BRITISH STANDARD

BS 2000 :
Part 2 : 1998
ISO 2977 : 1997

Methods of test for

Petroleum and its products

Part 2. Petroleum products and hydrocarbon solvents - Determination of aniline point and mixed aniline point

(Identical with IP 2/98)

BSi
British Standards

National foreword

This British Standard was published under the authority of the Materials and Chemicals Sector Board and comes into effect on 1st March 1998. It is the English language version of ISO 2977 : 1997 *Petroleum products and hydrocarbon solvents - Determination of aniline point and mixed aniline point,* published by the International Organization for Standardization (ISO).

This British Standard supersedes BS 2000 : Part 2 : 1994, which is withdrawn.

BS 2000 comprises a series of test methods for petroleum and its products that are published by the Institute of Petroleum (IP) and have been accorded the status of a British Standard. Each method should be read in conjunction with the preliminary pages of 'IP Standard methods for analysis and testing of petroleum and related products and British Standard 2000 Parts' which gives details of the BSI/IP agreement for publication of the series, provides general information on safety precautions, sampling and other matters, and lists the methods published as Parts of BS 2000.

Under the terms of the agreement between BSI and the Institute of Petroleum, BS 2000 : Part 2 / ISO 2977 will be published by the IP (in 'Standard methods for analysis and testing of petroleum and related products and British Standard 2000 Parts' and as a separate publication). The numbering of the Parts of BS 2000 follows that of the corresponding IP methods. BS 2000 : Part 2 : 1998 is thus identical with IP 2/98.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

The following BSI references relate to the work of this standard:
Committee reference PTI/13
Draft for public comment no: 95/125308 DC

IP 2/98 ISO 2977 : 1997 ASTM D611 - 82 (93) BS 2000 : Part 2 : 1998

Petroleum products and hydrocarbon solvents - Determination of aniline point and mixed aniline point

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 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 aniline point of petroleum products and hydrocarbon solvents, and the mixed aniline point of those products having aniline points below the temperature at which aniline will crystallize from the aniline-sample mixture.

Method 1 describes a procedure for transparent samples with an initial boiling point above ambient temperature, and for those with an aniline point below the bubble point and above the solidification point of the aniline-sample mixture.

Method 2, a thin film method, describes a procedure for samples too dark for testing by method 1.

Methods 3 and 4 are for samples that may vaporize appreciably at the aniline point.

NOTE 1 Method 4 is particularly suitable where only small quantities of sample are available.

Method 5 describes a procedure using automated or automatic apparatus suitable for the range covered by methods 1 and 2.

NOTE 2 The aniline point (or mixed aniline point) is useful as an aid in the characterization of pure hydrocarbons and in the analysis of hydrocarbon mixtures. Aromatic hydrocarbons exhibit the lowest values and paraffins the highest, with cycloparaffins and olefins exhibiting intermediate values. In a homologous series, the aniline points increase with increasing molecular mass.

NOTE 3 Although the aniline point can be used in combination with other physical properties in correlative methods for hydrocarbon analysis, the most frequent usage is to provide an estimate of the aromatic content (or "aromaticity") of hydrocarbon mixtures.

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 listed below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 648: 1977, *Laboratory glassware - One-mark pipettes.*

ISO 2049: 1996, *Petroleum products - Determination of colour (ASTM scale).*

3 Definitions

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

3.1 aniline point: The minimum equilibrium solution temperature, in degrees Celsius, of a mixture of equal volumes of aniline and the product under test.

3.2 mixed aniline point: The minimum equilibrium solution temperature, in degrees Celsius, of a mixture of two volumes of aniline, one volume of the product under test and one volume of heptane.

3.3 bubble point: The temperature, in degrees Celsius, noted at the moment when bubbles first appear in the body of the mixture when heated under standardized conditions.