

AvaSoft - Chemometry

The AvaSoft-CHEM module enables online concentration determination with a spectroscopy system. Lambert-Beer's law states there is a linear relationship between absorbance and concentration:

$$A = e * c * l$$

Where A is the absorbance (or extinction), e is the extinction coefficient of the compound to be measured, c is the concentration and l is the optical path length.

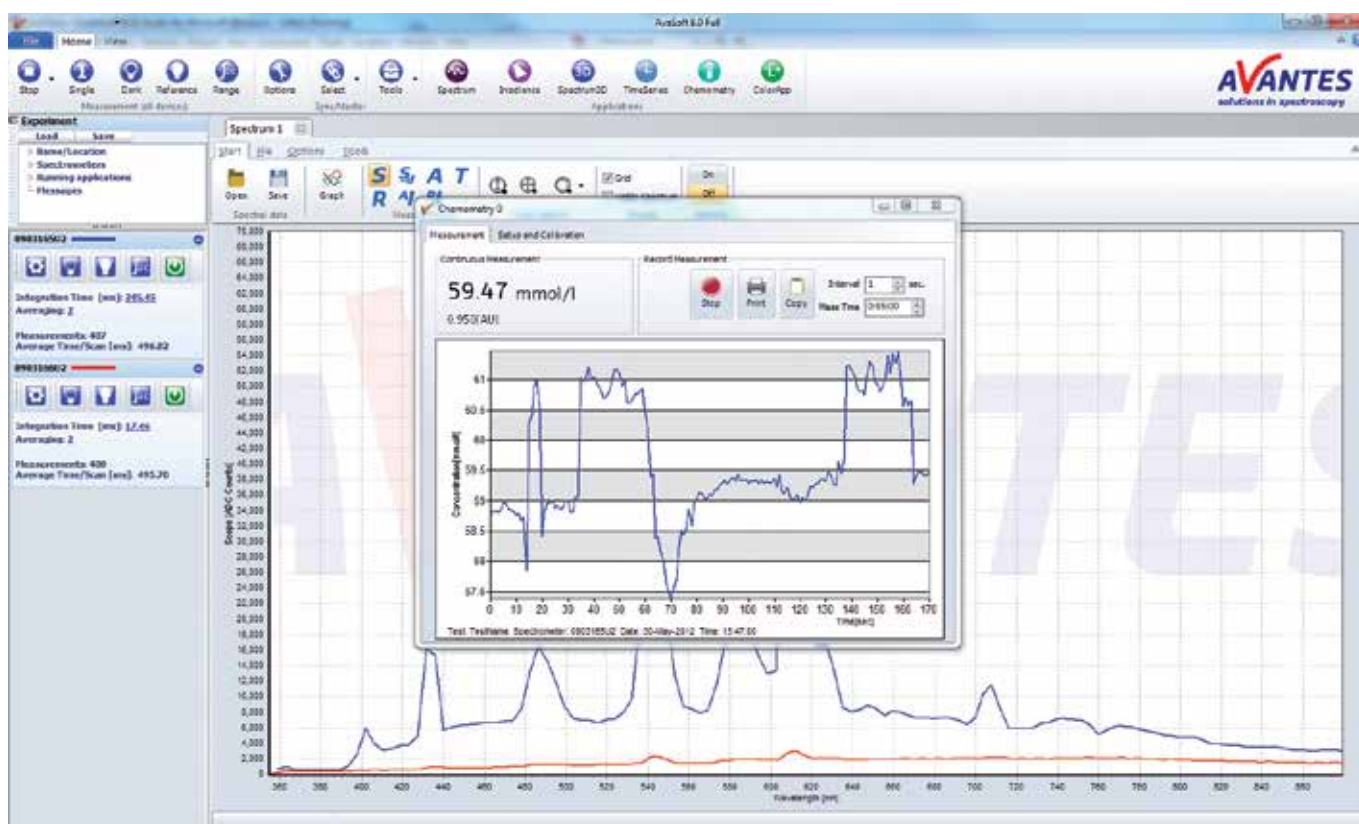
In practice this relation is only linear at reasonably low absorbance levels (less than 2 Au). To measure the absorbance, a few samples with known concentrations are needed. It is important to always measure the absorbance at the same wavelength and use more samples of different concentrations in order to provide a better chemometric model.

The absorbance values are used in AvaSoft-CHEM to create a linear (or second order - quadratic) calibration line. This calibration line is then used to measure the concentra-

tion of unknown samples or to measure the change in concentration over time.

AvaSoft-CHEM can display and save the calculated concentration in the following ways:

- Online display of concentration in a separate display window
- Up to eight history channel functions can be selected to display and save concentration values against time. This application can be combined with the Excel and Process-Control applications.



Ordering Information

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| AvaSoft-CHEM | • Chemometry application add-on software, to be ordered with AvaSoft-Full |
| AvaSoft-All | • Full version of AvaSpec software, including all application add-ons |

Download the latest software for your AvaSpec series spectrometer at www.avantes.com