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**Petroleum and related products —  
Determination of the ageing behaviour of  
inhibited oils and fluids — TOST test**

**Part 2:  
Procedure for category HFC hydraulic  
fluids**

*Pétrole et produits connexes — Détermination du comportement au  
vieillessement des fluides et huiles inhibées — Essai TOST*

*Partie 2: Méthode pour les fluides hydrauliques de catégorie HFC*



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## 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 2.

The main task of technical committees is to prepare International Standards. 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.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 4263-2 was prepared by Technical Committee ISO/TC 28, *Petroleum products and lubricants*.

ISO 4263 consists of the following parts, under the general title *Petroleum and related products — Determination of the ageing behaviour of inhibited oils and fluids — TOST test*:

- *Part 1: Procedure for mineral oils*
- *Part 2: Procedure for category HFC hydraulic fluids*
- *Part 3: Anhydrous procedure for synthetic hydraulic fluids*
- *Part 4: Procedure for industrial gear oils*

# Petroleum and related products — Determination of the ageing behaviour of inhibited oils and fluids — TOST test —

## Part 2: Procedure for category HFC hydraulic fluids

**WARNING** — The use of this part of ISO 4263 may involve hazardous materials, operations and equipment. This part of ISO 4263 does not purport to address all of the safety problems associated with its use. It is the responsibility of the user of this part of ISO 4263 to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

### 1 Scope

This part of ISO 4263 specifies a method for the determination of the ageing behaviour of hydraulic fluids of category HFC as defined in ISO 6743-4 (see [2] in the Bibliography) and specified in ISO 12922 (see [3] in the Bibliography). The ageing is accelerated by the presence of oxygen, water and metal catalysts at elevated temperature, and the degradation of the fluid is followed by changes in pH value and insolubles content. Other parts of ISO 4263 specify similar procedures for the determination of the ageing behaviour of mineral oils and specified categories of fire-resistant fluids used in hydraulic and other applications.

**NOTE** For the purposes of this part of ISO 4263, the term “% (m/m)” is used to represent the mass fraction of a material.

### 2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 3170:—<sup>1)</sup>, *Petroleum liquids — Manual sampling*

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

ISO 20843:—<sup>2)</sup>, *Petroleum and related products — Determination of pH of fire-resistant fluids within categories HFAE, HFAS and HFC*

### 3 Principle

A test portion is reacted, in the absence of light, at 95 °C with oxygen and a steel and copper catalyst coil. Small aliquots of the fluid are withdrawn at regular intervals and the pH value and insolubles content are measured. The test is continued until a pH of 4,0 is reached, an insolubles content of 4,0 % (m/m) is exceeded, or a 200 h duration has elapsed.

1) To be published. (Revision of ISO 3170:1988)

2) To be published.