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Liquid petroleum products - Determination of distillation characteristics at atmospheric pressure - Micro-distillation

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

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Liquid petroleum products - Determination of distillation characteristics at atmospheric pressure - Micro-distillation

Produits pétroliers liquides - Détermination des caractéristiques de distillation à la pression atmosphérique - Micro-distillation

Flüssige Mineralölerzeugnisse - Bestimmung der Destillationseigenschaften bei atmosphärischem Druck - Mikrodestillation

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EN 17306:2019 (E)

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European foreword

This document (EN 17306:2019) has been prepared by Technical Committee CEN/TC 19 “Gaseous and liquid fuels, lubricants and related products of petroleum, synthetic and biological origin”, the secretariat of which is held by NEN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by March 2020, and conflicting national standards shall be withdrawn at the latest by March 2020.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN not be held responsible for identifying any or all such patent rights.

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EN 17306:2019 (E)**Introduction**

The distillation (volatility) characteristics of hydrocarbons and other liquids have an important effect on their safety and performance, especially in the case of fuels and solvents. The boiling range gives information on the composition, the properties, and the behaviour of the fuel during storage and use. Volatility is the major determinant of the tendency of a hydrocarbon mixture to produce potentially explosive vapours.

The distillation characteristics are critically important for both automotive and aviation gasolines, affecting starting, warm-up and tendency to vapour lock at high operating temperature or at high altitude, or both. The presence of high boiling point components in these and other fuels can significantly affect the degree of formation of solid combustion deposits.

Distillation limits are often included in petroleum product specifications, in commercial contract agreements, process refinery/control applications, and for compliance to regulatory rules.

This test method can be applied to contaminated products or hydrocarbon mixtures. This is valuable for fast product quality screening, refining process monitoring, fuel adulteration control, or other purposes including use as a portable apparatus for field testing.

This document is as of the time of publication technically equivalent to ASTM D7345 [1], on which it is based.

This test method uses an automatic micro distillation apparatus, provides fast results using small sample volume, and eliminates much of the operator time and subjectivity in comparison to EN ISO 3405 or ASTM D1160 [2].

WARNING — The use of this standard can involve hazardous materials, operations and equipment. This standard does not purport to address all of the safety problems associated with its use. It is the responsibility of users of this standard to take appropriate measures to ensure the safety and health of personnel prior to application of the standard, and fulfil statutory and regulatory requirements for this purpose.

1 Scope

This document specifies a laboratory method for the determination of the distillation characteristics of light and middle distillates derived from petroleum and related products of synthetic or biological origin with initial boiling points above 20 °C and end-points below approximately 400 °C, at atmospheric pressure utilizing an automatic micro distillation apparatus.

This test method is applicable to such products as light and middle distillates, automotive spark-ignition engine fuels, automotive spark-ignition engine fuels containing up to 20 % (V/V) ethanol, aviation gasolines, aviation turbine fuels, (paraffinic) diesel fuels, FAME (B100), diesel blends up to 30 % (V/V) fatty acid methyl esters (FAME), special petroleum spirits, naphtha's, white spirits, kerosene's, burner fuels, and marine fuels.

The test method is also applicable to hydrocarbons with a narrow boiling range, like organic solvents or oxygenated compounds.

The test method is designed for the analysis of distillate products; it is not applicable to products containing appreciable quantities of residual material.

NOTE For the purpose of this standard, the expression "% (V/V)" is used to represent the volume fraction.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN ISO 3170, *Petroleum liquids - Manual sampling (ISO 3170)*

EN ISO 3171, *Petroleum liquids - Automatic pipeline sampling (ISO 3171)*

EN ISO 3405, *Petroleum and related products from natural or synthetic sources - Determination of distillation characteristics at atmospheric pressure (ISO 3405)*

EN ISO 4259-1, *Petroleum and related products - Precision of measurement methods and results - Part 1: Determination of precision data in relation to methods of test (ISO 4259-1)*

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