Deutsche Akkreditierungsstelle GmbH

Annex to the Accreditation Certificate D-PL-18482-01-00 according to DIN EN ISO/IEC 17025:2018

Valid from: **07.03.2022**

Date of issue: 07.03.2022

Holder of certificate:

Coffein Compagnie GmbH & Co. KG
Chemisches Laboratorium
Segelsbrück 7, 28309 Bremen

Tests in the fields:

sampling of coffee and coffee products;
sensoric and visual analysis of green coffee;
physical, physico-chemical and chemical analysis of coffee, coffee products and caffeine

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

The testing laboratory is permitted, without being required to inform and obtain prior approval from DAkkS, to use standards or equivalent testing methods listed here with different issue dates.

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

The certificate together with the annex reflects the status as indicated by the date of issue.
The current status of any given scope of accreditation can be found in the directory of accredited bodies maintained by Deutsche Akkreditierungsstelle GmbH at https://www.dakks.de/en/content/accredited-bodies-dakks.

1 Analysis of coffee, coffee products and caffeine

1.1 Sampling and sample preparation of coffee and coffee products

ISO 4072 1982-12	Green coffee in bags; Sampling
DIN 10792 2013-06	Analysis of coffee and coffee products - Preparation of coffee beverage for analytical purposes
ASU L 00.00-111/1 2008-12	Examination of foods - Sample preparation for providing of official sample, duplicate and referee sample for determination of mycotoxin content in food - Part 1: Method for wet homogenisation (Modification: *matrix green coffee*)
ASU L 00.00-111/2 2012-07	Examination of foods - Sample preparation for providing of official sample, duplicate and referee sample for determination of mycotoxin content in food - Part 2: Method for disintegration and homogenization without water addition (Modification: *matrix green coffee*)

1.2 Gravimetric determination of parameters and constituent parts in coffee, coffee products and caffeine *

ISO 6669 1995-09	Green and roasted coffee - Determination of free-flow bulk density of whole beans (Routine method)
DIN 10775-2 1985-11	Analysis of coffee and coffee products; determination of water-soluble extract; method for green coffee
DIN 10775 2016-07	Analysis of coffee and coffee products; determination of water-soluble extract; method for roasted coffee
DIN ISO 6673 2007-03	Green coffee; Determination of loss in mass at 105 °C
DIN 10781 2000-11	Roasted ground coffee; Determination of loss in mass at 103 °C (Routine method for the determination of moisture content)
DIN 10764-4 2007-03	Analysis of coffee and coffee products - Determination of loss in mass of soluble coffee - Part 4: Method for soluble coffee and soluble coffee products by heating under atmospheric pressure (Routine method)

Swiss book of foodstuffs 35 A/08 1970	Determination of coffee fat (coffee oil) content in green and roasted coffee
DIN 10802 2016-04	Analysis of tea; determination of total ash (Modification: *matrix coffee*)
USP41 Caffeine NF36 Vol.1 2018-05	Loss on drying (Modification: increased drying temperature, reduced drying time)

1.3 Determination of ingredients and contaminants in coffee, coffee products and caffeine using high performance liquid chromatography with conventional detectors (UV/VIS-, PDA- and fluorescence detection) *

DIN 10767 2015-08	Analysis of coffee and coffee products; determination of chlorogenic acids content; HPLC method
DIN ISO 20481 2011-01	Coffee and coffee products; Determination of the caffeine content using high performance liquid chromatography (HPLC) - Reference method
DIN ISO 20481 2011-01	Coffee and coffee products; Determination of the caffeine content using high performance liquid chromatography (HPLC) - Reference method (Modification: *ultrasound-assisted extraction, MgO omitted, 2-point calibration*)
DIN EN 14132 2009-09	Foodstuffs - Determination of ochratoxin A in barley and roasted coffee - HPLC method with immunoaffinity column clean-up (Modification: *matrices roasted coffee and coffee extract*)
FCC Caffeine Monograph Edition 10 2016-06	Assay (purity analysis of caffeine by HPLC-UV)
USP41 Caffeine NF36 Vol.1 2018-05	Assay (purity analysis of caffeine by HPLC-UV)

1.4 Determination of contaminants in coffee, coffee products and caffeine using gas chromatography with conventional detectors (FID-detector)

DIN 10783 2011-01	Analysis of coffee and coffee products; Determination of dichlormethane in decaffeinated green coffee using headspace gaschromatography (Modification: *further analyte ethyl acetate, matrix caffeine and further analyte ethyl acetate*)

1.5 Determination of contaminants in coffee, coffee products and caffeine using gas chromatography with mass selective detectors (MS-detector) *

DIN 10785 2013-06	Analysis of coffee and coffee products - Determination of acrylamide - Methods using HPLC-MS/MS and GC-MS after derivatization (Restriction: *only for GC-MS*)
DIN EN 16620 2015-06	Food analysis - Determination of furan in coffee and coffee products by headspace gas chromatography and mass spectrometry (HS GC-MS) (Modification: Further analytes 2-Methylfuran and 3-Methylfuran)

1.6 Potentiometric determination of water content and pH value in coffee, coffee products and caffeine

DIN 10772-1 2009-06	Analysis of coffee and coffee products; Karl Fischer method for the determination of water content - Part 1: Reference method for roasted coffee
DIN 10772-2 2005-05	Analysis of coffee and coffee products; Karl Fischer method for the determination of water content - Part 2: Reference method for soluble coffee
DIN 10772-1 2009-06	Analysis of coffee and coffee products; Karl Fischer method for the determination of water content - Part 1: Reference method for roasted coffee (Modification: *matrix green coffee*)
DIN 10776-1 2016-07	Analysis of coffee and coffee products - determination of pH and acid content - Part 1: method for roasted coffee

DIN 10776-2 2016-07	Analysis of coffee and coffee products; Determination of pH and acid content - Part 2: method for soluble coffee
FCC Caffeine Monograph, Appendix IIB, Edition 10 2016-06	Water determination in caffeine according to Karl Fischer

1.7 Physical, physico-chemical and chemical analyses of coffee, coffee products and caffeine

CL-02-023-00 2013-11	Capacitive determination of the moisture of green coffee (*Sinar* ™ moisture analyzer)
CL-02-043-00 2013-10	Microwave Resonance Spectroscopic moisture determination in green coffee (*TEWS* ™ moisture analyzer)
CL-02-056-00 2018-11	NIR spectroscopic determination of moisture and caffeine in untreated green coffee
CL-02-112-00 2014-05	Determination of the average flow rate of green coffee beans
FCC Caffeine Monograph, Appendix IIB, Edition 10 2016-06	Melting point analysis of caffeine by using a thermal melting point analysis system
USP41 NF36 Chapter 741 2018-05	Melting point analysis of caffeine by using a thermal melting point analysis system

1.8 Sensoric and visual analysis of green coffee

ISO 4149 2005-03	Green coffee - Olfactory and visual examination and determination of foreign matter and defects
ISO 6667 1985-11	Green coffee; Determination of proportion of insect-damaged beans

Abbreviations used:

ASU	Amtliche Sammlungen von Untersuchungsverfahren nach §64 LFGB
CL-02-xxx-00	Inhouse methods of the Coffein Compagnie Dr. Erich Scheele GmbH & Co. KG
DIN	German Institute for Standardization
EN	European Standard
FCC	Food Chemical Codex
IEC	International Electrotechnical Commission
ISO	International Organization for Standardization
LFGB	Lebensmittel-, Bedarfsgegenstände- und Futtermittel- Gesetzbuch (German Food and Feed Code)
USP NF	United States Pharmacopeia National Formulary