

Fluoride Test Paper

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for the rapid determination of fluoride ions

Color reaction:

In the presence of fluoride ions, the test paper shows a yellowish-white spot against a pink-red background.

Method of application:

Apply a drop of the hydrochlorid acid solution ($\text{pH} \leq 1$) to the test paper. The dropping point colored yellowish-pink. High concentrations of fluorides are indicated by the appearance of a yellowish-white spot, lesser amounts by a yellowish-white ring. The reaction must be determined immediately after the application of the test solution. Complex-bound fluoride ions react in the same manner as free fluoride ions.

Limit of sensitivity:

20 mg/L (ppm) F^-

Interferences:

Chlorates and bromates result in a whitening of the test paper. The interference is eliminated by the addition of sodium dithionite ($\text{Na}_2\text{S}_2\text{O}_4$). This does not hinder the determination of fluoride.

Sulfate in very large amounts also results in a whitening. The sulfate interference can be eliminated by the addition of barium chloride.

Where solutions with an intense color are involved, the color of the solution should be taken into account when examining the color reaction.