H-21-13

INTERNATIONAL STANDARD 2208

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

Phenol, *o*-cresol, *m*-cresol and *p*-cresol for industrial use — Determination of crystallizing point after drying with a molecular sieve

First edition — 1973-07-01

UDC 661.7 : 547.562/563 : 536.421

Ref. No. ISO 2208-1973 (E)

Descriptors : phenols, phenol, cresols, tests, physical tests, crystallization.

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 2208 was drawn up by Technical Committee ISO/TC 47, *Chemistry*, and circulated to the Member Bodies in December 1970.

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

Austria	Hungary	South Africa, Rep. of
Belgium	India	Spain
Bulgaria	Israel	Switzerland
Czechoslovakia	Netherlands	Turkey
Egypt, Arab Rep. of	New Zealand	United Kingdom
France	Portugal	U.S.A.
Germany	Romania	U.S.S.R.

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

Italy

Printed in Switzerland

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Phenol, *o*-cresol, *m*-cresol and *p*-cresol for industrial use — Determination of crystallizing point after drying with a molecular sieve

WARNING. These materials burn, and can be absorbed into the system through the skin. It is essential for the sampler to wear protective gloves, for example of polyvinyl chloride, and also a face shield. Inhalation of the vapours from hot material is to be avoided.

Phenols are extremely hygroscopic and care shall be taken to avoid contamination with atmospheric or other moisture.

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies a method for the determination of the crystallizing point of phenol, *o*-cresol, *m*-cresol and *p*-cresol for industrial use, after drying with a molecular sieve.

2 REFERENCE

ISO/R 1901, *Phenol, o-cresol, m-cresol and p-cresol for industrial use — Determination of crystallizing point.*

3 PRINCIPLE

Determination of the crystallizing point by the method specified in ISO/R 1901, in the presence of a molecular sieve.

4 REAGENT

Molecular sieve, pore diameter 0,5 to 5 μm. Heat this reagent in a container at 170 to 200 °C for 2 h. Seal the container and place it in a desiccator for 2 h.

5 SAMPLING

Apply the principles given in ISO. . .[1]. The following principles shall also be observed.

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 contaminating the contents.

6 PROCEDURE

Place 2 g of the molecular sieve (4) in the tube in which the sample is to be placed for the determination of crystallizing point. Add 20 ml of the laboratory sample. If the laboratory sample is in the form of a solid crystalline mass, or contains crystals, it should be completely melted and thoroughly mixed before taking the test portion, precautions being taken against overheating or contamination by moisture.

Insert the cork carrying the thermometer, as described in 4.2 of ISO/R 1901, and then proceed according to the details given in that document.

7 TEST REPORT

The test report 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 the ISO Recommendation to which reference is made, or regarded as optional.

1) Under study.

ANNEX

This document forms one of a series of ISO methods of test for phenols, cresols, cresylic acid and xylenols for industrial use.

The complete list of the documents already prepared or in course of preparation is as follows :

PHENOL, *o*-CRESOL, *m*-CRESOL, *p*-CRESOL, CRESYLIC ACID, XYLENOLS

ISO/R 1897, *Determination of water by the Karl Fischer method.*

ISO/R 1898, *Determination of water by the Dean and Stark method.*

ISO/R 1899, *Determination of neutral oils and pyridine bases.*

PHENOL, *o*-CRESOL, *m*-CRESOL, *p*-CRESOL

ISO/R 1900, *Determination of residue on evaporation.*

ISO/R 1901, *Determination of crystallizing point.*

ISO/R 1902, *Test for impurities insoluble in sodium hydroxide solution — Visual test.*

ISO 2208, *Determination of crystallizing point after drying with a molecular sieve.*

ISO 2273, *Determination, after total combustion, of total sulphur (conductimetric method) and chlorine content (potentiometric or spectrophotometric method).*[1)]

LIQUEFIED PHENOL, *m*-CRESOL, CRESYLIC ACID, XYLENOLS

ISO/R 1903, *Determination of density at 20 °C.*

PHENOLS

ISO/R 1904, *Determination of phenol content — Bromination method.*

LIQUEFIED PHENOL

ISO/R 1905, *Test for impurities insoluble in water — Visual test.*

CRESYLIC ACID AND XYLENOLS

ISO/R 1906, *Determination of distillation range.*

ISO/R 1907, *Determination of residue on distillation.*

ISO/R 1908, *Test for absence of hydrogen sulphide.*

ISO/R 1909, *Measurement of colour.*

ISO/R 1910, *Determination of o-cresol content.*

CRESYLIC ACID

ISO/R 1911, *Determination of m-cresol content.*

NOTE — A laboratory sample of not less than 500 ml (for phenol and cresols) or 1 000 ml (for cresylic acid and xylenols) is necessary to carry out the whole series of tests described in these documents.

1) At present at the stage of draft.