

# SILVER Test Paper

## for the rapid determination of $\text{Ag}^+$

### Colour reaction:

In the presence of  $\text{Ag}^+$  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  $\text{Ag}^+$  a red-violet spot appears; in the presence of small quantities of  $\text{Ag}^+$  a red-violet ring. Minute quantities of  $\text{Ag}^+$  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)  $\text{Ag}^+$

### Interferences:

**$\text{Hg}^{2+}$  ions** also result in red-violet spots. These can be eliminated or, in the case of large quantities of  $\text{Hg}^{2+}$ , 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  $\text{HgCl}_2$  or, in the presence of large quantities of  $\text{Hg}^{2+}$ , 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  $\text{Hg}^{2+}$ , interference. The  $\text{Ag}^+$  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.