

International Standard 1897/13

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

Phenol, *o*-cresol, *m*-cresol, *p*-cresol, cresylic acid and xlenols for industrial use — Methods of test — Part 13 : Determination of residue on distillation (Cresylic acid and xlenols only)

Phénol, o-crésol, m-crésol, p-crésol, acide crésylique et xylénols à usage industriel — Méthodes d'essai — Partie 13 : Détermination du résidu de distillation (Acide crésylique et xylénols uniquement)

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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 developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been authorized 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 1897/13 was developed by Technical Committee ISO/TC 47, *Chemistry*, and was circulated to the member bodies in October 1982.

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

Australia	Germany, F.R.	Portugal
Austria	Hungary	Romania
Belgium	India	South Africa, Rep. of
China	Italy	Switzerland
Czechoslovakia	New Zealand	USSR
Egypt, Arab Rep. of	Nigeria	
France	Poland	

The member body of the following country expressed disapproval of the document on technical grounds :

Netherlands

This International Standard cancels and replaces ISO Recommendation R 1907-1971, of which it constitutes a technical revision.

Phenol, *o*-cresol, *m*-cresol, *p*-cresol, cresylic acid and xylenols for industrial use — Methods of test — Part 13 : Determination of residue on distillation (Cresylic acid and xylenols only)

1 Scope and field of application

This part of ISO 1897 specifies a method for the determination of the residue on distillation of cresylic acid of high *m*-cresol content, cresylic acid of high *o*-cresol content and xylenols for industrial use.

This document should be read in conjunction with ISO 1897/1 (see the annex).

2 References

ISO 918, *Volatile organic liquids for industrial use — Determination of distillation characteristics*.

ISO 1897/12, *Phenol, o-cresol, m-cresol, p-cresol, cresylic acid and xylenols for industrial use — Methods of test — Part 12 : Determination of distillation range (Cresylic acid and xylenols only)*.

3 Principle

Distillation of a test portion under carefully defined and controlled conditions and determination of the mass of residue obtained.

4 Procedure

4.1 Test portion

Weigh, to the nearest 0,1 g, 100 g of the laboratory sample¹⁾ into the distillation flask (see ISO 918, sub-clause 5.1.1), previously tared to the nearest 0,01 g.

4.2 Determination

Follow the instructions given in ISO 1897/12, clause 5, replacing sub-clause 5.5 with the following :

Carry out the distillation, using the method described in ISO 918, clause 7. When all the water has distilled over and the rate of distillation has been increased to 3 to 4 ml/min, continue the distillation without intermediate measurements, until either the "dry point" or the "final boiling point" is reached (see definitions in ISO 918, clause 3). Then immediately extinguish the flame of the burner. Allow the flask and contents to cool and weigh to the nearest 0,01 g.

5 Expression of results

The residue on distillation, expressed as a percentage by mass, is given by the formula

$$m_1 - m_0$$

where

m_0 is the mass, in grams, of the empty distillation flask;

m_1 is the mass, in grams, of the distillation flask and residue.

NOTE — Tests on residue-free samples leave a deposit weighing up to 2 g and it is the standard commercial practice to regard products leaving not more than 2 g as free from residue. When the mass of residue exceeds 2 g, the mass obtained (and not the mass diminished by 2 g) is taken as the residue.

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

Annex

ISO Publications relating to (A) phenol, (B) *o*-cresol, (C) *m*-cresol, (D) *p*-cresol, (E) cresylic acid, and (F) xylenols, for industrial use

Applicability		
A ¹⁾ B ²⁾ C D ²⁾ E F		ISO 1897/1 — General.
A B C D E F		ISO 1897/2 — Determination of water — Dean and Stark method.
A B C D E F		ISO 1897/3 — Determination of neutral oils and pyridine bases.
A B C D		ISO 1897/4 — Visual test for impurities insoluble in sodium hydroxide solution.
A		ISO 1897/5 — Visual test for impurities insoluble in water.
	E F	ISO 1897/6 — Test for absence of hydrogen sulphide.
	E F	ISO 1897/7 — Measurement of colour.
	E F	ISO 1897/8 — Determination of <i>o</i> -cresol content.
	E	ISO 1897/9 — Determination of <i>m</i> -cresol content.
A B C D		ISO 1897/10 — Determination of dry residue after evaporation on a water bath.
A B C D		ISO 1897/11 — Determination of crystallizing point.
	E F	ISO 1897/12 — Determination of distillation characteristics.
	E F	ISO 1897/13 — Determination of residue on distillation.
A ³⁾		ISO 1904 — Determination of phenols content — Bromination method.
A B C D		ISO 2208 — Determination of crystallizing point after drying with a molecular sieve.

1) In the case of phenol, the determination of density at 20 °C specified in ISO 1897/1 is applicable only to liquefied phenol.

2) The determination of density at 20 °C specified in ISO 1897/1 is not applicable to these products.

3) Applicable only to liquefied phenol.