

# INTERNATIONAL STANDARD

# ISO 5024

Second edition  
1999-05-01

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## **Petroleum liquids and liquefied petroleum gases — Measurement — Standard reference conditions**

*Produits pétroliers liquides et gaz de pétrole liquéfiés — Mesurage —  
Conditions normales de référence*



Reference number  
ISO 5024:1999(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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

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 5024 was prepared by Technical Committee ISO/TC 28, *Petroleum products and lubricants*, Subcommittee SC 3, *Static petroleum measurement*.

This second edition cancels and replaces the first edition (ISO 5024:1976), of which it constitutes a technical revision in that it excludes natural gas from the scope.

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## Introduction

Most custody transfers of crude petroleum and its products are transacted in volumetric quantities. Since crude oils and petroleum products have relatively high coefficients of thermal expansion and compressibility, volumes are corrected to standard conditions of temperature and pressure in order to provide a meaningful and consistent basis for measurement. The definition of standard reference conditions is therefore of fundamental importance in measurement, calculation and accounting of petroleum quantities.

At the time of publication of this International Standard, reference conditions for crude petroleum and its products at 20 °C and 60 °F are still in use in some countries.

It is hoped that the worldwide trend to the exclusive use of the International System of Units (SI) will ultimately establish a single uniform set of standard reference conditions which will further simplify the requirements of world trade and commerce.



# Petroleum liquids and liquefied petroleum gases — Measurement — Standard reference conditions

## 1 Scope

This International Standard specifies the standard reference conditions of pressure and temperature for measurements carried out on crude petroleum and its products, including liquefied petroleum gases.

It excludes natural gas.

NOTE Standard reference conditions for natural gas are given in ISO 13443<sup>1)</sup>.

## 2 Standard reference conditions

The standard reference conditions of pressure and temperature for use in measurements on crude petroleum and its products shall be 101,325 kPa<sup>2)</sup> (absolute) and 15 °C, with the exception of liquid hydrocarbons having a vapour pressure greater than atmospheric at 15 °C, in which case the standard pressure shall be equilibrium vapour pressure at 15 °C.

<sup>1)</sup> ISO 13443:1996, *Natural gas — Standard reference conditions*.

<sup>2)</sup> 101,325 kPa = 1,013 25 bar = 1 013, 25 mbar = 1 atm

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