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Petroleum and related products from natural or synthetic sources — Determination of cloud point

Produits pétroliers et connexes d'origine naturelle ou synthétique — Détermination du point de trouble

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 28, *Petroleum and related products, fuels and lubricants from natural or synthetic sources*.

This third edition cancels and replaces the second edition (ISO 3015:1992), which has been technically revised. The main changes compared to the previous edition are as follows:

— extension of the scope to diesel fuels with up to 30 % (*V/V*) FAME and inclusion of paraffinic diesel fuels;

— inclusion of digital contact thermometer;

— normative references in Clause 2 have been updated;

— bath and sample temperature ranges have been aligned with ASTM D2500[1], changes in bath temperature and the temperatures at which the test jars are moved to the batch with the next lower temperature have over the years (1992 up to the time of publication of this document) not led to observation of a bias versus test results obtained with the former edition;

— the precision for 'other products' has been removed as data to support it could not be obtained for comparison;

— a bibliography has been added.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Petroleum and related products from natural or synthetic sources — Determination of cloud point

WARNING — The use of this document can involve hazardous materials, operations and equipment. This document does not purport to address all of the safety problems associated with its use. It is the responsibility of users of this document to take appropriate measures to ensure the safety and health of personnel prior to application of this document, and to determine the applicability of any other restrictions.

1 Scope

This document specifies a method for the determination of the cloud point of petroleum products which are transparent in layers 40 mm in thickness and have a cloud point below 49 °C, amongst which are diesel fuels with up to 30 % (*V/V*) of fatty acid methyl ester (FAME)[2], paraffinic diesel fuels with up to 7 % (*V/V*) FAME[3], 100 % FAME[5] and lubricants.

NOTE For the purposes of this document, the term "% (*V/V*)" is used to represent the volume fraction (φ) of a material.

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.

ISO 3170, *Petroleum liquids — Manual sampling*

ISO 3171, *Petroleum liquids — Automatic pipeline sampling*

ASTM D7962, *Standard Practice for Determination of minimum Immersion Depth and Assessment of Temperature Sensor Measurement Drift*

ASTM E644-11, *Standard Test Methods for Testing Industrial Resistance Thermometers*

ASTM E2877, *Standard Guide for Digital Contact Thermometers*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

3.1
cloud point
temperature at which a cloud of wax crystals first appears in a liquid when it is cooled under specified conditions

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