1.08160.0001 UV-VIS Standard 1: Potassium dichromate solution
for absorbance according to Ph Eur Certipur®

1.04660.0001 UV-VIS Standard 1a: Potassium dichromate solution (600 mg/l)
for the absorbance at 430 nm according to Ph Eur Certipur®

1.08161.0001 UV-VIS Standard 2: Sodium nitrite solution
for stray light testing according to Ph Eur Certipur®

1.08163.0001 UV-VIS Standard 3: Sodium iodide solution
for stray light testing according to Ph Eur Certipur®

1.08164.0001 UV-VIS Standard 4: Potassium chloride solution
for stray light testing according to Ph Eur Certipur®

1.08165.0001 UV-VIS Standard 5: Toluene solution in n-hexane
for testing of the resolution power acc. to Ph Eur Certipur®

1.08166.0001 UV-VIS Standard 6: Holmium oxide solution
reference material for the wavelength according to Ph Eur Certipur®

Liquid standards in ampoules for testing UV/VIS spectrophotometers

SUITABLE CELLS

Clean and dust-free quartz glass cells (e.g. item 1.00784) with a path length of 10 ± 0.01 mm must be used when checking UV-VIS spectrometers. The same sample and reference cells should be used for any one test procedure. Prior to measurement, the cell should be conditioned (rinsed) with the appropriate standard solution.

OPENING AND EMPTYING THE AMPOULE

The ampoule should be opened by simply breaking off the neck (do not use an ampoule file). The opened ampoule should be used immediately. Open only the ampoule(s) that are to be used. Always **pour the standard solution directly into the cell** - do not use pipettes, syringes, beakers etc.
If necessary, tap the bottom of the ampoule to ensure that it is properly emptied.

CONDITIONING AND FILLING THE CELL

Each ampoule contains sufficient liquid for rinsing (conditioning) the cell twice and subsequently filling it. To condition a cell, fill half-way with standard solution and invert to completely cover the interior of the cell with liquid. Pour out the contents out of the cell and repeat the procedure, pouring out the remainder once more.
Do not attempt to completely dry the cell. Simply pour out the excess liquid and fill immediately for measurement.
Prior to measurement, wipe the outside of the cell with a disposable paper tissue soaked in ethanol (for this purpose, please use residue-free absolute ethanol of spectroscopic quality (e.g. Uvasol®, Cat.No. 1.00980). Never touch the optical windows of the cell.

BASELINE CORRECTION / ZERO

Prior to measurement, the baseline (or zero balance in the case of wavelength measurement) should be corrected for the wavelength range used, with the beam path empty, according to instructions of the manufacturer.

Correction of baseline (or zero balance) with reference solution for UV-VIS Standards 1, 1a and 5: These UV-VIS standards should be measured against the reference solution. In this case, both sample and reference cells should be filled with reference solution and the baseline correction or zero balance repeated.

MEASUREMENT OF STANDARDS

Completely empty the sample cell, rinse with standard solution, fill with standard and measure against a reference or empty beam path. Ensure that the same cell is used as for baseline correction and that the same window is facing the same direction in the cell holder.

CHECKING THE BASELINE OR ZERO BALANCE

To check the baseline or zero balance stability when using UV-VIS Standards 1, 1a and 5, a reference should be measured additionally as sample (i.e. without repeating baseline or zero balance correction). To carry out this operation, empty a sample cell, rinse with reference liquid from a fresh ampoule, fill with reference liquid and measure.
For UV-VIS Standards 2, 3 and 4, where measurement has been carried out against an empty reference beam path, a similar check should be made using an empty sample beam path.
Any deviation of the measured spectrum or the photometric values obtained from 100% T should be within the specification given by the manufacturer of the UV-VIS spectrophotometer.
Should there be significant deviation, the test should be repeated using a new standard solution.

INFORMATION AND MINIMUM SHELF LIFE

Store protected from light and at room temperature (15 - 25°C). Minimum shelf life can de found on the certificate of analysis.

Status: April 2024
Made in Germany

EMD Millipore Corporation, 400 Summit Drive, Burlington MA 01803, USA,
Tel. +1-978-715-4321
MilliporeSigma Canada Ltd., 2149 Winston Park Dr, Oakville, Ontario,
L6H 6J8, Canada, Phone: +1 800-565-1400
www.sigmaaldrich.com

MilliporeSigma