

INTERNATIONAL  
STANDARD

**ISO**  
**3014**

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**Petroleum products — Determination of  
the smoke point of kerosine**

*Produits pétroliers — Détermination du point de fumée des  
carburéacteurs*



Reference number  
ISO 3014:1993(E)

## 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.

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.

International Standard ISO 3014 was prepared by Technical Committee ISO/TC 28, *Petroleum products and lubricants*.

This third edition cancels and replaces the second edition (ISO 3014:1981), of which it constitutes a technical revision.

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# Petroleum products — Determination of the smoke point of kerosine

**WARNING —** The use of this International Standard may 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 the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

## 1 Scope

This International Standard describes a procedure for the determination of the smoke point of kerosine.

NOTE 1 The smoke point of kerosine is related to the hydrocarbon type composition, and provides an indication of relative smoke-producing properties in a diffusion flame.

## 2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 3170:1988, *Petroleum liquids — Manual sampling*.

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

ISO 5272:1979, *Toluene for industrial use — Specifications*.

## 3 Definitions

For the purposes of this International Standard, the following definitions apply.

**3.1 kerosine:** Refined petroleum distillate, boiling between 140 °C and 300 °C, generally used in lighting and heating applications, and as a fuel for aviation gas turbines.

**3.2 smoke point:** The maximum height, in millimetres, of a smokeless flame of fuel burned in a wick-fed lamp of specified design.

## 4 Principle

The sample is burned in an enclosed wick-fed lamp that is calibrated daily against pure hydrocarbon blends of known smoke point. The maximum height of flame that can be achieved with the test fuel without smoking is determined to the nearest 0,5 mm.

## 5 Reagents and materials

**5.1 Toluene,** grade 1 as defined in ISO 5272.

**5.2 2,2,4-trimethylpentane (isooctane),** minimum purity 99,75 % (m/m).

**5.3 Methanol (methyl alcohol),** anhydrous.