

1.08027.0001

MQuant® pH Test

pH

1. Definition

The pH of dilute aqueous solutions is defined as the negative logarithm of the hydrogen ion concentration in mol/l:

$$\text{pH} = -\lg(\text{H}^+ \text{ concentration})$$

Solutions are characterized as acidic, neutral, or alkaline according to their pH:

Solution	pH	H ⁺ concentration in mol/l
acidic	< 7	> 10 ⁻⁷
neutral	7	10 ⁻⁷
alkaline, basic	> 7	< 10 ⁻⁷

2. Method

Colorimetric determination with color card and sliding comparator

An indicator solution changes color depending on the pH. The pH value is measured **semiquantitatively** by visual comparison of the color of the measurement solution with the color fields of a color card.

3. Measuring range and number of determinations

Measuring range / color-scale graduation	Number of determinations
pH 4.5 - 5.0 - 5.5 - 6.0 - 6.5 - 7.0 - 7.5 - 8.0 - 8.5 - 9.0	400

4. Applications

The pH determination using indicator solutions is also suited for weakly buffered water samples.

Sample material:

Groundwater, drinking water, and surface water, seawater
 Aquarium water, waters from aquaculture
 Boiler water
 Industrial and process water, wastewater
 Swimming-pool water
 Food and beverages, milk and dairy products
 Soils and fertilizers after appropriate sample pretreatment
 Electroplating baths and bath solutions, electroplating wastewater
 Disinfection solutions, rinsing solutions, disinfectant

5. Reagents and auxiliaries

Please note the warnings on the packaging materials!

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

Package contents:

2 bottles of reagent pH-1
 1 graduated 5-ml plastic syringe
 2 test tubes with screw caps
 1 sliding comparator
 1 color card

Other reagents and accessories:

Buffer solution pH 7.00 Certipur®, Cat. No. 109407
 MQuant® Flat-bottomed tubes for MQuant® tests titrimetric and colorimetric (12 pcs), Cat. No. 114902

6. Preparation

Filter turbid samples.

7. Procedure

Rinse both test tubes several times with the pretreated sample.

	Measurement sample	Blank	
Pretreated sample (15 - 25 °C)	5 ml	5 ml	Inject into the test tube with the syringe.
Reagent pH-1	2 drops ¹⁾	-	Add and mix.

Insert the test tubes into the sliding comparator as shown in the diagram and place the comparator on the color card as indicated by the latter.



Slide the comparator along the color scale until the closest possible color match is achieved between the two open tubes when viewed from above.

Read off the pH from the color card indicated by the pointed end of the sliding comparator.

¹⁾ Hold the bottle vertically while adding the reagent!

Note on the measurement:

If the color of the measurement solution corresponds to the lowest or highest value on the scale, the actual pH value may lie outside the measuring range.

8. Method control

To check test reagent, measurement device, and handling: Analyze the buffer solution pH 7.00 as described in section 7. Additional notes see under www.qa-test-kits.com.

9. Notes

- Reclose the reagent bottle immediately after use.
- Rinse the test tubes and the syringe **with distilled water only**.
- Information on disposal can be obtained at www.disposal-test-kits.com.**

