
International Standard 1897/12

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 12 : Determination of distillation characteristics (Cresylic acid and xlenols only)

Phénol, o-crésol, m-crésol, p-crésol, acide crésylique et xylénols à usage industriel — Méthodes d'essai — Partie 12 : Détermination des caractéristiques de distillation (Acide crésylique et xylénols uniquement)

ITeCh STANDARD PREVIEW
(standards.iteh.ai)

First edition — 1983-11-01

ISO 1897-12:1983

<https://standards.iteh.ai/catalog/standards/sist/3af99c2b-feff-4dd9-908b-772726085a47/iso-1897-12-1983>



UDC 661 : 547.562/.563 : 423

Ref. No. ISO 1897/12-1983 (E)

Descriptors : industrial products, chemical compounds, phenols, cresols, xlenols, chemical analysis, determination, distillation range.

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 1897/12 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 1906-1971, of which it constitutes a technical revision.

Phenol, *o*-cresol, *m*-cresol, *p*-cresol, cresylic acid and xyleneols for industrial use – Methods of test – Part 12 : Determination of distillation characteristics (Cresylic acid and xyleneols only)

1 Scope and field of application

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

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

Scale range	175 to 275 °C, 180 to 215 °C or 205 to 235 °C as appropriate to the material under test
Immersion	100 mm
Graduation interval	0,1 °C
Maximum error	± 0,6 °C
Minimum scale length	240 mm
Maximum overall length	430 mm

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2 Reference

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

5.2 Condenser (see ISO/918, sub-clause 5.1.4), air cooled.

5.3 Non-flammable gauze (see ISO 918, sub-clause 5.1.6), in place of the asbestos board.

3 Definitions

See ISO 918, clause 3.

5.4 Correction to be applied to temperatures

If the corrected barometric pressure deviates from 1 013 mbar¹⁾, apply a correction to the observed temperatures by subtracting $0,061(273 - t)$ °C (where t is the boiling point, in degrees Celsius, of the cresylic acid or xyleneol) for every millibar above, or adding $0,061(273 - t)$ °C for every millibar below, 1 013 mbar (see ISO 918, clause 9).

4 Principle

See ISO 918, clause 4.

5.5 Distillation

5 Procedure

Use the method specified in ISO 918, subject to the following modifications specific to cresylic acid and xyleneols.

Proceed as specified in clause 7 of ISO 918. Extinguish the flame of the burner as soon as 95 % (V/V) of the distillate has been obtained. Record this temperature. If the total distillate is required, continue the distillation until either the "dry point" or the "final boiling point" is reached (see definitions in ISO 918, clause 3) and then extinguish the flame.

5.1 Thermometer (see ISO 918, sub-clause 5.1.2), of the mercury-in-glass type, certified for accuracy and conforming to the following requirements :

The total distillate shall include the liquid which drains from the condenser within 5 min of extinguishing the flame.

1) 1 bar = 10^5 Pa

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.