

## Do you believe cleaning pH probes with water is sufficient?

## Do your pH probes have increasing response time and shorter lifetime?

Learn how to really clean pH probes from individual sample contamination to maintain best performance of your pH probes.



### Inorganic chemicals

1. Rinse remaining acids and bases with tap water
2. Place probe for 5 minutes in PHOSPHORIC-ACID, then 10 min. in DETERGENT solution
3. Rinse thoroughly with deionized water and dry with a cloth



### Organic chemicals

1. Remove remaining organic compounds or solvents with acetone and then rinse with ethanol. Thoroughly rinse with tap water.
2. Place probe for 10 minutes in DETERGENT solution.
3. Rinse thoroughly with deionized water and dry with a cloth.
4. Check, whether the treatment in organic chemicals has attacked or damaged the probe body or diaphragm.



### Sulfide contamination

1. Rinse thoroughly with tap water and dry with a cloth.
2. Place probe tip for 20-30 min. in THIO-UREA solution.
3. Then 10 min. in DETERGENT solution.
3. Rinse thoroughly with deionized water and dry with a cloth.
4. With liquid filled probes, replace the inner electrolyte.



### Oil / Fat

1. Place probe tip for 10-20 min. in a warm (40°C) DETERGENT solution.
2. Then quickly rinse with acetone and then with ethanol.
3. Rinse thoroughly with deionized water and dry with a cloth.



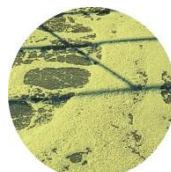
### Protein

1. First place probe tip for 10 min. in PEPSIN-IN-HCL solution.
2. Then for 1 min. in THIO-UREA solution.
3. Rinse thoroughly with deionized water and dry with a cloth.



### Waste water / sludge

1. Remove remaining contamination by rinsing with 40°C warm tap water.
2. Place probe tip for 5 min. in HYPOCHLORITE solution.
3. Then 5 min. PEPSIN-IN-HCL and finally for 10 min. DETERGENT solution.
4. Rinse thoroughly with deionized water and dry with a cloth.
5. Check, whether glass bulb and diaphragm are clean.



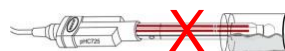
### Biological growth

1. First place probe tip for 10 min. in PEPSIN-IN-HCL solution.
2. Then for 1 min. in THIO-UREA solution.
3. Rinse thoroughly with deionized water and dry with a cloth.



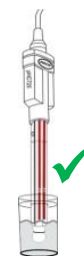
### Disinfection

For a "mild" disinfection the electrode can be placed for 10-20 min. in a 3% hydrogen peroxide solution (H2O2). Afterwards rinse thoroughly with deionized water and calibrate.



### Storage

For short and long-term storage place the pH probe in its specific electrolyte solution. Store the pH probe in a vertical position, otherwise (horizontal) the electrolyte in the storage chamber does not cover the whole probe tip. Diaphragm and glass bulb can dry out.



| Cleaning solution | Part Number | Type of Sample / Contamination     |
|-------------------|-------------|------------------------------------|
| Detergent         | S16M001     | clean water, light fatty/oily      |
| Hypochlorite      | S16M002     | dirty or biological active samples |
| Thio urea         | C20C380     | containing sulphides or metal ions |
| Pepsin in HCl     | C20C370     | biological / medical samples       |
| Phosphoric acid   | 2975149     | inorganic samples                  |

Overview of specific cleaning solutions