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ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION

R 1264

PLASTICS

PVC RESINS

DETERMINATION OF pH OF AQUEOUS EXTRACT

1st EDITION

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BRIEF HISTORY

The ISO Recommendation R 1264, *Plastics – PVC resins – Determination of pH of aqueous extract,* was drawn up by Technical Committee ISO/TC 61, *Plastics,* the Secretariat of which is held by the American National Standards Institute (ANSI).

Work on this question led to the adoption of Draft ISO Recommendation No. 1264, which was circulated to all the ISO Member Bodies for enquiry in May 1967. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies :

Australia	India	Romania
Austria	Iran	South Africa, Rep. of
Belgium	Israel	Spain
Bulgaria	Italy	Sweden
Canada	Japan	Switzerland
Czechoslovakia	Korea, Dem.P.Rep. of	Turkey
France	Korea, Rep. of	U.A.R.
Germany	Netherlands	U.S.A.
Greece	New Zealand	Yugoslavia
Hungary	Poland	

The following Member Body opposed the approval of the Draft :

United Kingdom

This Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided to accept it as an ISO RECOMMENDATION.

ISO Recommendation | R 1264 | October 1970

PLASTICS

PVC RESINS

DETERMINATION OF pH OF AQUEOUS EXTRACT

1. SCOPE

This ISO Recommendation describes a method of measuring the pH of the aqueous extract of a PVC resin.

This determination *is not suitable for estimating the electrical qualities of the resin*, but may be of interest in selecting additives and, especially, stabilizers which are to be used for the preparation of compounds.

2. PRINCIPLE

A given mass of resin is treated with a given volume of an aqueous solution of sodium chloride previously neutralised to pH 7.0 ± 0.2. After stirring and decanting, the pH of the liquid phase of the mixture is determined at a temperature of 20 ± 5 °C, with a pH-meter using a glass electrode.

3. REAGENT

Sodium chloride, 1 % solution, neutral or neutralised to pH 7.0 ± 0.2 with 0.01 N acid or alkali solution.
(For the preparation of this aqueous solution use only distilled water).

4. APPARATUS

4.1 *Pipette.*

4.2 *Beaker*, 100 ml.

4.3 *Flask*, 100 ml, with ground glass stopper.

4.4 *Mechanical shaker/stirrer.*

4.5 *pH-meter*, with glass electrode, graduated in units of 0.1 pH.

NOTE. – Before use, all the glassware should be de-activated by a suitable method, such as the one described in the Appendix.

5. PROCEDURE

Before all measurements of pH of the aqueous extract, confirm by carrying out a blank test on the sodium chloride solution (3). This solution can be regarded as correct if the value of the pH, so determined, is between 6.8 and 7.2.

If such is not the case, neutralise the solution again as described above and carry out a fresh confirmation.

If the value of pH is between 6.8 and 7.2, continue the determination as described below :

Introduce in the flask (4.3), previously washed out with the solution of sodium chloride (3) verified as above :

(*a*) 10 ± 0.5 g of resin,

(*b*) 50 ± 2 ml of sodium chloride solution (3).

Stopper the flask and place it on the shaker (4.4). Agitate rapidly for 60 ± 5 minutes. Allow the flask to stand for 5 to 10 minutes to allow the resin to settle (below or on the surface of the liquid).

Then, using the pipette (4.1), transfer approximately 30 to 40 ml of the liquid above or below the resin into the beaker (4.2) that has been rinsed beforehand with the sodium chloride solution. (In cases where a large amount of foam has been formed, filtering may be necessary before pipetting.) Measure the pH of the aqueous solution at a temperature of 20 ± 5 °C by means of the pH-meter (4.5).

Carry out two determinations. Express the values in pH units to one decimal place. If the difference in duplicate determinations is greater than 0.2 pH units carry out a new series of determinations until agreement is obtained.

6. EXPRESSION OF RESULTS

Calculate the arithmetic mean of the two values finally retained, rounding to the first decimal place, according to the usual rules.

NOTE. – Co-operative tests have shown reproducibility *between different laboratories* on the values of pH thus determined, of ± 0.3.

7. TEST REPORT

The test report should include the following information :

(*a*) reference to this ISO Recommendation or to an equivalent national standard;

(*b*) complete identification of the product tested;

(*c*) the result expressed according to section 6;

(*d*) any circumstances which may have affected the result;

(*e*) date of test.