

Accreditation



The Deutsche Akkreditierungsstelle attests with this **Accreditation Certificate** that the testing laboratory

Haltermann Carless Deutschland GmbH Qualitätssicherungs-Labor Werk Hamburg Schlengendeich 17, 21107 Hamburg

meets the requirements according to DIN EN ISO/IEC 17025:2018 for the conformity assessment activities listed in the annex to this certificate. This includes additional existing legal and normative requirements for the testing laboratory, including those in relevant sectoral schemes, provided they are explicitly confirmed in the annex to this certificate.

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

This accreditation was issued in accordance with Art. 5 Para. 1 Sentence 2 of Regulation (EC) 765/2008, after an accreditation procedure was carried out in compliance with the minimum requirements of DIN EN ISO/IEC 17011 and on the basis of a review and decision of the appointed accreditation committees.

This accreditation certificate only applies in connection with the notices of 06.04.2023 with accreditation number D-PL-17640-01.

It consists of this cover sheet, the reverse side of the cover sheet and the following annex with a total of 19 pages.

Registration number of the accreditation certificate: D-PL-17640-01-00

Translation issued:

06.04.2023

Dr.-Ing. Ernst Ulrich Head of Technical Unit

Berlin, 06.04.2023

Dr.-Ing. Ernst Ulrich Head of Technical Unit

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 (www.dakks.de).



Deutsche Akkreditierungsstelle

Annex to the Accreditation Certificate D-PL-17640-01-00 according to DIN EN ISO/IEC 17025:2018

Valid from:

06.04.2023

Date of issue:

06.04.2023

Holder of accreditation certificate:

Haltermann Carless Deutschland GmbH Qualitätssicherungs-Labor Werk Hamburg

The testing laboratory meets the requirements of DIN EN ISO/IEC 17025:2018 to carry out the conformity assessment activities listed in this annex. The testing laboratory meets additional legal and normative requirements, if applicable, including those in relevant sectoral schemes, provided that these are explicitly confirmed below.

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

at the locations:

Schlengendeich 17, 21107 Hamburg Joachim-Becher-Str. 1, 67346 Speyer

chemical and physical-chemical testing of mineral oil and related products, selected properties of gasoline fuel, diesel fuels, diesel fuels from fatty acid methyl ester (FAME), aviation fuels

Within the fields marked with * the testing laboratory is permitted, without being required to inform and obtain prior approval from DAkkS, the following: usage of different versions of standard test methods granted here. The testing laboratory maintains a current list of all testing methods within the flexible scope of accreditation.

This certificate annex is only valid together with the written accreditation certificate and 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.

Abbreviations used: see last page



Location Hamburg:

1. Fuels

1.1 Gasoline*

Test Method Title Process-Matrix-

Number+)

Density 1.1.22

DIN 51757 Testing of mineral oils and related materials -

2011-01 Determination of density procedure 3

DIN EN ISO 12185 Crude petroleum and petroleum products -1997-11

Determination of density - Oscillating U-tube

method

ASTM D 4052 Standard Test Method for Density, Relative 2018a

Density, and API Gravity of Liquids by Digital

Density Meter

Distillation Characteristics 1.1.21

DIN EN ISO 3405 Petroleum products - Determination of

2019-09 distillation characteristics at atmospheric

pressure

ASTM D 86b Standard Test Method for Distillation of

2020 Petroleum Products at Atmospheric Pressure

ASTM D 7345 Standard Test Method for Distillation of

2017 Petroleum Products and Liquid Fuels at

Atmospheric Pressure (Micro Distillation

Method)

Vapor Pressure 1.1.20

ASTM D 5191 Standard Test Method for Vapor Pressure of

2020 Petroleum Products (Mini Method)

DIN EN 13016-1 Vapor Pressure part 1: Determination of air

2018-06 saturated vapor pressure (ASVP) and

calculation of equivalent to dry vapor pressure

(DVPE)



| Test Method | Title | Process-Matrix- Number ⁺⁾ |
|-----------------------------|--|---|
| DIN EN 13016-2 2007-11 | Vapor Pressure part 2: Determination of absolute vapor pressure (AVP) in temperature range 40°C to 100°C | |
| Sulphur content | | 1.1.89 |
| DIN EN ISO 20846 2029-12 | Petroleum products - Determination of sulfur content of automotive fuels - Ultraviolet fluorescence method | |
| ASTM D 5453 2019a | Standard Test Method for Determination of Total Sulfur in Light Hydrocarbons, Spark Ignition Engine Fuel, Diesel Engine Fuel, and Engine Oil by Ultra-violet Fluorescence | |
| Residue from evaporation | | 1.1.1 |
| DIN EN ISO 6246 2020-01 | Petroleum products - Gum content of fuels - Jet evaporation method | |
| ASTM D 381 2019 | Standard Test Method for Gum Content in Fuels by Jet Evaporation | |
| Corrosiveness to Copper | | 1.1.60 |
| DIN EN ISO 2160 1999-04 | Petroleum products - Corrosiveness to copper - Copper strip test | |
| ASTM D 130 2019 | Standard Test Method for Corrosiveness to Copper from Petroleum Products by Copper Strip Test | |
| Benzene content | | 1.1.9 |
| DIN EN ISO 22854 2021-10 | Liquid petroleum products - Determination of hydrocarbon types and oxygenates in automotive-motor gasoline and in ethanol (E85) automotive fuel - Multidimensional gas chromatography method | |



Title

Test Method

Process-Matrix-Number+)

ASTM D 6839

2021

Standard Test Method for Hydrocarbon Types, Oxygenated Compounds and Benzene in Spark

Ignition Engine Fuels by Gas Chromatography

Oxygen-containing compounds

1.1.86

ASTM D 4815

2022

Standard Test Method for Determination of MTBE, ETBE, TAME, DIPE, tertiary-Amyl Alcohol

and C1 to C4 Alcohols in Gasoline by Gas

Chromatography

ASTM D 7754

2019

Standard Test Method for Determination of

Trace Oxygenates in Automotive Spark-Ignition

Engine Fuel by Multidimensional Gas

Chromatography

DIN EN ISO 22854

2021-10

Liquid petroleum products - Determination of

hydrocarbon types and oxygenates in automotive-motor gasoline and in ethanol (E85) automotive fuel -

Multidimensional gas chromatography method

ASTM D 6839

2021

Standard Test Method for Hydrocarbon Types, Oxygenated Compounds and Benzene in Spark

Ignition Engine Fuels by Gas Chromatography

ASTM D 5501

2020

Standard Test Method for Determination of

Ethanol and Methanol Content in Fuels containing greater 20 % Ethanol by Gas

Chromatography

Hydrocarbon Types

1.1.56

DIN EN ISO 22854

2021-10

Liquid petroleum products - Determination of

hydrocarbon types and oxygenates in automotive-motor gasoline and in ethanol (E85) automotive fuel -

Multidimensional gas chromatography method

Valid from:

06.04.2023

Date of issue:

06.04.2023

Page 4 of 19



| Test Method | Title | Process-Matrix- Number+) |
|---|---|-----------------------------|
| ASTM D 6839 2021 | Standard Test Method for Hydrocarbon Types, Oxygenated Compounds and Benzene in Spark Ignition Engine Fuels by Gas Chromatography | |
| ASTM D 1319 2020a | Standard Test Method for Hydrocarbon Types in Liquid Petroleum Products by Fluorescent Indicator Adsorption | |
| ISO 3837 1993-12 + Corrigendum 2 1996-07 | Liquid petroleum products - Determination of hydro-carbon types -fluorescent indicator adsorption method | |
| Neutralisation number | | |
| ASTM D 974 2021 | Standard Test Method for Acid and Base Number by Color-Indicator Titration | |
| n-Heptan, i-Octan und Toluol | | 1.1.82 |
| ASTM D 2268 2021 | Standard Test Method for Analysis of High- Purity n-Heptane and Isooctane by Capillary Gas Chromatography | |
| ASTM D 7504 2021 | Standard Test Method for Trace Impurities in Monocyclic Aromatic Hydrocarbons by Gas Chromatography and Effective Carbon Number | |
| Water content | | |
| DIN EN ISO 12937 2002-03 | Petroleum products - Determination of water - Coulometric Karl Fischer titration method | |
| ASTM D 6304 2021 | Standard Test Method for Determination of Water in Petroleum Products, Lubricating Oils, and Additives by Coulometric Karl Fischer Titration | |
| ASTM E 1064 2016 | Standard Test Method for Water in Organic Liquids by Coulometric Karl Fischer Titration | |



Test Method

Title

Process-Matrix-Number⁺⁾

Calculation of the calorific value

ASTM D 3338/D 3338M

2020a

Standard Test Method for Estimation of Net

Heat of Combustion of Aviation Fuels

Hydrogen content

ASTM D 3343

2016

Standard Test Method for Estimation of

Hydrogen Content of Aviation Fuels

Measurement of the refractive index

DIN 51423-1

Testing of mineral oils - Part 1: Measurement

2010-02

of the relative refractive index with the

precision refractometer

DIN 51423-2

2010-02

Testing of mineral oils - Part 2: Measurement of the relative refractive index with the Abbe-

refractometer

GC-Composition

DIN 51405 2004-01

Testing of mineral oil hydrocarbons, similar liquids and solvents for paints and varnishes - Analysis by gas chromatography - General

working principles

ASTM D 5580

2021

Standard Test Method for Determination of Benzene, Toluene, Ethylbenzene, p/m-Xylene,

o-Xylene, C9 and Heavier Aromatics, and Total

Aromatics in Finished Gasoline by Gas

Chromatography

Miscellaneous

ISO 6227 1982-09 Chemical products for industrial use; General method for determination of chloride ions –

Potentiometric method

ASTM D 3703

2018

Standard Test Method for Hydroperoxide Number of Aviation Turbine Fuels, Gasoline

and Diesel Fuels

Valid from:

06.04.2023 06.04.2023

Date of issue:

Page 6 of 19



| Test Method | Title | Process-Matrix- Number ⁺⁾ |
|----------------------------|--|---|
| ASTM D 7525 2014 | Standard Test Method for Oxidation Stability of Spark Ignition Fuel – Rapid Small Scale Oxidation Test (RSSOT) | |
| DIN EN ISO 6271 2016-05 | Clear liquids - Estimation of colour by the platinum-cobalt colour scale | |

| DIN EN ISO 6271 2016-05 | Clear liquids - Estimation of colour by the platinum-cobalt colour scale | |
|------------------------------|--|---|
| 1.2. Diesel fuel * | | |
| Test Method | Title | Process-Matrix- Number ⁺⁾ |
| Density | | 1.2.22 |
| DIN 51757 2011-01 | Testing of mineral oils and related materials - Determination of density | |
| DIN EN ISO 12185 1997-11 | Crude petroleum and petroleum products - Determination of density - Oscillating U-tube method | |
| ASTM D 4052 2022 | Standard Test Method for Density, Relative Density, and API Gravity of Liquids by Digital Density Meter | |
| Distillation characteristics | | 1.2.21 |
| ASTM D 7345 2017 | Standard Test Method for Distillation of Petroleum Products and Liquid Fuels at Atmospheric Pressure (Micro Distillation Method | |
| DIN EN ISO 3405 2019-09 | Petroleum and related products from natural or synthetic sources - Determination of distillation characteristics at atmospheric pressure | |
| ASTM D 86 2020b | Standard Test Method for Distillation of Petroleum Products at Atmospheric Pressure | |

Valid from:

06.04.2023

Date of issue:

06.04.2023



| Test Method | Title | Process-Matrix- Number+) |
|--|--|-----------------------------|
| Viscosity | | 1.2.62 |
| DIN EN ISO 3104 2021-01 | Petroleum products - Transparent and opaque liquids - Determination of kinematic viscosity and calculation of dynamic viscosity | |
| ASTM D 445 2021 ASTM D 7042a 2021 | Standard Test Method for Kinematic Viscosity of Transparent and Opaque Liquids (and Calculation of Dynamic Viscosity) Standard Test Method for Dynamic Viscosity and Density of Liquids by Stabinger Viscometer (and the Calculation of Kinematic Viscosity) | |
| DIN EN 16896 2017-02 | Petroleum products and related products - Determination of kinematic viscosity - Method by Stabinger type viscosimeter | |
| Flash point | | 1.2.28 |
| ASTM D 93 2020 | Standard Test Methods for Flash Point by Pensky-Martens Closed Cup Tester | |
| DIN EN ISO 2719 2021-06 | Determination of flash point - Pensky-Martens closed cup method | |
| Sulphur content | | 1.2.89 |
| DIN EN ISO 20846 2019-12 | Petroleum products - Determination of sulfur content of automotive fuels - Ultraviolet fluorescence method | |
| ASTM D 5453a 2019 | Standard Test Method for Determination of Total Sulfur in Light Hydrocarbons, Spark Ignition Engine Fuel, Diesel Engine Fuel, and Engine Oil by Ultraviolet Fluorescence | |



Test Method Title Process-Matrix-

Number+)

Temperature limit of filterability (CFPP)

1.2.98

ASTM D 6371a

Standard Test Method for Cold Filter Plugging

2017

Point of Diesel and Heating Fuels

DIN EN 116

Diesel and domestic heating fuels -

2018-04

Determination of cold filter plugging point -

Stepwise cooling bath method

Cloudpoint 1.2.19

DIN EN 23015

Petroleum products - determination of cloud

1994-05

2019-09

point (withdrawn)

DIN EN ISO 3015

Petroleum and related products from natural

or synthetic sources - Determination of cloud

point

DIN EN ISO 22995

2019-09

2017a

Petroleum products - Determination of cloud

point - Automated step-wise cooling method

Standard Test Method for Cloud Point of

ASTM D 2500

Petroleum Products

Pourpoint 1.2.79

DIN EN ISO 3016

2019-09

Petroleum and related products from natural or synthetic sources - Determination of pour

point

ASTM D 97

Standard Test Method for Pour Point of

2017b

Petroleum Products

ASTM D 6892

2003 (reapproved: 2020)

Standard Test Method for Pour Point of Petroleum Products (Robotic Tilt Method)

Coke residue 1.2.57

DIN EN ISO 10370

 $\label{eq:petroleum} \textbf{Petroleum products-Determination of carbon}$

2015-03

residue - Micro method

ASTM D 4530

Standard Test Method for Determination of

2015

Carbon Residue (Micro Method)

Valid from:

06.04.2023

Date of issue:

06.04.2023

Page 9 of 19



| Test Method | Title | Process-Matrix- Number ⁺⁾ |
|-----------------------------|---|---|
| Water content | | 1.2.106 |
| DIN EN ISO 12937 2002-03 | Petroleum products - Determination of water - Coulometric Karl Fischer titration method | |
| ASTM D 6304 2021 | Standard Test Method for Determination of Water in Petroleum Products, Lubricating Oils, and Additives by Coulometric Karl Fischer Titration | |
| ASTM E 1064 2016 | Standard Test Method for Water in Organic Liquids by Coulometric Karl Fischer Titration | |
| Neutralisation number | | 1.2 |
| ASTM D 974 2021 | Standard Test Method for Acid and Base Number by Color-Indicator Titration | |
| Cetan index | | 1.2.12 |
| DIN EN ISO 4264 2018-10 | Petroleum products - Calculation of cetane index of middle-distillate fuels by the four variable equation | |
| ASTM D 4737 2021 | Standard Test Method for Calculated Cetane Index by Four Variable Equation in Verbindung mit: 1.2.2 und 1.2.3 | |
| ASTM D 976 2021 | Standard Test Method for Calculated Cetane Index of Distillate Fuels | |
| Corrosiveness to Copper | | 1.2.60 |
| DIN EN ISO 2160 1999-04 | Petroleum products - Corrosiveness to copper - Copper strip test | |
| ASTM D 130 2019 | Standard Test Method for Corrosiveness to Copper from Petroleum Products by Copper Strip Test | |



Test Method Title Process-Matrix-Number⁺⁾

Total pollution 1.2.48

DIN EN 12662

Liquid petroleum products - Determination of total contamination in middle distillates, diesel fuels and fatty acid methyl esters

Lubrication 1.2.88

DIN EN ISO 12156-1 Diesel fuel - Assessment of lubricity using the 2019-09 high-frequency reciprocating rig (HFRR) - Part

1: Test method

ASTM D 6079 Standard Test Method for Evaluating Lubricity

2018 of Diesel Fuels by the High-Frequency

Reciprocating Rig (HFRR)

Cetan and 1-Methylnaphthalene 1.2.81

DIN 51422-2 Testing of mineral products - Determination of grade of purity by gaschromatography - Part 2:

Cetane and 1-Methyl-naphthaline

Aromatic Hydrocarbon Types 1.2.7

DIN EN 12916 Petroleum products - Determination of aromatic hydrocarbon types in middle distillates - High performance liquid

chromatography method with refractive index

detection

FAME 1.2.27

DIN EN 14078 Liquid petroleum products - Determination of 2014-09 fatty acid methyl ester (FAME) content in

middle distillates - Infrared spectrometry

method

Calorific value

ASTM D 3338/D 3338M Standard Test Method for Estimation of Net

2020a Heat of Combustion of Aviation Fuels

Valid from: 06.04.2023 Date of issue: 06.04.2023

2023 Page 11 of 19



Test Method Title Process-Matrix-Number⁺⁾

Hydrogen content

ASTM D 3343 Standard Test Method for Estimation of 2016 Hydrogen Content of Aviation Fuels

Oxidation stability 1.2.75

DIN EN 15751 Automotive fuels - Fatty acid methyl ester
2014-06 (FAME) fuel and blends with diesel fuel Determination of oxidation stability by

accelerated oxidation method

DIN EN ISO 12205 Petroleum products - Determination of the oxidation stability of middle-distillate fuels

oxidation stability of initiale-distillate fuels

DIN EN 16091 Liquid petroleum products - Middle distillates
2012-02 and fatty acid methyl ester (FAME) fuels and
blends - Determination of oxidation stability by

rapid small scale oxidation test (RSSOT)

ASTM D 7545 Standard Test Method for Oxidation Stability of

2014 Middle Distillate Fuels - Rapid Small Scale

Oxidation Test (RSSOT)

ASTM D 2274 Standard Test Method for Oxidation Stability of

2014 Distillate Fuel Oil (Accelerated Method)

Measurement of the relative refractive index

DIN 51423-1 Testing of mineral oils - Part 1: Measurement

2010-02 of the relative refractive index with the

precision refractometer

DIN 51423-2 Testing of mineral oils - Part 2: Measurement

2010-02 of the relative refractive index with the Abbe-

refractometer

Valid from: 06.04.2023 Date of issue: 06.04.2023

Page 12 of 19



Test Method

Title

Process-Matrix-Number⁺⁾

GC-composition

DIN 51405 2004-01 Testing of mineral oil hydrocarbons, similar liquids and solvents for paints and varnishes - Analysis by gas chromatography - General

working principles

Peroxide number

ASTM D 3703

2018

Standard Test Method for Hydroperoxide Number of Aviation Turbine Fuels, Gasoline

and Diesel Fuels

DIN EN 14214 Anhang C.3

2019-05

Calculation of saturated monoglycerides content in diesel fuels by EN 590

In combination with

DIN EN 14105 2011-07- Determination of

monoglyceridecontent

DIN EN 23015 1994-05 - Determination of

Cloudpoint FAME

1.6.67

Valid from: Date of issue:

06.04.2023 06.04.2023

D23 Page 13 of 19



1.3. Diesel Fuel from Fatty Acid Methylester (FAME) *

Test Method Title Process-Matrix-Number+) **Ester Content** 1.6.40 **DIN EN 14103** Determination of ester and linolenic acid 2020-04 methyl ester contents Density 1.6.22 **DIN EN ISO 12185** Crude petroleum and petroleum products -1997-11 Determination of density - Oscillating U-tube

1997-11 Determination of density - Oscillating U-tube method

DIN 51757 Testing of mineral oils and related materials 2011-01 Determination of density procedure 3

Viscosity 1.6.54

DIN EN ISO 3104 Petroleum products - Transparent and opaque 2021-01 liquids - Determination of kinematic viscosity and calculation of dynamic viscosity

Sulphur Content 1.6.89

DIN EN ISO 20846

2019-12

Determination of sulfur content of automotive fuels - Ultraviolet fluorescence method

ASTM D 5453

Standard Test Method for Determination of Total Sulfur in Light Hydrocarbons, Spark

Ignition Engine Fuel, Diesel Engine Fuel, and Engine Oil by Ultra-violet Fluorescence

Valid from: Date of issue: 06.04.2023 06.04.2023

Page 14 of 19



| Test Method | Title | Process-Matrix Number ⁺⁾ |
|-----------------------------|---|--|
| Water Content | | 1.6.106 |
| DIN EN ISO 12937 2002-03 | Determination of water - Coulometric Karl Fischer titration method | |
| Total Contamination | | 1.6.48 |
| DIN EN 12662 2014-07 | Determination of total contamination in middle distillates, diesel fuels and fatty acid methyl esters | |
| Corrosiveness to Copper | | 1.6.60 |
| DIN EN ISO 2160 1999-04 | corrosiveness to copper - copper strip test | |
| Oxidation Stability | | 1.6.75 |
| DIN EN 14112 2021-02 | Fat and oil derivatives - Fatty Acid Methyl Esters (FAME) - Determination of oxidation stability (accelerated oxidation test) | |
| Acid | | 1.6.87 |
| DIN EN 14104 2003-10 | Fat and oil derivates - Fatty acid methyl ester (FAME) - Determination of acid value | |
| Iodine Value | | 1.6.53 |
| DIN EN 14111 2003-10 | Fat and oil derivatives - Fatty acid methylesters (FAME) - Determination of iodine value | |
| DIN EN 16300 2012-11 | Determination of iodine value in fatty acid methyl esters (FAME) - Calculation method from gas chromatographic data | |



Test Method Title Process-Matrix-

Number+)

Methanol 1.6.64

DIN EN 14110 Fat and oil derivatives - Fatty Acid Methyl 2019-06 Esters - Determination of methanol content

Content of free and total Glycerol and Mono-, Di-, Triglyceride 1.6.67/1.6.38/1.6.

39

DIN EN 14105 Fat and oil derivatives - Fatty Acid Methyl
2011-07 Esters (FAME) - Determination of free and total
glycerol and mono-, di-, triglyceride contents

Cold Filter Plugging Point (CFPP) 1.6.98

DIN EN 116 Diesel and domestic heating fuels -

2018-04 Determination of cold filter plugging point -

Stepwise cooling bath method

Cloud Point

DIN EN 23015 Petroleum products; determination of cloud

1994-05 point (withdrawn)

DIN EN 14214 Anhang C.2

2019-05

Calculation of saturated monoglycerides

content in FAME

in combination with:

DIN EN 14105 Determination of monoglyceride 1.6.67

2011-07 content

DIN EN 23015 Determination of cloudpoint

1994-05

Valid from: 06.04.2023 Date of issue: 06.04.2023

Page 16 of 19



Test Method Title Process-Matrix-Number+)

Flash Point 1.2.28

ASTM D 93 Standard Test Methods for Flash Point by 2020 Pensky-Martens Closed Cup Tester

relisky-ivialiteris closed cup rester

DIN EN ISO 2719 Determination of flash point - Pensky-Martens

2016-11 closed cup method

1.4. Aviation Fuels *

Test Method Title Process-Matrix-Number+)

Density 1.4.3

ASTM D 4052 Standard Test Method for Density, Relative Density, and API Gravity of Liquids by Digital

Density Meter

Distillation Characteristics 1.4.21

ASTM D 86 Standard Test Method for Distillation of 2020b Petroleum Products and Liquid Fuels at

Atmospheric Pressure

Hydrocarbon Types 1.4.56

ASTM D 1319 Standard Test Method for Hydrocarbon Types 2020a in Liquid Petroleum Products by Fluorescent

Indicator Adsorption

Sulphur Content 1.4.89

ASTM D 5453 Standard Test Method for Determination of 2019a Total Sulfur in Light Hydrocarbons, Spark

Ignition Engine Fuel, Diesel Engine Fuel, and Engine Oil by Ultraviolet Fluorescence

Valid from: 06.04.2023 Date of issue: 06.04.2023

2023 Page 17 of 19



Test Method Title

Number+)

Process-Matrix-

Corrosiveness to Copper 1.4.60

ASTM D 130 Standard Test Method for Corrosiveness to 2019

Copper from Petroleum Products by Copper

Strip Test

Calorific Value 1.4.13

Standard Test Method for Estimation of Net ASTM D 3338/D 3338M Heat of Combustion of Aviation Fuels 2020a

Location Speyer:

1. Fuels

1.1 Gasoline *

Test Method Title Process-Matrix-Number+)

ASTM D 5769 Standard Test Method for Determination of 2022

Benzene, Toluene, and Total Aromatics in Finished Gasolines by Gas Chromatography/

Mass Spectrometry

Valid from: Date of issue: 06.04.2023 06.04.2023

Page 18 of 19



Abbreviations used:

ASTM

American Society for Testing and Materials

DIN

EN

ISO

German Institute for Standardization (Deutsches Institut für Normung e. V.)

European Standard

FAME

fatty acid methyl ester (Fettsäuremethylester)

International Organization for Standardization

Process-Matrix-Number+)

Number of the characteristics within the Process-Matrix for Mineral

Oel (FO-Antrag GB_Mineralöl.xlsx, Vers. 1.1, 23th March 2022)

Valid from:

06.04.2023 06.04.2023

Date of issue:

Page 19 of 19