

1.10011.0001
1.10011.0002
1.10081.0001

MQuant™ Peroxide Test



1. Method

Peroxidase transfers peroxide oxygen to an organic redox indicator. This produces a blue oxidation product. The peroxide concentration is measured **semi-quantitatively** 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

| Cat. No. | Measuring range/ color-scale graduation mg/l H ₂ O ₂ | Number of determinations |
|------------------------------|---|-----------------------------|
| 1.10011.0002 1.10011.0001 | 0.5 - 2 - 5 - 10 - 25 | 25 100 |
| 1.10081.0001 | 1 - 3 - 10 - 30 - 100 | 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 technology, laundries)
Swimming-pool water

4. Influence of foreign substances

This was checked in solutions with hydrogen peroxide concentrations from the middle of the respective measuring range and with 0 mg/l H₂O₂. The determination is not yet interfered with up to the concentrations of foreign substances given in the table.

| Concentrations of foreign substances in mg/l | | | |
|--|-----|---|----|
| CrO ₄ ²⁻ | 10 | IO ₃ ⁻ | 40 |
| [Fe(CN) ₆] ⁴⁻ | 10 | MnO ₄ ⁻ | 2 |
| [Fe(CN) ₆] ³⁻ | 10 | S ₂ O 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.

Package contents:

Tube containing 25 test strips
(Cat. No. 1.10011.0002)

or

containing 100 test strips
(Cat. Nos. 1.10011.0001 and 1.10081.0001)

Other reagents:

MColorpHast™ 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 % H₂O₂ (Perhydrol®) GR for
analysis, Cat. No. 107209

6. Preparation

- Samples containing more than 25 mg/l H₂O₂ (Cat. Nos. 110011) or 100 mg/l H₂O₂ (Cat. No. 110081) 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 pre-treated 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 15 sec (Cat. No. 110011) or after 5 sec (Cat. No. 110081) 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 H₂O₂.

Determination in organic solvents (readily volatile ethers):

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

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

After 15 sec (Cat. No. 110011) or after 5 sec (Cat. No. 110081) 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 H₂O₂.

Notes on the measurement:

- Every blue colouration 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 25 mg/l H₂O₂ (Cat. No. 110011) or 100 mg/l H₂O₂ (Cat. No. 110081) is obtained.

In the case of Cat. No. 110081 the reaction zone indicates values within the measuring range also for H₂O₂ 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

8. Method control

To check test strips and handling:

Make up 5.0 ml of Perhydrol® (H₂O₂ 30 % ± 333 000 mg/l H₂O₂) 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 H₂O₂ 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.

