

Determination of flash point — Abel closed-cup method (ISO 13736:2008)

ICS 75.080

National foreword

This British Standard is the UK implementation of EN ISO 13736:2008. It is identical to ISO 13736:2008. It supersedes BS EN ISO 13736:1998 which is withdrawn.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.

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Détermination du point d'éclair - Méthode Abel en vase clos
(ISO 13736:2008)

Bestimmung des Flammpunktes - Verfahren mit
geschlossenen Tiegel nach Abel (ISO 13736:2008)

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Foreword

This document (EN ISO 13736:2008) has been prepared by Technical Committee ISO/TC 28 "Petroleum products and lubricants" in collaboration with 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of an identical text or by endorsement, at the latest by March 2009, and conflicting national standards shall be withdrawn at the latest by March 2009.

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

This document supersedes EN ISO 13736:1997.

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Endorsement notice

The text of ISO 13736:2008 has been approved by CEN as a EN ISO 13736:2008 without any modification.

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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.

ISO 13736 was prepared by Technical Committee ISO/TC 28, *Petroleum products and lubricants*.

This second edition cancels and replaces the first edition (ISO 13736:1997), which has been technically revised.

Introduction

Flash-point values can be used in shipping, storage, handling and safety regulations, as a classification property to define “flammable” and “combustible” materials. Precise definition of the classes is given in each particular regulation.

A flash-point value can indicate the presence of highly volatile material(s) in a relatively non-volatile or non-flammable material, and flash-point testing can be a preliminary step to other investigations into the composition of unknown materials.

It is not appropriate that flash-point determinations be carried out on potentially unstable, decomposable, or explosive materials, unless it has been previously established that heating the specified quantity of such materials in contact with the metallic components of the flash-point apparatus within the temperature range required for the method do not induce decomposition, explosion or other adverse effects.

Flash-point values are not a constant physical-chemical property of materials tested. They are a function of the apparatus design, the condition of the apparatus used and the operational procedure carried out. Flash point can, therefore, be defined only in terms of a standard test method, and no general valid correlation can be guaranteed between results obtained by different test methods or with test apparatus different from that specified.

ISO/TR 29662^[6] (CEN/TR 15138^[7]) gives useful advice in carrying out flash-point tests and interpreting results.

Determination of flash point — Abel closed-cup method

CAUTION — The use of this International Standard can involve hazardous materials and equipment. This International Standard does not purport to address all of the safety problems associated with its use. It is the responsibility of the user of this International Standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

1 Scope

This International Standard specifies a method for the determination of the closed-cup flash point of combustible liquids having flash points between $-30,0\text{ }^{\circ}\text{C}$ and $70,0\text{ }^{\circ}\text{C}$, inclusive. However, the precision given for this method is only valid for flash points in the range $-5,0\text{ }^{\circ}\text{C}$ to $66,5\text{ }^{\circ}\text{C}$.

This International Standard is not applicable to water-borne paints, which can, however, be tested using ISO 3679^[4].

NOTE 1 See 4.1 for the importance of this test to avoid loss of volatile materials.

NOTE 2 Liquids containing halogenated compounds can give anomalous results.

2 Normative references

The following referenced documents are indispensable for the application 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 3170:2004, *Petroleum liquids — Manual sampling*

ISO 3171:1988, *Petroleum liquids — Automatic pipeline sampling*

ISO 15528:2000, *Paints, varnishes and raw materials for paints and varnishes — Sampling*

3 Term and definition

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

3.1

flash point

lowest temperature of the test portion, corrected to a barometric pressure of $101,3\text{ kPa}$, at which application of a test flame causes the vapour of the test portion to ignite momentarily and the flame to propagate across the surface of the liquid under the specified conditions of test