

Fluoride test

Test discs and reagent for semi-quantitative determination of fluoride ions in surface and ground water

The fluoride test is especially suited for rapid control of fluoride concentrations. Its purpose is to define concentration ranges and to detect values which fall short of or exceed given limits.

Color reaction:

The pink test disc is bleached by fluoride containing hydrochloric acid solutions. The size of the bleached area corresponds to the total fluoride concentration.

Contents:

- 1 container with 30 test discs
- 1 plastic beaker for samples
- 1 needle
- 1 bottle hydrochloric acid 6 %
- 1 color scale

Method of application:

1. Fill sample beaker about half-way with the water sample (about 10 mL)
2. Add 20 drops hydrochloric acid. The pH value must be below 1.
3. Remove test disc from container.
4. Close container immediately!
5. Pierce the round test disc in the middle with the enclosed needle!
6. Throw test disc into the water sample and submerge completely.
7. After 5–7 minutes the test disc is saturated with the solution, i.e. it does not absorb any more liquid. At the latest 2 minutes after saturation remove the test disc from the sample and compare the size of the bleached zone with the color scale. The concentration can be read off as mg/L F⁻.
For high concentrations the sample has to be diluted. After evaluation the dilution has to be taken into account.

Interferences:

Chlorates and bromates cause white discolorations of the test paper. Addition of sodium dithionite (Na₂S₂O₄) will circumvent this interference without affecting the fluoride test. Large concentrations of sulphate also cause discolorations. Addition of barium chloride (BaCl₂) will remove this interference.

When testing intensely colored solutions the color of the sample must be taken into account for evaluation.

Disposal:

The used analysis specimens can be flushed down the drain with tap water and channeled off to the local sewage treatment works. Used test strips can be disposed in household waste.

Storage:

Avoid exposing the discs to sunlight and moisture. Keep container cool and dry (storage temperature 4–30 °C).

