International Standard 976

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Rubber latices — Determination of pH

Latex de caoutchouc — Détermination du pH

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Foreword

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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. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 976 was prepared by Technical Committee ISO/TC 45, *Rubber and rubber products*.

This second edition cancels and replaces the first edition (ISO 976-1977), of which it constitutes a minor revision.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

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Rubber latices — Determination of pH

1 Scope and field of application

This International Standard specifies a method for the determination of the pH of natural rubber latex which contains preservative agents and which has been submitted to some type of concentration process, and also for the determination of the pH of synthetic rubber latex.

NOTE — The accuracy of the method decreases at pH values above 11.

2 References

ISO 123, *Rubber latex — Sampling.*

ISO 3696, *Water for laboratory use — Specifications and methods of test.* [1)]

3 Sampling

Sampling shall be carried out in accordance with one of the methods specified in ISO 123.

4 Reagents

Use only reagents specified by the manufacturer of the pH-meter, or commercially available analytical grade solutions of known pH. Where these are not available, prepare standard solutions using only reagents of recognized analytical grade, and only carbon dioxide-free distilled water or water of equivalent purity (grade 3 as defined in ISO 3696).

Borax, 0,01 mol/dm^3 solution.

Dissolve 3,814 g of sodium tetraborate decahydrate ($Na_2B_4O_7 \cdot 10\ H_2O$) in water and dilute to 1 000 cm^3 in a volumetric flask.

The solution shall be stored in chemically resistant glass or polyethylene containers, fitted with soda-lime carbon dioxide traps. It shall be replaced after 1 month.

The pH of this solution is 9,20 at 23 °C.

5 Apparatus

Ordinary laboratory apparatus and

pH-meter, equipped with glass electrode and saturated calomel cell, and capable of being read to 0,02 unit. The glass electrode shall be of a type suitable for use in solutions of pH up to 13.

NOTE — Glassware with either cm^3 or ml marking is satisfactory for use with the procedure specified in this International Standard.

6 Procedure

6.1 Standardization of pH-meter

Calibrate the pH-meter according to the manufacturer's instructions within 2 pH units of the range of the latex to be tested, using commercially available solutions of known pH. If needed, use the borax solution. Standardization shall be carried out at an equilibrium temperature of 23 ± 1 °C (27 ± 1 °C for tropical countries).

Successive readings shall agree within 0,05 pH unit.

6.2 Determination of pH of latex

Wash the electrodes with water and wipe dry with soft absorbent paper. Bring the latex to an equilibrium temperature of

1) At present at the stage of draft.