

International Standard**1388/1**

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

**Ethanol for industrial use — Methods of test —
Part 1 : General***Éthanol à usage industriel — Méthodes d'essai — Partie 1 : Généralités***First edition — 1981-11-01**

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up 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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 1388/1 was developed by Technical Committee ISO/TC 47, *Chemistry*, and was circulated to the member bodies in February 1980.

It has been approved by the member bodies of the following countries :

Australia	Germany, F.R.	Romania
Austria	Hungary	South Africa, Rep. of
Belgium	India	Switzerland
Brazil	Italy	Thailand
Bulgaria	Korea, Rep. of	United Kingdom
China	Netherlands	USSR
Czechoslovakia	Philippines	
France	Poland	

No member body expressed disapproval of the document.

This International Standard has also been approved by the International Union of Pure and Applied Chemistry (IUPAC).

International Standards ISO 1388/1 to ISO 1388/12 cancel and replace ISO Recommendation R 1388-1970, of which they constitute a technical revision.

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Ethanol for industrial use — Methods of test — Part 1 : General

1 Scope and field of application

This part of ISO 1388 gives general instructions relating to methods of test for ethanol for industrial use.

It also specifies the methods to be used for the determination of density at 20 °C, for the determination of dry residue after evaporation on a water bath, for the determination of water content, and for the measurement of colour.

A list of the parts comprising ISO 1388 is given in the annex.

2 References

ISO 758, *Liquid chemical products for industrial use — Determination of density at 20 °C*.

ISO 759, *Volatile organic liquids for industrial use — Determination of dry residue after evaporation on a water bath — General method*.

ISO 760, *Determination of water — Karl Fischer method (General method)*.

ISO 2211, *Liquid chemical products — Measurement of colour in Hazen units (platinum-cobalt scale)*.

3 Sampling¹⁾

Store the laboratory sample in a clean, dry and airtight, ground glass stoppered bottle or a screw-capped bottle fitted with a polyethylene cone insert of such capacity that it is almost entirely filled by the sample. If it is necessary to seal the bottle, take care to avoid any risk of contamination of the contents.

NOTE — A sample of not less than 2 500 ml is necessary for performing all the tests specified for the product.

4 Determination of density at 20 °C

Use the method specified in ISO 758.

5 Determination of dry residue after evaporation on a water bath

Use the method specified in ISO 759.

NOTE — If the residue obtained is less than 0,001 % (*m/m*), repeat the determination using a test portion of 250 ml, introduced in small portions into the evaporating basin, and take this into account in the calculation of results.

6 Determination of water content

Use one of the methods specified in ISO 760.

7 Measurement of colour

Use the method specified in ISO 2211.

8 Test report

The test report, for each determination, shall contain the following information :

- a) an identification of the sample;
- b) the reference of the method used;
- c) the results, and the method of expression used;
- d) any unusual features noted during the determination;
- e) any operation not included in the appropriate part of ISO 1388, or in the International Standards to which reference is made, or regarded as optional.

1) The sampling of liquid chemical products for industrial use will form the subject of a future International Standard.

Annex

ISO Publications relating to ethanol for industrial use

ISO 1388/1 — General.

ISO 1388/2 — Detection of alkalinity or determination of acidity to phenolphthalein.

ISO 1388/3 — Estimation of content of carbonyl compounds present in small amounts — Photometric method.

ISO 1388/4 — Estimation of content of carbonyl compounds present in moderate amounts — Titrimetric method.

ISO 1388/5 — Determination of aldehydes content — Visual colorimetric method.

ISO 1388/6 — Test for miscibility with water.

ISO 1388/7 — Determination of methanol content [methanol contents between 0,01 and 0,20 % (V/V)] — Photometric method.

ISO 1388/8 — Determination of methanol content [methanol contents between 0,10 and 1,50 % (V/V)] — Visual colorimetric method.

ISO 1388/9 — Determination of esters content — Titrimetric method after saponification.

ISO 1388/10 — Estimation of hydrocarbons content — Distillation method.

ISO 1388/11 — Test for detection of furfural.

ISO 1388/12 — Determination of permanganate time.
