

SILVER Test Paper

for the rapid determination of Ag^+

Colour reaction:

In the presence of Ag^+ the test paper shows a red-violet spot against a salmon-red background.

Presentation:

Plastic boxes of 200 strips, each 20 x 70 mm.

Method of application:

Apply a drop of the weakly acid test solution to the test paper. The drop should be applied with due care, making sure that it forms a true circle. In the presence of Ag^+ a red-violet spot appears; in the presence of small quantities of Ag^+ a red-violet ring. Minute quantities of Ag^+ are detected by submerging the test paper in acetone after the application of the test solution. Thereby the silver reaction spot becomes brownish-red and the background yellow.

Limit of sensitivity: 20 mg/l (ppm) Ag^+

Interferences:

Hg^{2+} ions also result in red-violet spots. These can be eliminated or, in the case of large quantities of Hg^{2+} , weakened by the following procedure:

- by prolonged submergence in acetone whereby the Hg spot disappears whereas the Ag spot remains,
- by dabbing the test paper with a solution of ammonium chloride in about 0.1 M hydrochloric acid. Thereby the Hg colour reaction disappears forming undissociated HgCl_2 or, in the presence of large quantities of Hg^{2+} , becomes considerably weakened and is being washed away around the outer perimeter of the Ag reaction spot. The latter remains unchanged.

Copper results in red-violet spots which remain that way, even in acetone. The interference can be eliminated by the same procedure as point b) outlined under Hg^{2+} , interference. The Ag^+ ring then becomes visible within the red-violet copper spot when examined against the light.

Gold, Platinum and Palladium show similar colour reactions to silver, which can be masked by the addition of potassium cyanide.