BS EN ISO 2592:2017

BSI Standards Publication

Petroleum and related products - Determination of flash and fire points - Cleveland open cup method (ISO 2592:2017)

National foreword

This British Standard is the UK implementation of EN ISO 2592:2017. It is identical to ISO 2592:2017. It supersedes BS EN ISO 2592:2001, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee PTI/13, Petroleum Testing and Terminology.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Published by BSI Standards Limited 2017

ISBN 978 0 580 90559 9

ICS 75.080

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 October 2017.

Amendments/corrigenda issued since publication

Date	Text affected

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 2592

September 2017

ICS 75.080

Supersedes EN ISO 2592:2001

English Version

Petroleum and related products - Determination of flash and fire points - Cleveland open cup method (ISO 2592:2017)

Pétrole et produits connexes - Détermination des points d'éclair et de feu - Méthode Cleveland à vase ouvert (ISO 2592:2017)

Mineralölerzeugnisse und verwandte Produkte - Bestimmung des Flamm- und Brennpunktes - Verfahren mit offenem Tiegel nach Cleveland (ISO 2592:2017)

This European Standard was approved by CEN on 14 August 2017.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

European foreword

This document (EN ISO 2592:2017) has been prepared by Technical Committee ISO/TC 28 "Petroleum products and lubricants" in collaboration 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of an identical text or by endorsement, at the latest by March 2018 and conflicting national standards shall be withdrawn at the latest by March 2018.

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

This document supersedes EN ISO 2592:2001.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO 2592:2017 has been approved by CEN as EN ISO 2592:2017 without any modification.

Contents

Page

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).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on 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 the following URL: 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 2592:2000), which has been technically revised and aligned with ASTM D92.

The main technical changes compared to the previous edition are as follows:

a) Annex D on an alternative procedure for handling skin forming products has been added;

b) the temperature measuring device requirements in Annex B has been revised;

c) the flash point reproducibility has been changed from 17 °C to 18 °C, to align with ASTM D92 on the basis of recent precision data;

d) a procedure to determine an approximate flash point of a sample with an unknown expected flash point has been included, to align with ASTM D92.

INTERNATIONAL STANDARD ISO 2592:2017(E)

Petroleum and related products — Determination of flash and fire points — Cleveland open cup method

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 the application of this document, and fulfil statutory and regulatory requirements for this purpose.

1 Scope

This document specifies a procedure for the determination of flash and fire points of petroleum products using the Cleveland open cup apparatus. It is applicable to petroleum products having open cup flash points between 79 °C and 400 °C, except fuel oils which are most commonly tested by the closed cup procedure described in ISO 2719.

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*

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:

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

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

3.1
flash point
lowest temperature of the test portion, corrected to a standard atmospheric pressure of 101,3 kPa, at which application of a test flame causes the vapour of the test portion to ignite under the specified conditions of test

Note 1 to entry: See 10.10.

3.2
fire point
lowest temperature of the test portion, corrected to a barometric pressure of 101,3 kPa, at which application of a test flame causes the vapour of the test portion to ignite and sustain burning for a minimum of 5 s under the specified conditions of test

4 Principle

The test cup is filled to a specified level with the test portion. The temperature of the test portion may be increased rapidly (5 °C/min to 17 °C/min) at first and then at a slow constant rate (5 °C/min to