Supelco®

1.10081.0001

MQuant® Peroxide Test O_2^{2-}

1. Method

Peroxidase transfers peroxide oxygen to an organic redox indicator. This produces a blue oxidation product. The peroxide concentration is measured **semiquantitatively** by visual comparison of the reaction zone of the test strip with the fields of a color scale.

2. Measuring range and number of determinations

Measuring range / color-scale graduation	Number of determinations
1 - 3 - 10 - 30 - **100 mg/l H_2O_2**	100

3. Applications

This test measures inorganic peroxides in aqueous solutions and organic solvents. Polymeric peroxides are not at all or only incompletely measured.

Sample material:
Simple ethers
UHT milk
Pickling and copper-stripping baths
Bleaching and oxidizing agents (paper and textile industries)
Disinfectant and rinsing solutions (e.g. food tech-nology, laundries)
Swimming-pool water

4. Influence of foreign substances

This was checked individually in solutions with 50 and 0 mg/l H_2O_2. The determination is not yet interfered with up to the concentrations of foreign substances given in the table. Cumulative effects were not checked; such effects can, however, not be excluded.

Concentrations of foreign substances in mg/l			
CrO_4^{2-}	**10**	IO_4^-	40
$[Fe(CN)_6]^{4-}$	**10**	**MnO_4^-**	**2**
$[Fe(CN)_6]^{3-}$	**10**	$S_2O_8^{2-}$	20
Hg^+	250	**VO_3^-**	**5**

5. Reagents and auxiliaries

The test strips are stable up to the date stated on the pack when stored closed at +2 to +8 °C.

Failure to adhere to the storage temperature of +2 to +8°C will lower the shelf life of the test strips and the accuracy of the measuring values.

Package contents:
Tube containing 100 test strips

Other reagents:
MQuant® Universal indicator strips pH 0 - 14, Cat. No. 109535
Sodium acetate anhydrous GR for analysis, Cat. No. 106268
Hydrochloric acid 1 mol/l Titripur®, Cat. No. 109057
Diethyl ether for analysis EMSURE®, Cat. No. 100921
Hydrogen peroxide 30 % H_2O_2 (Perhydrol®) GR for analysis, Cat. No. 107209

6. Preparation

- Samples containing more than 100 mg/l H_2O_2 must be diluted with distilled water or peroxide-free ether.
- **The pH of the aqueous sample must be within the range 2 - 12.**
  If necessary, buffer the sample with sodium acetate or, respectively, adjust the pH with hydrochloric acid.

7. Procedure

Protect the reaction zones from light (also during the reaction time)!

Determination in aqueous solutions:

Immerse the reaction zone of the test strip in the pretreated sample (**15 - 30 °C**) for **1 sec**.

Allow excess liquid to run off via the long edge of the strip onto an absorbent paper towel and **after 5 sec** determine with which color field on the label the color of the reaction zone coincides most exactly.

Read off the corresponding result in mg/l H_2O_2.

Notes on the measurement:

- Every blue coloration **within 3 min** can be interpreted as a positive result.
- If the color of the reaction zone is equal to or more intense than the darkest color on the scale or if another color emerges, repeat the measurement using **fresh** samples diluted with distilled water or, respectively, peroxide-free ether until a value of less than 100 mg/l H_2O_2 is obtained.

  The reaction zone indicates values within the measuring range also for H_2O_2 contents from 5000 mg/l (0.5 %) up.
  In such cases it is advisable to conduct a plausibility check of the measurement results by diluting the sample (e.g. 1:10, 1:100).

  Concerning the result of the analysis, the dilution (see also section 6) must be taken into account:

Result of analysis = measurement value x dilution factor

Determination in organic solvents (readily volatile ethers):

Immerse the reaction zone of the test strip in the pretreated sample (**15 - 30 °C**) for **1 sec**.

After the solvent has evaporated (gently fan the strip back and forth for **3 - 30 sec**), humidify the reaction zone for **1 sec with 1 drop of distilled water** and allow excess liquid to run off via the long edge of the strip onto an absorbent paper towel.

After 5 sec assess the color of the reaction zone.

Note on the measurement:

It is recommended to treat the measurement results obtained in organic solvents only as guideline values, since the color in appearance and intensity may vary depending on the solvent medium. In this connection every blue coloration of the reaction zone indicates that peroxide is present.

8. Method control

To check test strips and handling:
Make up 5.0 ml of Perhydrol® (H_2O_2 30 % ≙ 333 000 mg/l H_2O_2) to 500 ml with distilled water and mix. Take 1.5 ml of this solution, make up to 500 ml with distilled water, and mix. Subsequently analyze **immediately (solution is not stable)** as described in section 7. The content of H_2O_2 determined should be 10 mg/l. Additional notes see under **www.qa-test-kits.com**.

9. Note

Reclose the tube containing the test strips immediately after use.

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