

INTERNATIONAL
STANDARD

ISO
6614

Second edition
1994-12-15

**Petroleum products — Determination of
water separability of petroleum oils and
synthetic fluids**

*Huiles de pétrole et fluides synthétiques — Détermination de l'aptitude
des huiles de pétrole et des fluides synthétiques à se séparer de l'eau*



Reference number
ISO 6614:1994(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 6614 was prepared by Technical Committee ISO/TC 28, *Petroleum products and lubricants*.

This second edition cancels and replaces the first edition (ISO 6614:1983), which has been technically revised.

Annex A forms an integral part of this International Standard.

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International Organization for Standardization
Case Postale 56 • CH-1211 Genève 20 • Switzerland

Printed in Switzerland

Petroleum products — Determination of water separability of petroleum oils and synthetic fluids

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 measuring the ability of petroleum oils or synthetic fluids to separate from water at a specified temperature.

NOTE 1 The normal test temperature is $54\text{ °C} \pm 1\text{ °C}$, but this may be increased to $82\text{ °C} \pm 1\text{ °C}$ for products with a viscosity above $90\text{ mm}^2/\text{s}$ at 40 °C . Other test temperatures may also be specified.

This test method was developed specifically for steam-turbine oils in the viscosity range $32\text{ mm}^2/\text{s}$ to $95\text{ mm}^2/\text{s}$ at 40 °C , but it may be used to test the water separability of oils of different types and viscosity ranges, and also to test synthetic fluids. It may be unsuitable for high viscosity products where it is apparent that insufficient mixing of oil and water occurs.

NOTE 2 The identical procedure is used for synthetic fluids with a density greater than 1000 kg/m^3 at 15 °C , but it should be noted that the water will tend to float on the emulsion or liquid.

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

ISO 4788:1980, *Laboratory glassware — Graduated measuring cylinders*.

ISO 7120:1987, *Petroleum products and lubricants — Petroleum oils and other fluids — Determination of rust-preventing characteristics in the presence of water*.

3 Definition

For the purposes of this International Standard, the following definition applies.

3.1 water separability: Ability of a petroleum oil or synthetic fluid to separate from water at a specified temperature.

It is expressed as a numerical code, determined in accordance with this International Standard, representing the respective volumes of oil, water and emulsion, and time (in parentheses), and a standardized description of the appearance of each layer (see annex A).