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MQuant™

Quaternary Ammonium Compounds

1. Method

Certain quaternary ammonium compounds react with an indicator, the color of which changes from yellow-green to turquoise-blue. The concentration of the quaternary ammonium compounds 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
10 - 25 - 50 - 100 - 250 - 500 mg/l (as benzalkonium chloride)	100

3. Applications

Sample material:

Disinfectant and rinsing solutions (e.g. food technology)

Cleansing agents

Levelling agents (printers, dyers)

This test measures the quaternary ammonium compounds usually present in these sample materials, in other words e.g. alkylbenzyltrimethylammonium chloride (benzalkonium chloride), cetyltrimethylammonium bromide (CTAB), hexadecylpyridinium chloride, dodecyltrimethylammonium bromide (lauryltrimethylammonium bromide, LTAB), octadecyltrimethylammonium chloride.

4. Influence of foreign substances

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			
Formaldehyde	1000	H ₂ O ₂	1000
Glutaraldehyde	1000	Proteins (BSA)	100
Glyoxal	1000		

5. Reagents and auxiliaries

The test strips are stable up to the date stated on the pack when stored closed at +15 to +25 °C.

Package contents:

Tube containing 100 test strips

Other reagents:

Alkylbenzyltrimethylammonium chloride (benzalkonium chloride), Cat. No. 821944

6. Preparation

Samples with a content of quaternary ammonium compounds higher than 500 mg/l must be diluted with distilled water.

7. Procedure

Immerse the reaction zone of the test strip in the pre-treated sample (15 - 25 °C) for 2 sec.

Allow excess liquid to run off via the long edge of the strip onto an absorbent paper towel and **after 1 min** 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.

Notes on the measurement:

- The color of the reaction zone may continue to change after the specified reaction time has elapsed. This must not be considered in the measurement.
- If the color of the reaction zone is equal to or more intense than the darkest color on the scale, repeat the measurement using **fresh**, diluted samples until a value of less than 500 mg/l is obtained. 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:

Dissolve 100 mg of alkylbenzyltrimethylammonium chloride in distilled water, make up to 1000 ml with distilled water, and mix. Content: 100 mg/l.

Analyze this standard solution as described in section 7.

Additional notes see under www.qa-test-kits.com.

9. Note

Reclose the tube containing the test strips immediately after use.

