



Determination of Pigment Standard Concentration

Matched cuvettes with lids are used, and the spectrophotometer's performance is controlled prior to the measurements. Secondary spectrophotometric calibration standards (certified reference material from NIST) are used to check absorbance and wavelength accuracy. Stray light is assessed using secondary calibration standards with NaI or KCl and reference glass filters, while a liquid filter containing toluene in n-hexane is used to evaluate spectral resolution.

Absorbance is measured at the wavelength of maximum absorbance specified on the *Certificate of Analysis* for each pigment in its respective solvent. All measurements are conducted at room temperature. The spectrophotometer is zeroed with the solvent corresponding to each pigment solution. Concentrations are calculated using the absorption coefficients provided in the *Certificate of Analysis*. Measurement precision is consistently <0.5%. Additionally, selected batch numbers are periodically sent to an independent laboratory for accuracy verification. The relative percent difference has averaged a maximum of 2%, while the absolute percent difference has been a maximum of 2.6%.