

# Silicon

High sensitivity test kit for the determination in the range of 0.01–0.30 mg/L Si

## Method:

β-Silicomolybdenum blue

## Contents of test kit (\*refill pack):

sufficient for 120 tests

- 80 mL Si-1\*
- 30 mL Si-2\*
- 30 mL Si-3\*
- 1 plastic beaker for sampling
- 2 round glass tubes with screw caps
- 1 comparator block
- 1 color comparison disc Silicon

## Hazard warning:

Si-1 contains sulfuric acid 5–15 %, Si-3 contains sodium disulfite 10–25 %.

H318 Causes serious eye damage.

P280sh, P305+351+338, P310 Wear protective gloves/eye protection. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.

## Procedure:

1. Insert color comparison disc (see illustration).
2. Open both round glass tubes, rinse several times with water sample and fill up to the mark with the sample.
3. Add 10 drops Si-1 to the right glass tube, close and mix. Wait 3 min.
4. Add 5 drops Si-2 to the right glass tube, close and mix. Wait 1 min.
5. Add 5 drops Si-3 to the right glass tube, close and mix. Wait 5 min.
6. Reading: Turn color disc until both colors match by transmitted light from above. Read test results from the mark on the front side of the comparator (see illustration). Intermediate values can be estimated.
7. After use clean both round glass tubes thoroughly and close.

mg/L Si	mg/L SiO <sub>2</sub>	mmol/m <sup>3</sup>
0.01	0.02	0.36
0.02	0.04	0.71
0.03	0.06	1.1
0.05	0.11	1.8
0.07	0.15	2.5
0.10	0.21	3.6
0.15	0.32	5.3
0.20	0.43	7.1
0.30	0.64	10.7

The method can also be applied for the analysis of sea water.

## Disposing of the samples:

The used analysis specimens can be flushed down the drain with tap water and channelled off to the local sewage treatment works.

## Interferences:

Phosphates in excess of 30 mg/L interfere by finding less silicon than actually present.

The temperature of the water sample should be between 18 and 35 °C.

