

INTERNATIONAL
STANDARD

ISO
2049

Second edition
1996-07-15

**Petroleum products — Determination of
colour (ASTM scale)**

Produits pétroliers — Détermination de la couleur (échelle ASTM)



Reference number
ISO 2049:1996(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 2049 was prepared by Technical Committee ISO/TC 28, *Petroleum products and lubricants*.

This second edition cancels and replaces the first edition (ISO 2049:1972), which has been technically revised.

Annex A forms an integral part of this International Standard.

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Case postale 56 • CH-1211 Genève 20 • Switzerland

Printed in Switzerland

Petroleum products — Determination of colour (ASTM scale)

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 specifies a method for the visual determination of the colour of a variety of petroleum products, such as lubricating oils, heating fuels, diesel fuels and petroleum waxes. It is limited to products that do not contain artificial dyes.

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 3015:1992, *Petroleum products — Determination of cloud point*.

ISO 3016:1994, *Petroleum products — Determination of pour point*.

ISO 3696:1987, *Water for analytical laboratory use — Specification and test methods*.

ISO 6271:—1), *Clear liquids — Estimation of colour by the platinum-cobalt scale*.

ISO 6353-2:1983, *Reagents for chemical analysis — Part 2: Specifications — First series*.

3 Principle

A test portion of the petroleum product is viewed under an artificial daylight source and the colour

compared with a number of standard colour glasses. The matching colour standard, or that closest to it on the darker side, is recorded as the colour value. If the colour is darker than the darkest standard, dilution with a specified solvent can be applied to permit matching.

4 Reagents and materials

4.1 Water, complying with the requirements of Grade 3 of ISO 3696 and colour no greater than 10 units (Hazen) in accordance with ISO 6271.

4.2 Kerosine, lighter in colour than a potassium dichromate ($K_2Cr_2O_7$) solution formed by dissolving 4,8 mg of pure anhydrous potassium dichromate, as specified in ISO 6353-2, in 1 litre of water (4.1).

5 Apparatus

5.1 Colorimeter, consisting of a light source, glass colour standards, sample container housing with cover and viewing piece conforming to one of the designs described in annex A.

5.2 Sample container, of clear colourless glass. For referee tests, use the glass sample jar shown in figure 1. For routine tests, it is permissible to use a glass jar such as is used for the cloud point and pour point tests, in accordance with ISO 3015 and ISO 3016 respectively, i.e. a cylindrical jar with a flat bottom of 30 mm to 32,4 mm internal diameter, 115 mm to 125 mm external height, and a wall thickness no greater than 1,6 mm.

1) To be published. (Revision of ISO 6271:1981)