

Sulfate

Test kit for the determination of sulfate ions in surface water and sewage

Method:

Turbidity measurement of barium sulfate

Measurement range:

25–200 mg/L SO_4^{2-}

Contents of test kit (*refill pack):

sufficient for 100 tests

2 x 25 mL $\text{SO}_4\text{-1}^*$

25 g $\text{SO}_4\text{-2}^*$

1 measuring spoon 85 mm*

1 spatula 120 mm*

1 sample tube with marks 10 and 20 mL

1 measuring tube 25–200 mg/L SO_4^{2-}

1 instructions for use*

Hazard warning:

$\text{SO}_4\text{-2}$ contains barium chloride 40–60 % and ammonium chloride 40–70 %.

H301 Toxic if swallowed.

P280sh, P301+310, P405 Wear protective gloves/eye protection. IF SWALLOWED: Immediately call a POISON CENTER/doctor. Store locked up. For further information please ask for a safety data sheet.

Instructions for use:

1. Rinse sample tube several times with the test sample and fill up to **20 mL** mark.
2. Hold $\text{SO}_4\text{-1}$ bottle vertically and slowly add **10 drops of $\text{SO}_4\text{-1}$** and mix.
3. Add **1 level measuring spoon of $\text{SO}_4\text{-2}$** and dissolve by swirling. The test mixture becomes more or less turbid.
4. After **1 min** pour the liquid from the sample tube into the measuring tube until the black cross on the bottom of the measuring tube is no longer visible (as observed directly from above). The sulfate concentration can be read off directly from the graduation on the measuring tube (bottom of the meniscus curve).
5. Immediately after reading off the test result, rinse the sample and measuring tubes thoroughly with water (if necessary also clean with a brush).

Measurements up to 400 mg/L sulfate:

1. Rinse sample tube several times with the test sample and fill up to 10 mL mark, then fill up to 20 mL mark with distilled water.
2. Follow procedure given above and multiply result by **2**.

Measurements up to 4000 mg/L sulfate:

1. Rinse sample tube several times with distilled water and add **1 mL** test sample. Fill up to 20 mL mark with distilled water.
2. Follow procedure given above and multiply result by **20**.

This method can also be applied for the analysis of sea water after dilution (1+49).

The reagents can also be used for the **photometric evaluation** with photometer PF-12 / PF-12^{Plus}.

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:

Turbidity interferes, such test samples should be filtered first.

Good reproducibility is achieved in drinking, surface and ground water. In polluted water the test results may be lower than the actual presence.

Storage:

Store the test kit in a cool (< 25 °C) and dry place.

