

**VEDELAD NAFTASAADUSED.  
KÄSITSI PROOVIVÕTT**

**Hydrocarbon Liquids - Manual Sampling  
(ISO 3170:2025)**

## EESTI STANDARDI EESSÕNA

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## Hydrocarbon Liquids - Manual Sampling (ISO 3170:2025)

Hydrocarbures liquides - Échantillonnage manuel (ISO 3170:2025)

Flüssige Mineralölerzeugnisse - Manuelle Probenahme (ISO 3170:2025)

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This document (EN ISO 3170:2025) has been prepared by Technical Committee ISO/TC 28 "Petroleum and related products, fuels and lubricants from natural or synthetic sources" in collaboration with Technical Committee CEN/TC 19 "Gaseous and liquid fuels, lubricants and related products of petroleum, synthetic and biological origin" the secretariat of which is held by NEN.

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**International  
Standard**

**ISO 3170**

**Hydrocarbon Liquids — Manual  
sampling**

*Hydrocarbures liquides — Échantillonnage manuel*

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## Foreword

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This fourth edition cancels and replaces the third edition (ISO 3170:2004), which has been technically revised.

The main changes are as follows:

- document title amended to reflect the expanded scope of the document for non-petroleum liquids;
- inclusion of an equal representation of the closed and restricted sampling devices in addition to the traditional open sampling devices;
- expanded [Clause 3](#) and the Bibliography;
- added [Clause 4](#).

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html).

## Introduction

This document can be used in conjunction with ISO 3171.

This document specifies standard conditions and methods for obtaining samples of liquid/semi-liquid hydrocarbons from a tank, drum or pipeline by manual means. If the hydrocarbon to be sampled is non-homogeneous, showing significant variations in composition or containing sediments and water, samples taken manually should not be expected to be representative, but can enable the degree of non-homogeneity to be assessed and estimates of quality and quantity to be made.

The procedures specified in this document are intended to minimize or eliminate losses of light ends from samples. Such losses can occur during the handling or transfer of samples, thereby making them non-representative of the bulk.

The procedures specified provide samples for:

- 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 hydrocarbon.

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

The sampling procedures for tank contents that are not homogeneous specified in this document are intended to enable the degree of non-homogeneity to be assessed and estimates of quality and quantity to be made.

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

# Hydrocarbon Liquids — Manual sampling

## 1 Scope

This document specifies the manual methods 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 liquid products, including crude oils, intermediate products, synthetic hydrocarbons and bio fuels, which are stored at or near atmospheric pressure, or transferred by pipelines as liquids at elevated pressures and temperatures.

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 (covered in IEC 60475), liquefied petroleum gases (covered in ISO 4257), liquefied natural gases (covered in ISO 8943) and gaseous natural gases (covered in ISO 10715).

This document refers to methods of sampling and sampling equipment in use at the time of writing. It does not exclude the use of new equipment, provided that such equipment enables samples to be obtained according to the requirements and procedures of this document.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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, *Sampling procedures for inspection by attributes — Part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection*

ISO 3171, *Petroleum liquids — Automatic pipeline sampling*

IP 476, *Petroleum liquids — Automatic pipeline sampling*

## 3 Terms and definitions

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

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- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

### 3.1 acceptable quality limit AQL

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