.2.5 Determination of explosivity of condensed solids or pasty substances ***

Commission Regulation (EC) no. 440/2008
method A.14
2008-05
Mechanical sensitivity (shock)

Commission Regulation (EC) no. 440/2008
method A.14
2008-05
Mechanical sensitivity (friction)

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UN manual test C.2 ST/SG/AC. 10/11/ rev. 6, 2015	Recommendations for the transport of dangerous goods, manual of tests and criteria: deflagration test
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2 Efficacy testing of disinfectants and antiseptics

2.1 Efficacy testing of disinfectants and antiseptics in chemical products including industrial, domestic and institutional areas, food, veterinary medicine and hospital hygiene (with the exception of medical products) via cultural microbiological tests **

DIN EN 13727 2015-12	Chemical disinfectants and antiseptics - quantitative suspension test for the evaluation of the bactericidal activity in the medical area – test method and requirements (phase 2, step 1) <i>(scope of application: no testing and statements of conformity of medical products)</i>
DIN EN 13624 2022-01	Chemical disinfectants and antiseptics - quantitative suspension test for the evaluation of the fungicidal or yeasticidal activity in the medical area - test method and requirements (phase 2, step 1) <i>(scope of application: no testing and statements of conformity of medical products)</i>
AA HSA A.1.1-178 2021-06	Quantitative suspension test for the evaluation of the mycobactericidal activity of chemical disinfectants in the medical area including instrument disinfectants <i>(scope of application: no testing and statements of conformity of medical products)</i>
DIN EN 17126 2019-02	Chemical disinfectants and antiseptics - quantitative suspension test for the evaluation of the fungicidal or sporicidal activity in the medical area - test method and requirements (phase 2, step 1) <i>(scope of application: no testing and statements of conformity of medical products)</i>
VAH-methods 2015-04	Requirements and methods for VAH certification of chemical disinfection procedures - method 8: Evaluation of bactericidal and yeasticidal activity in a qualitative suspension test
VAH-methods 2015-04	Requirements and methods for VAH certification of chemical disinfection procedures - method 9: Evaluation of the bactericidal, yeasticidal, fungicidal, tuberculocidal or mycobactericidal activity in a quantitative suspension test

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DIN EN 1040 2006-03	Chemical disinfectants and antiseptics - quantitative suspension test for the evaluation of basic bactericidal activity of chemical disinfectants and antiseptics - test method and requirements (phase 1) (scope of application: <i>no testing and statements of conformity of medical products</i>)
DIN EN 1275 2006-03	Chemical disinfectants and antiseptics - quantitative suspension test for the evaluation of basic fungicidal or yeasticidal activity of chemical disinfectants and antiseptics - test method and requirements (phase 1) (scope of application: <i>no testing and statements of conformity of medical products</i>)
DIN EN 1276 2019-11	Chemical disinfectants and antiseptics - quantitative suspension test for the evaluation of the bactericidal activity of chemical disinfectants and antiseptics in food, industrial, domestic and institutional areas – test method and requirements (phase 2, step 1) (scope of application: <i>no testing and statements of conformity of medical products</i>)
DIN EN 1650 2019-10	Chemical disinfectants and antiseptics - quantitative suspension test for the evaluation of the fungicidal activity of chemical disinfectants and antiseptics in food, industrial, domestic and institutional areas – test method and requirements (phase 2, step 1) (scope of application: <i>no testing and statements of conformity of medical products</i>)
DIN EN 1656 2019-12	Chemical disinfectants and antiseptics - quantitative suspension test for the evaluation of the bactericidal activity of chemical disinfectants and antiseptics used in the veterinary area - test method and requirements (phase 2, step 1)
DIN EN 1657 2016-11	Chemical disinfectants and antiseptics - quantitative suspension test for the evaluation of the fungicidal or yeasticidal activity of chemical disinfectants and antiseptics used in the veterinary area - test method and requirements (phase 2, step 1); German version EN 1657:2016
DIN EN 14204 2013-02	Chemical disinfectants and antiseptics - quantitative suspension test for the evaluation of the mycobactericidal activity of chemical disinfectants and antiseptics used in the veterinary area - test method and requirements (phase 2, step 1)

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DIN EN 13623 2020-12	Chemical disinfectants and antiseptics - quantitative suspension test for the evaluation of the bactericidal activity against Legionella of chemical disinfectants for aqueous systems - test method and requirements (phase 2, step 1) (scope of application: <i>no testing and statements of conformity of medical products</i>)
DIN EN 13704 2018-09	Chemical disinfectants and antiseptics - quantitative suspension test for the evaluation of the sporicidal activity of chemical disinfectants in food, industrial, domestic and institutional areas – test method and requirements (phase 2, step 1) (scope of application: <i>no testing and statements of conformity of medical products</i>)
AA HSA A.1.1-180 2021-07	Quantitative carrier test for the evaluation of the bactericidal or fungicidal / yeasticidal activity of chemical disinfectants and antiseptics used for instruments in the medical area (scope of application: <i>no testing and statements of conformity of medical products</i>)
AA HSA A.1.1-181 2021-07	Quantitative carrier test for the evaluation of the mycobactericidal activity of chemical disinfectants and antiseptics used for instruments in the medical area (scope of application: <i>no testing and statements of conformity of medical products</i>)
DIN EN 16615 2015-06	Chemical disinfectants and antiseptics – quantitative test method for the evaluation of the bactericidal and yeasticidal activity on non-porous surfaces with mechanical action employing wipes in the medical area (4-field-test) - test method and requirements (phase 2, step 2) (scope of application: <i>no testing and statements of conformity of medical products</i>)
DIN EN 12791 2018-01	Chemical disinfectants and antiseptics - surgical hand disinfection - test method and requirements (phase 2, step 2)
VAH-methods 2015-04	Requirements and methods for VAH certification of chemical disinfection procedures - method 14: Surface disinfection
VAH-methods 2015-04	Requirements and methods for VAH certification of chemical disinfection procedures - method 15: Chemical/chemical-thermal instrument disinfection – practical quantitative carrier test

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VAH-methods 2015-04	Requirements and methods for VAH certification of chemical disinfection procedures - method 17: Chemical-thermal textile disinfection – single bath method (practical test)
DIN EN 16616 2015-10	Chemical disinfectants and antiseptics – chemical-thermal textile disinfection – test method and requirements (phase 2, step 2) (scope of application: <i>no testing and statements of conformity of medical products</i>)
DIN EN 13697 2019-10	Chemical disinfectants and antiseptics - quantitative non-porous surface test for evaluation of bactericidal and/or fungicidal activity of chemical disinfectants in food, industrial, domestic and institutional areas – test method and requirements (phase 2, step 2) (scope of application: <i>no testing and statements of conformity of medical products</i>)
DIN EN 14349 2013-02	Chemical disinfectants and antiseptics - Quantitative surface test for evaluation of the bactericidal activity of chemical disinfectants and antiseptics for the veterinary sector on non-porous surfaces without mechanical action - test method and requirements (phase 2, step 2)
DIN EN 16437 2019-12	Chemical disinfectants and antiseptics - Quantitative surface test for evaluation of the bactericidal activity of chemical disinfectants and antiseptics for the veterinary sector on porous surfaces without mechanical action - test method and requirements (phase 2, step 2)
DIN EN 16438 2014-07	Chemical disinfectants and antiseptics - quantitative surface test for the evaluation of fungicidal or yeasticidal activity of chemical disinfectants and antiseptics used in the veterinary area on non-porous surfaces without mechanical action – test method and requirements (phase 2, step 2)
DIN EN 1499 2017-10	Chemical disinfectants and antiseptics - hygienic handwash - test method and requirements (phase 2, step 2);
DIN EN 1500 2017-10	Chemical disinfectants and antiseptics - hygienic handrub - test method and requirements (phase 2, step 2);
AA HSA A.1.1-188 2018-11	Modified quantitative surface test for determination of the bactericidal / fungicidal long-term efficacy
DIN EN 14476 2019-10	Chemical disinfectants and antiseptics - quantitative suspension test for the evaluation of virucidal activity for chemical disinfectants and antiseptics used in human medicine– test method and requirements (phase 2, step 1) (scope of application: <i>no testing and statements of conformity of medical products</i>)

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DIN EN 14675 2015-06	Chemical disinfectants and antiseptics - quantitative suspension test for the evaluation of the virucidal activity of chemical disinfectants and antiseptics for the veterinary sector - test method and requirements (phase 2, step 1)
DIN EN 13610 2003-06	Chemical disinfectants and antiseptics - quantitative suspension test for the evaluation of the virucidal activity against bacteriophages of chemical disinfectants and antiseptics in food and industrial areas - test method and requirements (phase 2, step 1) (scope of application: <i>no testing and statements of conformity of medical products</i>)
DIN EN 16777 2019-03	Chemical disinfectants and antiseptics - quantitative test on non-porous surfaces for evaluation of the virucidal activity in the medical area - test method and requirements (phase 2, step 2) (scope of application: <i>no testing and statements of conformity of medical products</i>)
AA HSA A.1.1-209 2021-06	Quantitative carrier test for evaluation of the virucidal activity for instruments in the medical area (scope of application: <i>no testing and statements of conformity of medical products</i>)
Guideline of DVV 2014-12	Suspension test for verification of the efficacy of disinfectants against viruses Guideline of the „Deutsche Vereinigung zur Bekämpfung der Viruskrankheiten (DVV) e.V.“ and the Robert Koch-Institute (RKI) for the testing of chemical disinfectants on efficacy against viruses in human medicine (scope of application: <i>no testing and statements of conformity of medical products</i>)
prEN 17387 2019-06 (draft)	Chemical disinfectants and antiseptics – Quantitative non-porous surface test for the evaluation of bactericidal and/or yeasticidal and/or fungicidal activity of chemical disinfectants used in the medical area – part rev: test method and requirements without mechanical action (phase 2, step 2) (scope of application: <i>no testing and statements of conformity of medical products</i>)

3 Determination of microorganisms (bacteria and fungi) via microbiological culture tests on plastics and other sealants ***

AA HSA A.1.1-169 2021-06	Practical film test for determination of moulds on sealants and plastics
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DIN EN ISO 846 Plastics – Evaluation of the action of microorganisms (ISO 846: 2019);
Verfahren B method B: determination of fungistatic effect
2020-11

DIN EN ISO 846 Kunststoffe – Bestimmung der Einwirkung auf Mikroorganismen (ISO 846:
Verfahren C 2019); method C: procedure with bacteria
2020-11

4 Investigations of Cosmetic products and their ingredients

4.1 Determination of microorganisms (bacteria and fungi) via microbiological culture tests for the determination of efficacy of antimicrobial preservation and of the germ content ***

Ph. Eur. 2.6.12 Microbiological examination of non-sterile products: total viable aerobic
2020-07 count

Ph. Eur. 2.6.13 Microbiological examination of non-sterile products: test for specified
2020-07 microorganisms

Ph. Eur. 9.0/0008 Purified Water (Aqua purificata) as bulk
2020-07

5 Investigation of water (raw water, process water, industrial water, leakage water as well as of pipeline bound water dispensers) ***

5.1 Sampling ***

DIN EN ISO 19458 (K 19) Water quality - sampling for microbiological tests
2006-12

5.2 Physical, physico-chemical and chemical investigations ***

DIN 38404-C 4 Determination of Temperature
1976-12

DIN EN ISO 10523 (C 5) Water quality – determination of pH-value
2012-04

DIN EN 27888 (C 8) Water Quality – determination of electrical conductivity
1993-11

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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) (limitation: *only iron and copper*)
- 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 (limitation: *only cadmium, lead, copper and nickel*)

5.3 Detection and determination of bacteria via microbiological culture tests ***

- DIN EN ISO 16266 (K 11) 2008-05 Water quality – detection and enumeration of Pseudomonas aeruginosa – method by membrane filtration
- DIN EN ISO 9308-1 (K 12) 2017-09 Water quality – detection and enumeration of Escherichia coli und coliform bacteria – part 1: membrane filtration method for waters with low bacterial background flora
- DIN EN ISO 7899-2 (K 15) 2000-11 Water quality – detection and enumeration of intestinal enterococci – part 2: membrane filtration method
- ISO 11731 (K 23) 2017-05 Water quality – detection and enumeration of Legionella (modification: *only matrix A, In conjunction with UBA recommendation of 2018-12-18*)
- DIN EN ISO 14189 (K24) 2016-11 Water quality - clostridium perfringens (including spores) - method by membrane filtration
- TrinkwV § 15 section (1c) Determination of colony count

6 Testing according to Drinking Water Regulation - TrinkwV ***

Sampling

Method	Title
DIN ISO 5667-01 (A 4) 2007-04	Water quality - sampling - part 1: guidance on the design of sampling programs and sampling techniques
DIN ISO 5667-5 (A 14) 2011-02	Water quality - sampling - part 5: guidance on sampling of drinking water from treatment works and piped distribution systems
DIN EN ISO 5667-3 (A 21) 2019-07	Water quality - sampling - Part 3: preservation and handling of water samples
DIN EN ISO 19458 (K 19) 2006-12	Water quality - sampling for microbiological tests

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Recommendation of the Environmental Protection Agency December 18 th 2018	Assessing the quality of drinking water with regard to the parameters lead, copper and nickel
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ATTACHMENT 1: MICROBIOLOGICAL PARAMETERS

PART I: General requirements for drinking water

No.	Parameter	Method
1	Escherichia coli (E. coli)	DIN EN ISO 9308-1 2017-09
2	Enterococci	DIN EN ISO 7899-2 (K15) 2000-11

PART II: Requirements for drinking water designated for distribution in sealed containers

No.	Parameter	Method
1	Escherichia coli (E. coli)	DIN EN ISO 9308-1 2017-09
2	Enterococci	DIN EN ISO 7899-2 (K15) 2000-11
3	Pseudomonas aeruginosa	DIN EN ISO 16266 (K11) 2008-05

ATTACHMENT 2: CHEMICAL PARAMETERS

PART I: Chemical parameters with a concentration usually not increased in the distribution network including drinking water installations

not applicable

PART II: Chemical parameters with a concentration possibly increasing in the distribution network including drinking water installations

No.	Parameter	Method
1	Antimony	not applicable
2	Arsenic	not applicable
3	Benzo-(a)-pyrene	not applicable
4	Lead	DIN EN ISO 17294-2 (E29) 2017-01
5	Cadmium	DIN EN ISO 17294-2 (E29) 2017-01
6	Epichlorohydrin	not applicable
7	Copper	DIN EN ISO 17294-2 (E29) 2017-01 DIN EN ISO 11885 (E22) 2009-09
8	Nickel	DIN EN ISO 17294-2 (E29) 2017-01
9	nitrite	not applicable
10	polycyclic aromatic hydrocarbons	not applicable
11	trihalogen methanes	not applicable
12	vinyl chloride	not applicable

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ATTACHMENT 3: INDICATOR PARAMETERS

Part I: General indicator parameters

No.	Parameter	Method
1	Aluminium	not applicable
2	Ammonium	not applicable
3	Chloride	not applicable
4	Clostridium perfringens (including spores)	DIN EN ISO 14189 (K24) 2016-11
5	Coliform bacteria	DIN EN ISO 9308-1 2017-09
6	Iron	DIN EN ISO 11885 (E22) 2009-09
7	Colour (spectral absorption coefficient Hg 436 nm)	not applicable
8	Odour (as clay)	not applicable
9	Taste	not applicable
10	Colony count at 22 °C	TrinkwV §15 section (1c)
11	Colony count at 36 °C	TrinkwV §15 section (1c)
12	Electrical conductivity	DIN EN ISO 27888 (C8) 1993-11
13	Manganese	not applicable
14	Sodium	not applicable
15	Total organic carbon (TOC)	not applicable
16	Oxidizability	not applicable
17	Sulfate	not applicable
18	Turbidity	not applicable
19	Hydrogen ion concentration	DIN EN ISO 10523 (C5) 2012-04
20	Calcite solubility	not applicable

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

Parameter	Method
Legionella spec.	ISO 11731 1998-05 UBA recommendation December 18 th 2018

ATTACHMENT 3a: requirements for drinking water with regard to radioactive substances

not applicable

Parameters not included in attachments 1 – 3 of Drinking Water Regulation

Further periodical tests

Not applicable

The accreditation does not substitute the recognition and approval procedure of the competent authority according to § 15 section 4 TrinkwV.

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Abbreviations used:

DIN	Deutsches Institut für Normung e.V.
DVV	Deutschen Vereinigung zur Bekämpfung der Viruskrankheiten e. V.
EN	European Norm
IEC	Internationale Elektrotechnische Kommission
ISO	Internationale Organisation für Normung
Ph. Eur.	Pharmacopoea Europaea (European Pharmacopoea)
TrinkwV	Trinkwasserverordnung
UBA	Umweltbundesamt
UN	UN Recommendations on the Transport of Dangerous Good
VAH	Association for Applied Hygiene e.V.
VDI	Association of German Engineers
XX Q JJ XXX.XX	In-house standard test method of Henkel AG &Co. KGaA Corporate Scientific Services Solutions in the field of chemistry
(S) XX Q JJ XXX.XX	In-house standard test method of Henkel AG &Co. KGaA Corporate Scientific Services Solutions in the field of safety technology
AA HSA A.1.1-XXX	In-house standard test method of Henkel AG &Co. KGaA Corporate Scientific Services Solutions in the field of microbiology