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## **Petroleum liquids - Manual sampling**

Petroleum liquids - Manual sampling

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN ISO 3170:2004 sisaldab Euroopa standardi EN ISO 3170:2004 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 18.05.2004 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN ISO 3170:2004 consists of the English text of the European standard EN ISO 3170:2004.</p> <p>This document is endorsed on 18.05.2004 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p><b>Käsitlusala:</b> This International Standard specifies the manual methods to be used for obtaining samples of liquid or semiliquid hydrocarbons, tank residues and deposits from fixed tanks, railcars, road vehicles, ships and barges, drums and cans, or from liquids being pumped in pipelines. It applies to the sampling of petroleum products, crude oils and intermediate products, which are stored in tanks at or near atmospheric pressure, or transferred by pipelines, and are handled as liquids at temperatures from near ambient up to 200 °C.</p>	<p><b>Scope:</b> This International Standard specifies the manual methods to be used for obtaining samples of liquid or semiliquid hydrocarbons, tank residues and deposits from fixed tanks, railcars, road vehicles, ships and barges, drums and cans, or from liquids being pumped in pipelines. It applies to the sampling of petroleum products, crude oils and intermediate products, which are stored in tanks at or near atmospheric pressure, or transferred by pipelines, and are handled as liquids at temperatures from near ambient up to 200 °C.</p>
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ICS 75.080

Võtmesõnad:

**English version**

**Petroleum liquids**

Manual sampling  
(ISO 3170 : 2004)

Produits pétroliers liquides –  
Echantillonnage manuel  
(ISO 3170 : 2004)

Flüssige Mineralölerzeugnisse –  
Manuelle Probenahme  
(ISO 3170 : 2004)

This European Standard was approved by CEN on 2004-01-16.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Management Centre or to any CEN member.

The European Standards exist in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland, and the United Kingdom.

**CEN**

European Committee for Standardization  
Comité Européen de Normalisation  
Europäisches Komitee für Normung

**Management Centre: rue de Stassart 36, B-1050 Brussels**

## Foreword

International Standard

ISO 3170 : 2004 Petroleum liquids – Manual sampling,

which was prepared by ISO/TC 28 'Petroleum products and lubricants' of the International Organization for Standardization, has been adopted by Technical Committee CEN/TC 19 'Petroleum products, lubricants and related products', the Secretariat of which is held by NEN, as a European Standard.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, and conflicting national standards withdrawn, by August 2004 at the latest.

In accordance with the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard:

Austria, Belgium, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland, and the United Kingdom.

## Endorsement notice

The text of the International Standard ISO 3170 : 2004 was approved by CEN as a European Standard without any modification.

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## Introduction

This International Standard may be applied in combination with ISO 3171.

The purpose of this International Standard is to standardize conditions for obtaining a sample of liquid/semi-liquid hydrocarbons from a tank, drum or pipeline by manual means. If the hydrocarbon to be sampled is of non-homogeneous character showing significant variations in composition or containing sediments and water, samples taken manually should not be expected to be representative, but may enable the degree of non-homogeneity to be assessed and estimates of quality and quantity to be made.

Procedures are specified which minimize or eliminate losses of light ends from samples. Such losses can occur during handling or transfer of samples, thereby making them non-representative of the bulk.

The procedures specified are intended to provide samples for the following purposes:

- a) the determination of the liquid/hydrocarbon quality;
- b) the determination of the water content;
- c) the determination of other contaminants that are not considered to be part of the liquid transferred.

If the sampling conditions for purposes a), b) and c) are in conflict, separate samples are required.

Sampling procedures for tank contents that are not homogeneous are specified that enable the degree of non-homogeneity to be assessed and estimates of quality and quantity to be made.

Procedures for the tank sampling of liquid hydrocarbons under inert gas pressure are included, together with techniques for sampling from tanks which are equipped with vapour emission control systems.

It is recognized that, in many countries, some or all of the items covered by this International Standard are the subject of mandatory regulations imposed by the laws of those countries. In cases of conflict between such mandatory regulations and this International Standard, the former prevail.

## 1 Scope

This International Standard specifies the manual methods to be used for obtaining samples of liquid or semi-liquid hydrocarbons, tank residues and deposits from fixed tanks, railcars, road vehicles, ships and barges, drums and cans, or from liquids being pumped in pipelines.

It applies to the sampling of petroleum products, crude oils and intermediate products, which are stored in tanks at or near atmospheric pressure, or transferred by pipelines, and are handled as liquids at temperatures from near ambient up to 200 °C.

The sampling procedures specified are not intended for the sampling of special petroleum products which are the subject of other International Standards, such as electrical insulating oils (IEC 60475), liquefied petroleum gases (ISO 4257), liquefied natural gases (ISO 8943) and gaseous natural gases (ISO 10715).

This International Standard refers to existing methods of sampling and the type of equipment presently in use. It is, however, not intended that it should exclude the use of new equipment not yet developed for commercial use, provided that such equipment enables samples to be obtained in accordance with the requirements and procedures of this International Standard.

NOTE For the purposes of this International Standard, the term “% (m/m)” is used to represent the mass fraction.

## 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 1998 (all parts), *Petroleum industry — Terminology*

ISO 2859-1:1999, *Sampling procedures for inspection by attributes — Part 1: Sampling plans indexed by acceptable quality limit (AQL) for lot-by-lot inspection*

ISO 3171:1988, *Petroleum liquids — Automatic pipeline sampling*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 1998 and the following apply.

### 3.1

#### **acceptable quality level**

#### **AQL**

maximum per cent defective (or the maximum number of defects per hundred units) that, for purposes of sampling inspection, can be considered satisfactory as a process average