Analytical method for hydrogen peroxide

Determination of the pH value of hydrogen peroxide

GENERAL INFORMATION ABOUT THE METHOD

This method describes the determination of the pH of hydrogen peroxide. The measurement is carried out directly in the present hydrogen peroxide sample. For the measurement, a commercial pH glass electrode and a commercial pH meter are required.

EQUIPMENT

- pH meter
- pH glass electrode
- thermostat
- beakers, 50ml

REAGENTS

- hydrogen peroxide solution (testing material)
- high purity water (osmosis and ion exchange treated drinking water)
- buffer solutions (e.g. pH 2, pH 4 and pH 7)
- storage solution for pH electrode (individually according to manufacturer's instructions)

SPECIAL SAFETY INSTRUCTIONS

All reagents and chemicals must be handled according to the health and safety regulations. Refer to the safety data sheets.

SPECIAL PROCEDURE INSTRUCTIONS

Danger of decomposition by contact with incompatible materials, contaminants, metals, alkalis, reducing agents.

PROCEDURE

The equipment (pH meter and pH glass electrode) should be checked before each measurement. Therefore, perform a calibration with 2 or 3 different buffer solutions. The pH values of the buffer solutions must be known exactly. The selection of the buffer solutions depends on the expected pH of the hydrogen peroxide sample and of the pH meter type (observe manufacturer's calibration instructions!).

After the calibration temper the hydrogen peroxide sample to 20°C.

To measure the sample pH, remove the electrode from the storage tube and rinse it with high purity water. The glass membrane should not be touched, a possibly attached drop pick up carefully with a clean tissue.

Immerse the electrode in the sample solution and wait until the indicated pH value has stabilized. Then read off and note the value.

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CALCULATION

Not applicable

ENVIRONMENT/DISPOSAL OF CHEMICALS

The disposal of laboratory quantities of hydrogen peroxide must be in accordance with local regulations.

LITERATURE

- Manufacturers equipment descriptions
- Product information "Hydrogen Peroxide"

REMARKS

The method is based on the internal analytical method WM30.

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