INTERNATIONAL STANDARD 1897/VII

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Phenol, *o*-cresol, *m*-cresol, *p*-cresol, cresylic acid and xylenols for industrial use — Methods of test — Part VII : Measurement of colour (Cresylic acid and xylenols only)

Phénol, o-crésol, m-crésol, p-crésol, acide crésylique et xylénols à usage industriel — Méthodes d'essai — Partie VII : Mesurage de la coloration (Acide crésylique et xylénols uniquement)

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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.

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 1909-1971 and found it technically suitable for transformation. Number 1909 however, has been changed to 1897/VII. International Standard ISO 1897/VII therefore replaces ISO Recommendation R 1909-1971, to which it is technically identical.

ISO Recommendation R 1909 had been approved by the member bodies of the following countries :

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

No member body had expressed disapproval of the Recommendation.

The member body of the following country disapproved the transformation of the Recommendation into an International Standard :

Netherlands

Printed in Switzerland

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1 SCOPE AND FIELD OF APPLICATION

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

This document should be read in conjunction with part I (see the annex).

2 PRINCIPLE

Comparison of the colour of a test portion against that of standard colour matching solutions.

NOTE — The colour of cresols present in the test portion is liable to darken on keeping and on exposure to light.

3 REAGENTS

During the test, use only reagents of recognized analytical grade, and only distilled water or water of equivalent purity.

3.1 Cobalt sulphate heptahydrate ($CoSO_4.7H_2O$).

3.2 Copper(II) sulphate pentahydrate ($CuSO_4.5H_2O$).

3.3 Potassium dichromate ($K_2Cr_2O_7$).

3.4 Potassium hexacyanoferrate(III) [$K_3Fe(CN)_6$].

4 APPARATUS

Ordinary laboratory apparatus, and

4.1 Two matched Nessler cylinders, capacity 50 ml.

4.2 Opaque opal glass sheet.

5 PREPARATION OF STANDARD COLORIMETRIC SOLUTIONS

Prepare the following standard colorimetric solutions, dissolving in water the indicated quantities of reagents and diluting to 1 000 ml in one-mark volumetric flasks.

The tint of the even-numbered colours is red and that of the odd-numbered colours is yellow.

The standard colorimetric solution No. 7 should be freshly prepared on the day of the test. The other solutions keep well and may be used up to 1 month from the date of preparation.

Colour No.	Mass of reagent g	Reagent
1	0,90 0,015	Cobalt sulphate (3.1) Potassium dichromate (3.3)
2	6,0 0,015	Cobalt sulphate (3.1) Potassium dichromate (3.3)
3	4,0 0,075 1,0	Cobalt sulphate (3.1) Potassium dichromate (3.3) Copper(II) sulphate (3.2)
4	22,5 0,06	Cobalt sulphate (3.1) Potassium dichromate (3.3)
5	10,0 0,18 2,5	Cobalt sulphate (3.1) Potassium dichromate (3.3) Copper(II) sulphate (3.2)
6	70,0 0,5	Cobalt sulphate (3.1) Potassium dichromate (3.3)
7	320,0	Potassium hexacyanoferrate(III) (3.4)
8	Any cresylic acid darker than colour No. 7	

6 PROCEDURE

6.1 Test portion

Pour 50 ml of the test sample into one of the Nessler cylinders (4.1).

6.2 Comparison

Pour 50 ml of the standard colorimetric solution (see clause 5) agreed between the parties, into the second Nessler cylinder.

Compare the colour of the two liquids in the Nessler cylinders, held vertically 75 mm above the surface of the opaque opal glass sheet (4.2) reflecting diffused daylight.

NOTE — It is usual to specify two standard colorimetric solutions, one from the even-numbered series and one from the odd-numbered series.

7 EXPRESSION OF RESULTS

Report the colour of the test portion as being not darker than, equal to, or darker than those of the standard colorimetric solutions agreed between the parties.