

Technical Data Sheet

1.04660.0001

UV/VIS Standard 1a – Potassium dichromate solution (600 mg/l) for checking absorbance at 430nm of spectrophotometers, traceable to NIST

Application:

As absorbance is directly proportional to the concentration of the analyte being under investigation wrong measurement of absorbance automatically produces wrong results. It is thus of the utmost importance to know the particular deviations of each photometer in this respect and to check these at regular intervals. Instruments of the same type also differ in these characteristics.

As the deviations from the “true values” are not identical over the entire wavelength range, the spectrophotometer should thus be checked at the wavelength relevant to the sample to be measured.

Norms:

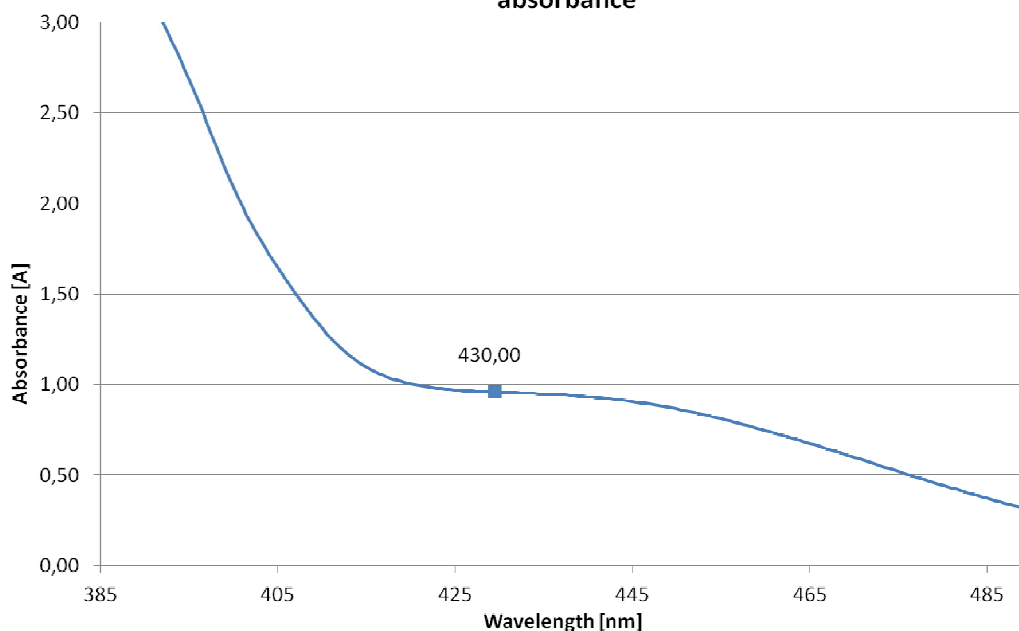
Ph. Eur. (Chapter 2.2.25): “Check the absorbance using suitable filters or a solution of potassium dichromate R at the wavelengths indicated in the Table, which gives for each wavelength the exact value and the permitted limits of the specific absorbance. The table is based on a tolerance for the absorbance of ± 0.01 .”

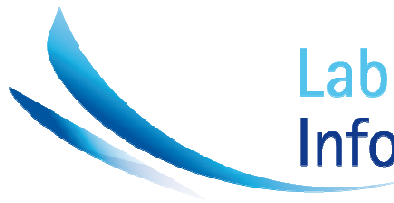
Wavelength (nm)	Specific absorbance A_1^1 per cent cm	Maximum Tolerance A_1^1 per cent cm
430	15.9	15.7 to 16.1

JP XV (2.24): “the absorbance by a sample solution with a certain concentration is measured at the wavelength of the maximum absorption $\lambda_{\max}$ and compared it with the absorbance of a standard solution with a certain concentration. “

Instrument check:

Spectrum of a potassium dichromate solution (600mg/l) for checking the absorbance





**Interpretation of
results:**

At the given wavelength, potassium dichromate has a absorption.

The absorption measured at this wavelength must be within the tolerance range prescribed by the relevant pharmacopeias or instrument specifications. Should there be deviation, the analysis should first be checked and instrument service notified if necessary.