

Methods of test for petroleum and its products —

**Part 129: Determination of
bromine number —
Colour indicator titration method
(Identical with IP 129:2003)**

ICS 75.080

Confirmed February 2012

National foreword

This British Standard reproduces verbatim IP 129:2003 and implements it as the UK national standard. It supersedes BS 2000-129:1993 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee PTI/13, Petroleum testing and terminology, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

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

Energy Institute, under the brand of IP publishes and sells all parts of BS 2000, and all BS EN petroleum test methods that would be part of BS 2000, both in its annual publication “Standard methods for analysis and testing of petroleum and related products and British Standard 2000 parts” and individually.

Further information is available from:

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Tel: 020 7467 7110. Fax: 020 7255 1472.**

Cross-references

The British Standards which implement international or European publications referred to in this document may be found in the *BSI Catalogue* under the section entitled “International Standards Correspondence Index”, or by using the “Search” facility of the *BSI Electronic Catalogue* or of British Standards Online.

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Summary of pages

This document comprises a front cover, an inside front cover, pages 1 to 5 and a back cover.

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This British Standard was published under the authority of the Standards Policy and Strategy Committee on 18 November 2005

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ISBN 0 580 46178 5

Amendments issued since publication

Amd. No.	Date	Comments

Determination of bromine number — Colour indicator titration method

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 standard specifies a method for the determination of the bromine number of distillate liquid petroleum products which are substantially free from butanes and butenes. The precision applies to such products with 90 % (V/V) distillation recovery temperatures below 205 °C up to bromine numbers of 115, and to products with distillation recovery temperatures between 205 °C and 327 °C up to bromine numbers of 15. The distillation temperatures are those obtained by the procedures described in IP 123.

NOTE 1 - The bromine number does not correspond necessarily to a true content of unsaturates, since sulfur compounds and certain polycyclic aromatic hydrocarbons are reported to react with bromine.

NOTE 2 - Based on data given in the appendix to ASTM former method D 1158-59T, the reported behaviour of the main hydrocarbon types is as follows:

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated. For undated references, the latest edition of the normative document indicated applies.

IP 123, *Petroleum products — Determination of distillation characteristics at atmospheric pressure.* (= EN ISO 3405)

IP 160, *Crude petroleum and liquid petroleum products — Laboratory determination of density or relative density — Hydrometer method.* (= EN ISO 3675)

Hydrocarbon type	Bromine number of pure reference compound	Hydrocarbon type	Bromine number of pure reference compound
Paraffins Straight chain olefins	Zero Theoretical	Conjugated dienes Aromatics with unsaturated side chains Monocyclic aromatics	Lower than theoretical Not assessed Zero
Branched chain olefins	Mostly higher than theoretical Theoretical	Bicyclic aromatics Polycyclic aromatics	Zero Mostly higher than theoretical
Cyclic olefins Non-conjugated dienes	Not assessed		Zero
Non-conjugated cyclic dienes	Theoretical	Naphthenes	