



110011 Peroxide Test

Method: colorimetric with test strips 0.5 - 2 - 5 - 10 - 25 mg/l H_2O_2 Merckoquant®

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The peroxide test is ideal for testing residual concentrations of disinfectants
on equipment or the product itself following cleaning and rinsing.



Product number	Packaging	Size	Price
1100110001	Fibre case	100 strips	price on request
1100110002	Fibre case	25 strips	price on request

Prices are subject to change without notice.

Related products

116974 Peroxide Test Method: reflectometric
with test strips 0.2 - 20.0 mg/l H_2O_2
Reflectoquant®

Accessories

100921 Diethyl ether for analysis EMSURE®
ACS,ISO,Reag. Ph Eur

109635 pH-indicator strips pH 0 - 14 Universal
indicator non-bleeding pH 0 - 1 - 2 - 3 -
4 - 5 - 6 - 7 - 8 - 9 - 10 - 11 - 12 - 13 -
14

109057 Hydrochloric acid c(HCl) = 1 mol/l (1 N)
TitriPUR®

106268 Sodium acetate anhydrous for analysis
EMSURE® ACS,Reag. Ph Eur

4 More accessories

Product information

HS Code	3822 00 00
Storage	Store at +2°C to +8°C.

Transport information

Declaration (railroad and road) ADR, RID	Kein Gefahrgut
Declaration (transport by sea) IMDG-Code	No Dangerous Good
Declaration (transport by air) IATA-DGR	No Dangerous Good



Peroxide Test

1.10011.0001
1.10011.0002
1.10081.0001
O₂

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 colour scale.

2. Measuring range and number of determinations

Cat. No.	Measuring range/ colour-scale graduation mg/l H ₂ O ₂	Number of determinations
1.10011.0002	0.5 - 2 - 5 - 10 - 25	25
1.10011.0001		100
1.10081.0001	1 - 3 - 10 - 30 - 100	100

3. Applications

This test measures organic and 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 concentrations of foreign substances given in the table lie below the limit at which the determination is interfered with.

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	SiO ₄ 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:

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 (Perhydro®) 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

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 15 sec** (Cat. No. 110011) or **after 5 sec** (Cat. No. 110081) determine with which colour field on the label the colour of the reaction zone coincides most exactly.

Read off the corresponding result in mg/l H₂O₂ or, if necessary, estimate an intermediate value.

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**), 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 colour field on the label the colour of the reaction zone coincides most exactly. Read off the corresponding result in mg/l H₂O₂ or, if necessary, estimate an intermediate value.

Notes on the measurement:

- Every blue colouration **within 3 min** can be interpreted as a positive result.
 - If the colour of the reaction zone is equal to or more intense than the darkest colour on the scale or if another colour 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:

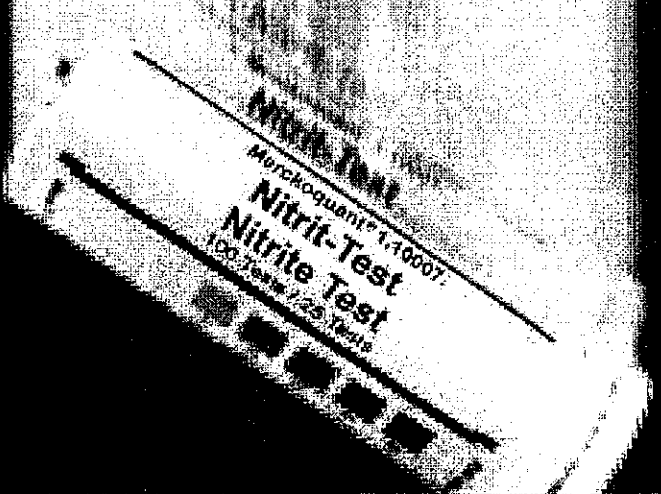
Make up 5.0 ml of Perhydro® (H₂O₂ 30 % ± 333 000 mg/l H₂O₂) to 500 ml with distilled water and mix. Take 1.5 ml of this solution, make up to 500 ml with distilled water, and mix. Subsequently analyze **immediately (solution is not stable)** as described in section 7. The content of H₂O₂ determined should be 10 mg/l.

9. Note

Reclose the tube containing the test strips immediately after use.

Simply rapid.

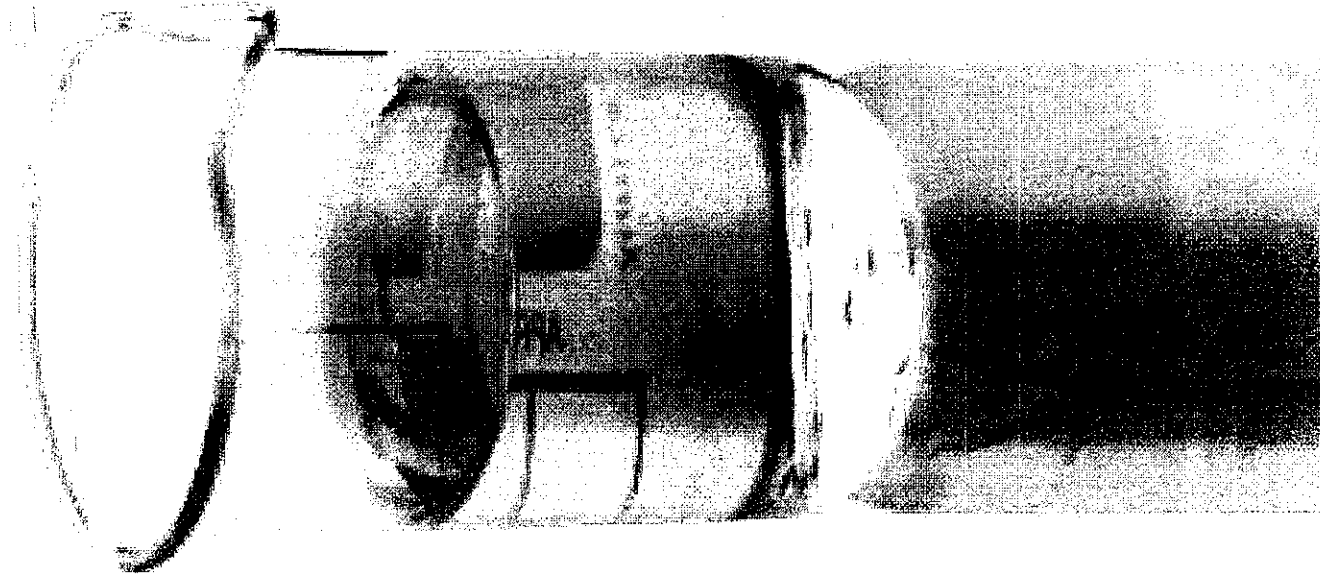
Merckoquant® – the mobile analysis system



Merckoquant®

COMBINING ULTIMATE SIMPLICITY WITH SPEED

Test strips are true high-tech products – a mobile laboratory on just a few square millimeters of backing. Merckoquant® test strips are suitable for the semiquantitative detection of ions and of inorganic and organic substances. They can be used to measure concentrations from as low as 1 or 10 mg/l as the case may be right up to the g per liter range. Used for screening they give the user a quick summary of substance concentrations present in the sample and, by providing a means of pre-selection, can contribute significantly to reducing the time and costs associated with laboratory analyses. Quality checks and in-process controls can be performed much more quickly. Used test strips are easily disposed of thanks to the minute amount of reagents they contain and the use of polyethylene terephthalate (PET) film as backing material.



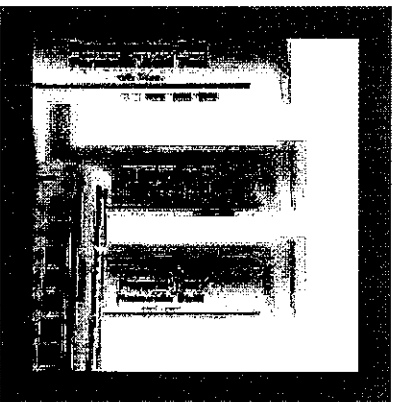
PRODUCT RANGE

Merckoquant® test strips allow more than 30 different identification tests and semiquantitative determinations to be performed. For some substances we even provide several different test strips to cover various detection ranges, so that in all our range consists of more than 40 different Merckoquant® tests. The standard pack contains 100 test strips in an aluminium tube fitted with a desiccant-filled stopper. User Information is provided in 4 languages.

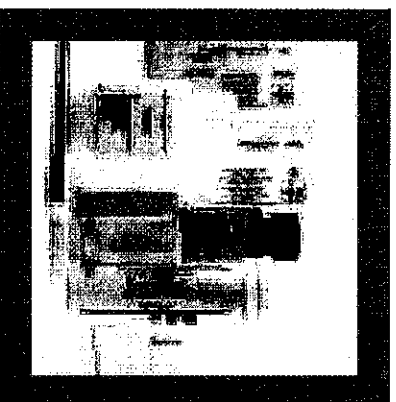
We also offer this products in packaging specific to the application and customer requirements.

Strips that are individually sealed to improve their keeping properties are available on request. Individually sealed test strips are ideal for promotional purposes, e.g. for placement in books and journals or as giveaways to support product promotions. Please ask about our special offers.

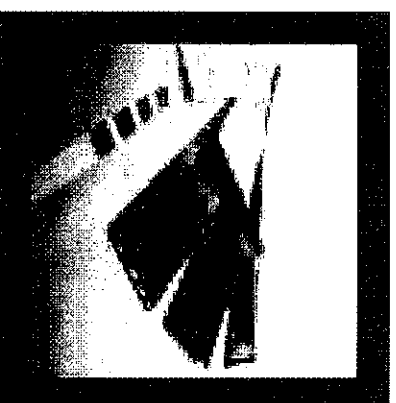
We are constantly adding new tests to this product range. If you are looking for a test strip for a quite specific application, please call us.



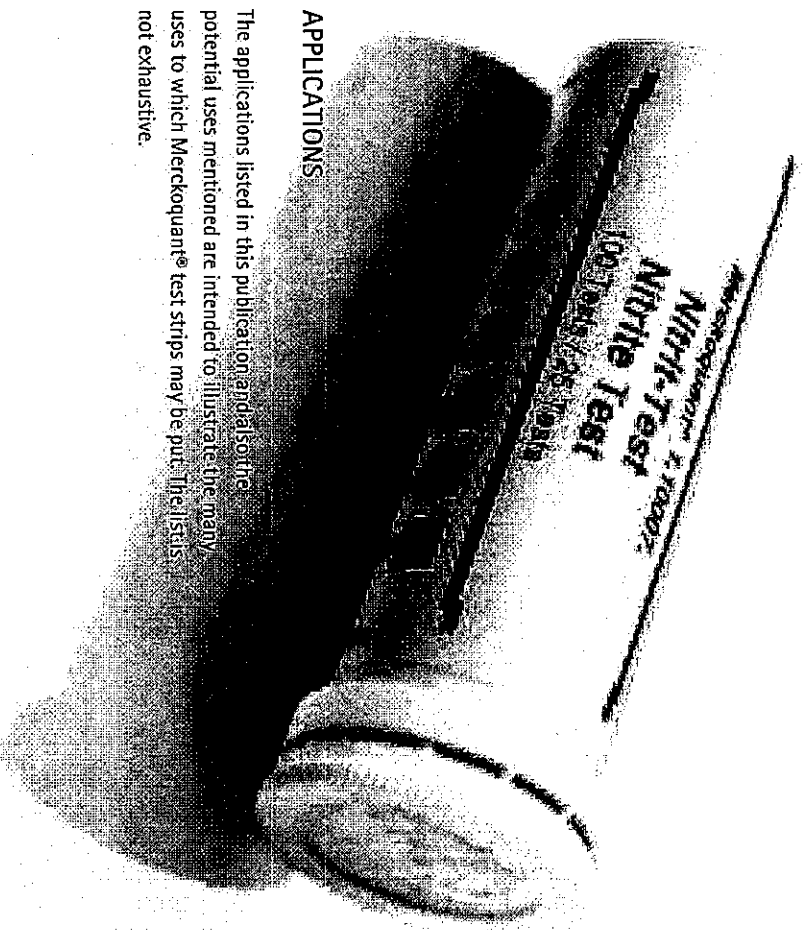
Merckoquant® test strips



Merckoquant® reagent tests



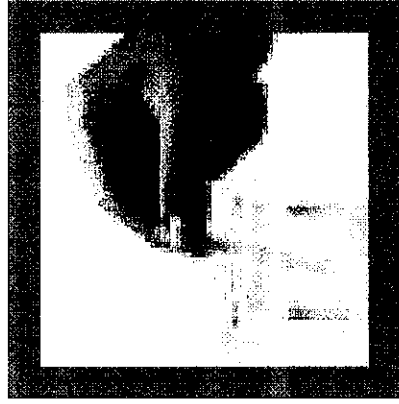
Merckoquant® individually sealed test strips



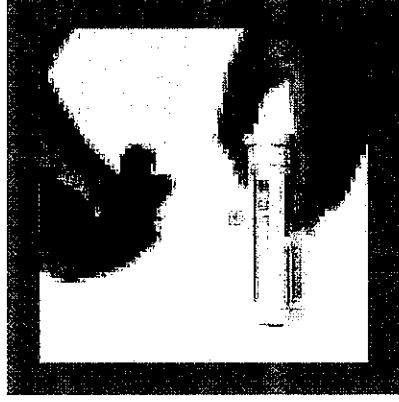
APPLICATIONS

The applications listed in this publication and all the potential uses mentioned are intended to illustrate the many uses to which Merckoquant® test strips may be put. The list is not exhaustive.

POINTS TO OBSERVE WHEN HANDLING MERCKOQUANT® PRODUCTS



1. Thoroughly wet the reaction zones on the strip by briefly (1 sec) dipping them in the solution being tested. Remove excess liquid by stroking the edge of the strip against the rim of the sample vessel, or using an absorbent paper towel.



2. After the prescribed reaction time (10 sec to max. 2 min) has elapsed, compare the color of the reaction zone with the color scale printed on the pack, and read off the concentration.

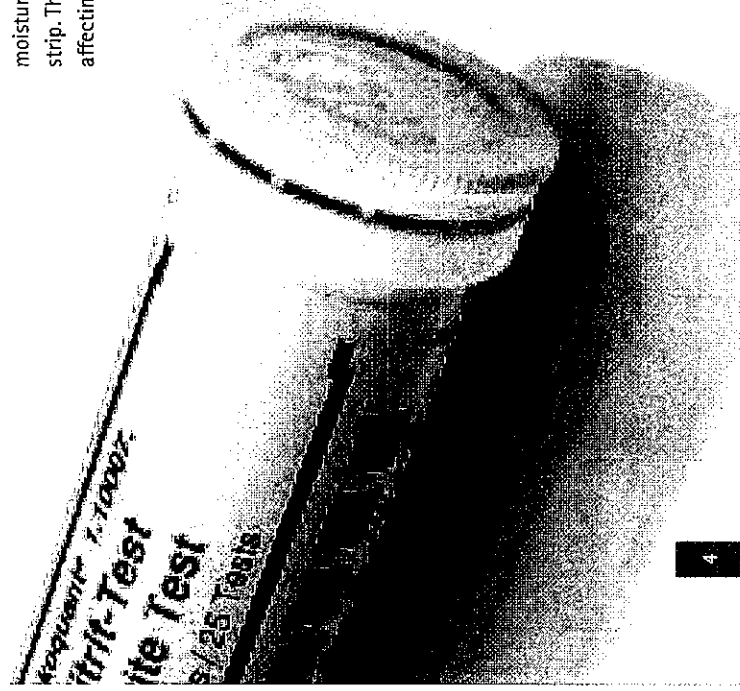
Some tests may require the sample to be specially treated prior to testing. To simplify matters, the pack contains all the reagents that will be required. Simply add a few drops or a micro-spoonful of reagent(s) to the sample solution as described in the directions for use, mix and test with the test strip.

SHELF-LIFE AND STORAGE

Packs of test strips kept in a cool (15–25°C), dry place can be used at least up to the date printed on the pack. Some packs need to be kept refrigerated (2–8°C) to assure their longevity. To protect the test strips in the tube against moisture and light, be sure to close it again immediately after removing a strip. The drying agent incorporated in the stopper prevents moisture from affecting the contents.

INTERFERENCES

Most of the test strips respond selectively to a given ion or substance owing to the fact that masking agents are added to the reaction zone to eliminate or suppress various interferences. Interferences cannot, however, be avoided in every case. A large number of ions have been tested for their possible interfering effects. These are listed in the interference tables compiled for the various substances being tested. Where several interfering ions are present in a sample, they may exercise a cumulative effect. Before a test strip is used in an unknown matrix, we recommend checking for potential interferences or comparing against known added concentrations. This also allows the precision of the method to be established.

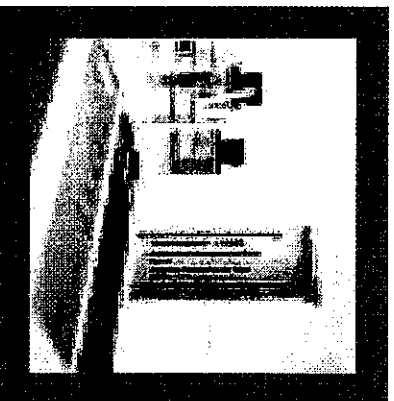


QUALITY ASSURANCE

Merck uses certified standard solutions to adjust and check the tests and the faithfulness of the reference colors. These standard solutions are directly traceable to primary reference standards from NIST and PTB, a factor instrumental in assuring the high quality of Merckoquant® test strips.

RISK AND SAFETY PHRASES

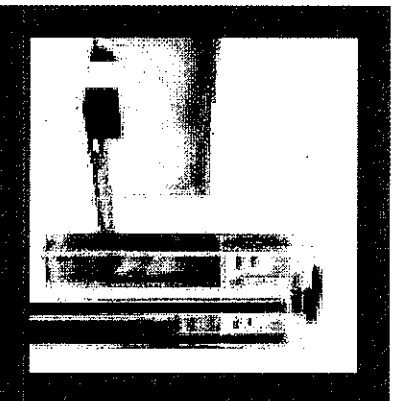
Please read the risk (R) and safety (S) phrases printed on reagent packs. Keep Merckoquant® test strips out of reach of children.



REFLECTOQUANT® SYSTEM

The Reflectoquant® system is designed to provide more precise results from test strips. Reflectoquant® test strips are evaluated quantitatively using a compact reflectometer.

► Further information in our Reflectoquant brochure (W 240111)



OTHER RAPID TESTS

Other test kits are available in the Aquamerck®, Microquant® and Aquaquant® product ranges. These cover other concentrations and substances, and are designed for wet-chemical analyses, being evaluated by titrimetry or colorimetry.

► Further information in our "Food and Environmental Analytics" catalog (W 285102)

APPLICATIONS FOR MERCKOQUANT® TESTS

	Waste water	Aquaristics (sea water)	Aquaristics (fresh water)	Construction materials	Biotechnology, fermenter control	Landfill seepage	Disinfection control	Drinks (beer)	Drinks (fruit juices)	Drinks (wine)	Ground water, surface water	Boiler water, cooling water	Agriculture	Food	Seawater	Milk, dairy products	Mineral water, natural spring water	Swimming pools	Drinking water	Environment
Aluminium	■							■	■	■				■				■		■
Ammonium	■			■							■	■	■	■			■		■	■
Arsenic	■										■				■		■		■	■
Arsenic	■										■				■		■		■	■
Ascorbic acid											■					■				
Blank test strips											■	■	■	■						
Calcium				■				■	■	■	■	■	■	■	■	■	■	■	■	■
Carbonate hardness	■	■	■	■				■			■	■	■	■	■	■	■	■	■	■
Chloride	■	■	■	■							■	■	■	■	■	■	■	■	■	■
Chlorine	■										■	■	■	■	■	■	■	■	■	■
Chlorine	■										■	■	■	■	■	■	■	■	■	■
Chromate	■																			
Cobalt	■			■				■												
Copper	■			■						■					■				■	■
Cyanide	■			■				■							■					■
Fixing bath Ag/pH	■																			
Formaldehyde																				■
Iron	■			■							■				■		■		■	■
Lead	■			■																■
Manganese	■			■							■				■					■
Molybdenum	■			■																■
Nickel	■			■											■					■
Nitrate	■	■	■					■	■	■	■	■	■	■	■	■	■	■	■	■
Nitrite	■	■	■								■	■	■	■	■	■	■	■	■	■
Nitrite	■										■	■	■	■	■	■	■	■	■	■
Peracetic acid																				
Peracetic acid																				
Peracetic acid																				
Peroxide	■														■					
Peroxide	■														■					
Peroxide	■														■					
pH	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Phosphate	■	■	■								■	■	■	■	■	■	■	■	■	■
Potassium																				
Quaternary ammonium compounds	■					■														
Sulfate	■		■							■										
Sulfite	■			■													■			
Tin	■			■																
Total hardness		■	■																	
Total hardness		■	■																	
Zinc	■																			