CHROMIUM Test Paper
for the rapid determination of Cr^{3+} and CrO_4^{2-}

Color reaction:
Upon application of solutions containing chromium, the white test paper develops a violet spot.

Method of application:
The test presupposes that the chromium is present in the form of chromate. Should the chromium be present as Cr^{3+}, it has to be converted to the chromate. This can be achieved by a reaction with an excess of 10 % caustic soda solution and the addition of hydrogen peroxide. If necessary, the solution should be heated and filtered.
In the case of chromate ions, the above procedure can be eliminated and the solution containing the chromate is applied as follows:
Apply the test solution to the paper or submerge part of the test strip in the solution for several seconds. The test paper is then treated with dilute nitric acid and the presence of chromium is indicated in the form of a violet spot on white background.
The test paper absorbs neutral solutions only with difficulty.
Therefore the test solution should be alkaline or strongly acid.
Limit of sensitivity: 2 mg/L Cr^{3+} or 5 mg/L CrO_4^{2-}

Interferences:
Salts of Hg^{2+} result in a color reaction similar to chromium.
They can be eliminated by the addition of hydrochloric acid to the test solution (formation of undissociated $HgCl_2$).
Molybdates also cause a violet color reaction. This interference can be masked or eliminated by the addition of oxalic acid or an oxalate solution to the test solution (formation of molybdo-oxalic acid complexes). The precipitates formed in the process must be removed through filtration prior to testing.

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Rev: 2025-03