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Methyl ethyl ketone for industrial use — List of methods of test

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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 2497 was drawn up by Technical Committee ISO/TC 47, *Chemistry*, and circulated to the Member Bodies in September 1971.

It has been approved by the Member Bodies of the following countries :

Austria	India	Spain
Belgium	Ireland	Switzerland
Egypt, Arab Rep. of	Israel	Thailand
France	Netherlands	United Kingdom*
Germany	Romania	U.S.A.
Hungary	South Africa, Rep. of	U.S.S.R.

* Disapproved section 9.

The Member Body of the following country expressed disapproval of the document on technical grounds :

New Zealand**

** Disapproved section 4.

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Methyl ethyl ketone for industrial use — List of methods of test

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies methods of test for methyl ethyl ketone (butanone), ($CH_3CH_2COCH_3$), for industrial use.

2 REFERENCES

ISO/R 758, *Method for the determination of density of liquids at 20 °C.*

ISO/R 759, *Method for the determination of residue on evaporation on a water bath.*

ISO/R 760, *Determination of water by the Karl Fischer method.*

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

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

ISO 2498, *Methyl ethyl ketone for industrial use — Examination for residual odour.*

ISO 2501, *Methyl ethyl ketone* isobutyl *methyl ketone and* isoamyl *ethyl ketone for industrial use — Determination of alcoholic impurities — Volumetric method.*

ISO 2887, sec*Butyl alcohol, methyl ethyl ketone,* isobutyl *methyl ketone* isoamyl *ethyl ketone, diacetone alcohol and hexylene glycol for industrial use — Determination of acidity to phenolphthalein — Volumetric method.*

3 SAMPLING

Follow the principles given in ISO . . .[1]. Attention is drawn to the following recommendation : place the laboratory sample, representative of the material taken from the bulk, in a clean, dry, dark coloured, glass-stoppered bottle of such a size that it is nearly filled by the sample.

If it is necessary to seal this bottle care shall be taken to avoid the risk of contamination of its contents.

4 DETERMINATION OF DISTILLATION CHARACTERISTICS

Use the method specified in ISO/R 918, subject to the following modifications appropriate for methyl ethyl ketone.

4.1 Thermometer. (See clause 3.2 in ISO/R 918).

Use a thermometer conforming to the requirements of ISO/R 918, with a scale including the range 50 to 100 °C.

4.2 Distillation. (See clause 6.1 in ISO/R 918).

The interval before the first drop of distillate falls from the end of the condenser shall be 10 to 15 min.

4.3 Correction to be applied to the temperatures. (See clause 7.2 in ISO/R 918).

The correction is equal to

$$0{,}037\ (760 - p_2)\ ^\circ\mathrm{C}$$

or

$$0{,}028\ (1013 - p_2)\ ^\circ\mathrm{C}$$

where

p_1 is the barometric pressure, in millimetres of mercury;

p_2 is the barometric pressure, in kilopascals.[2]

1) In preparation.

2) 1 kPa = 1 kN/m^2.

5 DETERMINATION OF DENSITY AT 20 °C

Use the method specified in ISO/R 758.

6 DETERMINATION OF RESIDUE ON EVAPORATION ON A WATER BATH

Use the method specified in ISO/R 759.

7 DETERMINATION OF WATER CONTENT

Use the ketone modification of any of the methods specified in ISO/R 760.

8 MEASUREMENT OF COLOUR

Use the method specified in ISO 2211.

9 EXAMINATION FOR RESIDUAL ODOUR

Use the method specified in ISO 2498.

10 DETERMINATION OF ALCOHOLIC IMPURITIES

Use the method specified in ISO 2501.

11 DETERMINATION OF ACIDITY TO PHENOLPHTHALEIN

Use the method specified in ISO 2887.

12 TEST REPORT

The test report shall include the following particulars in relation to each test :

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 those documents to which reference is made, or regarded as optional.