The Beer-Lambert law (also called the Beer-Lambert-Bouguer law or simply Beer's law) is the linear relationship between absorbance and concentration of an absorber of electromagnetic radiation. The general Beer-Lambert law is usually written as:

$$A = a_\lambda \times b \times c$$

where A is the measured absorbance, aλ is a wavelength-dependent absorptivity coefficient, b is the path length, and c is the analyte concentration. When working in concentration units of molarity, the Beer-Lambert law is written as:

$$A = \varepsilon_\lambda \times b \times c$$

where $\varepsilon\lambda$ is the wavelength-dependent molar absorptivity coefficient with units of M^{-1} cm^{-1}. The λ subscript is often dropped with the understanding that a value for ε is for a specific wavelength. If multiple species that absorb light at a given wavelength are present in a sample, the total absorbance at that wavelength is the sum due to all absorbers:

$$A = (\varepsilon_1 \times b \times c_1) + (\varepsilon_2 \times b \times c_2) + \ldots$$

where the subscripts refer to the molar absorptivity and concentration of the different absorbing species that are present.