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## Petroleum liquids — Manual sampling

*Produits pétroliers liquides — Échantillonnage manuel*



Reference number  
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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 3170 was prepared by Technical Committee ISO/TC 28, *Petroleum products and lubricants*, Subcommittee SC 3, *Static petroleum measurement*.

This third edition cancels and replaces the second edition (ISO 3170:1988), which has been technically revised.

The principal technical changes include the addition of

- procedures for tank sampling under restricted and closed system conditions, and
- procedures for the taking of manual spot samples from pipelines containing high vapour pressure liquids.

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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.