

visicolor® Powder Pillows

Silica LR

Reagent set for the photometric determination of the silica content in boiler feed water and ultrapure water.

Measuring range:

0.02–2.10 mg/L SiO₂

0.01–1.00 mg/L Si

Method:

Photometric determination of the silica content using the silicomolybdic acid method analogous to APHA 4500-Si E and DIN 38 405 – D21.

Hazard warning:

Information regarding safety can be found on the box' label and in the safety data sheet. You can download the SDS from www.mn-net.com/SDS.

Procedure:

We recommend mixing the sample solution and the reagents in a plastic beaker and transferring the solution to the cuvette directly before measuring.

Requisite accessories: 2 test tubes 16 mm OD (REF 91680) or 2 test tubes 24 mm OD (REF 936101)

- 1 Rinse test tube several times with sample (*pH value of sample must be between pH 3 and 13*)

Blank (optional):

- 2 Fill one test tube with 5 mL of sample
- 3 Clean test tube
- 4 Place test tube in photometer as blank value and adjust for zero

Sample:

- | | |
|--|---|
| 5 Fill another test tube with 5 mL of sample | 11 Wait for 1 min |
| 6 Add 5 drops of molybdate reagent | 12 Add content of 1 Powder Pillow "ascorbic acid reagent" |
| 7 Close test tube and shake well | 13 Close test tube and shake well |
| 8 Wait for 2 min | 14 Clean test tube |
| 9 Add content of 1 Powder Pillow "citric acid reagent" | 15 Wait for a 3-min reaction time |
| 10 Close test tube and shake well | 16 Measure |

Measurement:

See manual for all MACHEREY-NAGEL photometers.

Work should be performed quickly, since if the sample is allowed to remain in the test tube for a longer period of time, silica can be released from the glass of the test tube. It should additionally be ensured that any distilled water used for dilution is silica-free (REF 918912).

After use, rinse out test tubes thoroughly and seal them.

This method is also suitable for the analysis of sea water.

Interferences:

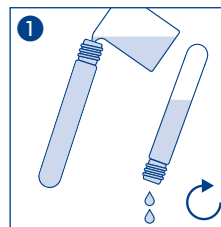
The following will not interfere: < 10 mg/L PO₄³⁻

The following will interfere: large amounts of Fe^{2+/3+}, large amounts of oxidising agents, sulphides

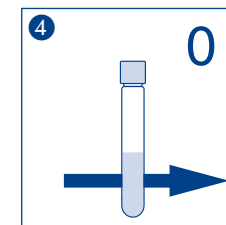
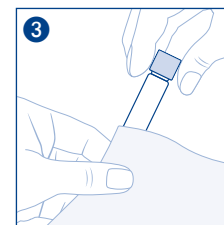
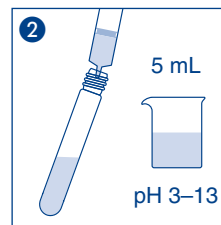
According to APHA 4500-Si D, there is a modification of the silica which does not react with molybdate. This molybdate-unreactive form can be converted into the reactive species through heating or fusing with a base (e.g. digestion with sodium bicarbonate NaHCO₃).

Disposal of samples:

Information regarding disposal can be found in the safety data sheet. You can download the SDS from www.mn-net.com/SDS.



Blank (optional):



Sample:

