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# INTERNATIONAL STANDARD



# 1870

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

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## Chloroform for industrial use — List of methods of test

*Chloroforme à usage industriel — Liste des méthodes d'essai*

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[ISO 1870:1977](https://standards.iteh.ai/catalog/standards/sist/1af5ff67-7bbc-4dde-a0ac-76ce15ca4d27/iso-1870-1977)

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UDC 661.7 : 547.412.123 : 620.1

Ref. No. ISO 1870-1977 (E)

**Descriptors** : halohydrocarbons, trichloromethane, tests, chemical analysis.

## 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.

Prior to 1972, the results of the work of the technical committees were published as ISO Recommendations; these documents are in the process of being transformed into International Standards. As part of this process, Technical Committee ISO/TC 47, *Chemistry*, has reviewed ISO Recommendation R 1870-1970 and found it technically suitable for transformation. International Standard ISO 1870 therefore replaces ISO Recommendation R 1870-1970, to which it is technically identical.

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ISO Recommendation R 1870 had been approved by the member bodies of the following countries :

Austria	India	South Africa, Rep. of
Belgium	Iran	Spain
Canada	Israel	Switzerland
Czechoslovakia	Italy	Thailand
Egypt, Arab Rep. of	Japan	Turkey
France	Netherlands	United Kingdom
Germany	New Zealand	U.S.A.
Greece	Poland	U.S.S.R.
Hungary	Romania	

No member body had expressed disapproval of the Recommendation.

No member body disapproved the transformation of the Recommendation into an International Standard.

# Chloroform for industrial use – List of methods of test

## 1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies methods of test for chloroform (trichloromethane) ( $\text{CHCl}_3$ ) for industrial use.

## 2 REFERENCES

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

ISO 760, *Determination of water – Karl Fischer method*.

ISO/R 918, *Test method for distillation (distillation yield and distillation range)*.

ISO 1393, *Liquid halogenated hydrocarbons for industrial use – Determination of acidity – Titrimetric method*.

ISO 2209, *Liquid halogenated hydrocarbons for industrial use – Sampling*.

ISO 2210, *Liquid halogenated hydrocarbons for industrial use – Determination of residue on evaporation*.

ISO 2211, *Liquid halogenated hydrocarbons for industrial use – Measurement of colour in Hazen units (platinum-cobalt scale)*.

## 3 SAMPLING

Prepare the laboratory sample in accordance with ISO 2209.

NOTE – The sampling and handling of samples shall be carried out as quickly as possible and generally in such a way that the contact of the sample with air and light is reduced to a minimum. The quantities taken either for analysis or for storage as reference samples shall be preserved in dark-coloured, clean and dry containers with a ground glass stopper.

## 4 DETERMINATION OF DISTILLATION CHARACTERISTICS

Use the method specified in ISO/R 918, subject to the following details and modifications appropriate for chloroform.

### 4.1 Principle (See clause 2 in ISO/R 918)

This determination indicates either the temperatures

corresponding to the collection of each of two volumes of distillate,  $V_0$  and  $V_1$ , or the difference between these two volumes. These two volumes will be indicated in the specification for chloroform agreed between the interested parties.

### 4.2 Thermometer (See 3.2 in ISO/R 918)

Range : 59 to 71 °C or other suitable range (for example, 48 to 102 °C).

NOTE – Avoid exposure of the thermometer to sunlight during the test.

### 4.3 Distillation rate (See 6.2 in ISO/R 918)

4 to 5 ml/min.

### 4.4 Temperature correction (See 5.2 and 7.2 in ISO/R 918)

The thermometer correction, which is necessary only when the purpose of the determination is to ascertain the two temperatures corresponding to the volumes of distillate  $V_0$  and  $V_1$ , is equal to

$$0,040 (760 - p_1) \text{ } ^\circ\text{C}$$

or

$$0,030 (1\,013 - p_2) \text{ } ^\circ\text{C}$$

where

$p_1$  is the barometric pressure in millimetres of mercury;

$p_2$  is the barometric pressure in kilopascals.\*

This correction shall be added to the observed temperatures.

## 5 DETERMINATION OF DENSITY AT 20 °C

Use the method specified in ISO 758.

## 6 DETERMINATION OF RESIDUE ON EVAPORATION

Use the method specified in ISO 2210.

\* 1 kPa = 1 kN/m<sup>2</sup>

**7 DETERMINATION OF WATER CONTENT**

Use one of the methods specified in ISO 760. In the case of water content of less than 10 ppm, use a 500 ml titration vessel and a 200 ml test portion and take suitable precautions.

**8 MEASUREMENT OF COLOUR**

Use the method specified in ISO 2211.

**9 DETERMINATION OF ACIDITY**

Use the method specified in ISO 1393.

**10 TEST REPORT**

The test report for each determination shall include the following particulars :

- a) the reference of the method used;
- b) the results and the method of expression used;
- c) any unusual features noted during the determination;
- d) any operation not included in this International Standard or in the documents to which reference is made, or regarded as optional.

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