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ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION

R 1148

PLASTICS

AQUEOUS DISPERSIONS OF POLYMERS AND COPOLYMERS

DETERMINATION OF pH

1st EDITION

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BRIEF HISTORY

The ISO Recommendation R 1148, *Plastics – Aqueous dispersions of polymers and copolymers – Determination of pH*, 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 a Draft ISO Recommendation.

In May 1968, this Draft ISO Recommendation (No. 1626) was circulated to all the ISO Member Bodies for enquiry. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies :

Austria	Israel	Spain
Belgium	Italy	Sweden
Brazil	Japan	Switzerland
Czechoslovakia	Korea, Rep. of	Turkey
France	Netherlands	U.A.R.
Germany	Poland	United Kingdom
Hungary	Portugal	U.S.A.
India	Romania	U.S.S.R.
Iran	South Africa, Rep. of	

No Member Body opposed the approval of the Draft.

The Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided, in November 1969, to accept it as an ISO RECOMMENDATION.

PLASTICS

AQUEOUS DISPERSIONS OF POLYMERS AND COPOLYMERS

DETERMINATION OF pH

1. SCOPE

This ISO Recommendation describes a procedure for the determination of pH by a pH-meter equipped with a glass electrode.

The procedure is suitable for aqueous polymer and copolymer dispersions.

2. PRINCIPLE

Measurement of the difference of potential existing between a glass electrode and a reference calomel electrode immersed in the aqueous dispersion, and reading of this difference, expressed in pH units, directly on the apparatus scale.

For dispersions having a viscosity higher than about 200 P, the pH-value may be measured after dilution with an equal volume of distilled water.

3. APPARATUS

3.1 *pH-meter equipped with a glass electrode*, allowing pH measurements to the nearest 0.1 pH unit.

It is essentially composed of the following items :

- (a) *Glass electrode*. This electrode is to be kept in distilled water, unless otherwise specified by the manufacturer.
- (b) *Reference calomel electrode, saturated with KCl*. Connection between the electrode and test solution is provided by a capillary type device without flow, or by a sintered glass plate.
- (c) *Amplifying potentiometer*, especially made for pH measurement.

As temperature has a great influence on measurement results, the electrometer used should be equipped with a device allowing compensation of temperature and conversion of electromotive force into pH units, at the temperature of the sample.

The pH-meter has to be regularly checked by pH measurement of standard buffer solutions.

3.2 *Thermoregulated bath* at 20 ± 1 °C.3.3 *Beaker*, 100 ml.3.4 *Graduated test tube*, 50 ml.