

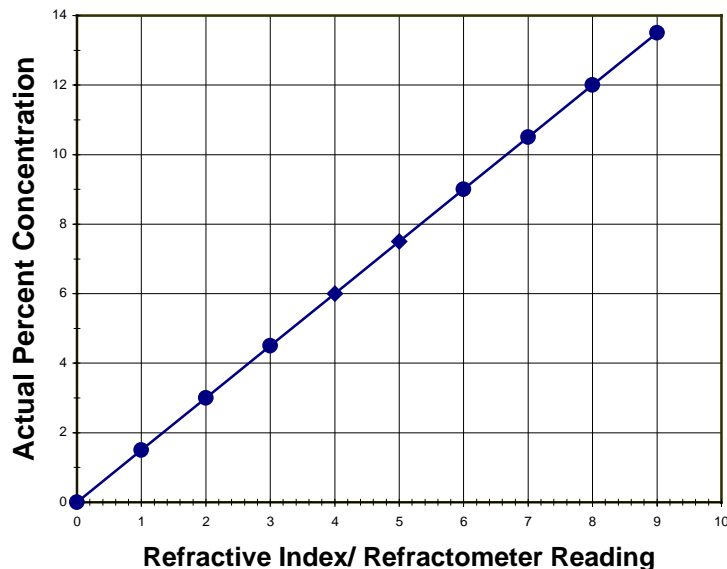
Technical Bulletin

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DETERMINING PERCENT CONCENTRATION OF SAMPLES

1. Determine that the Refractometer being used has the scale range to read the samples being analyzed. Refer to the specifications on the instrument brochure, instruction manual, or refer to the instrument scale if visible. If the Refractometer was not designed for reading within the range of the sample then no shadow line will be seen and thus no reading can be taken.
2. Create a chart that you can plot points on as information is developed to correlate the readings from the Refractometer to “Actual Percent Concentration” for your solution. Reference the chart below, which is a representation that may be useful in developing your own chart. While the left side of the chart indicates sample concentration the bottom of the chart indicates the refractometer reading.

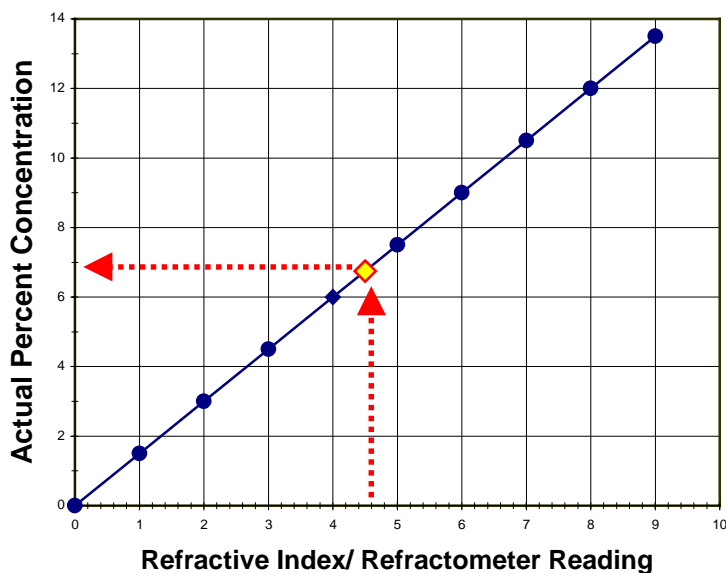


3. To develop the chart for the concentration values that you are interested in, you will need to obtain a sample with a known “Actual % Concentration” that will be either the highest concentration of that sample or will exceed the highest concentration that you

Technical Bulletin

will most likely read. From that sample you can take a reading with your Refractometer and add that point to your chart, left side indicating "Actual Percent Concentration" and bottom indicating the reading attained from your Refractometer. Continue to reduce the concentration by weight and plot each point on your chart.

4. When a sample is read with an unknown concentration, simply refer back to your chart. Take the Refractometer Reading and find the intersection of that reading on the graph of the Actual Percent Concentration. ***In the example below, a sample of unknown concentration is read on the refractometer as reading 4.5 approximately. By plotting this point on the graph and drawing a line horizontally, the corresponding Percent Concentration of this fluid can be determined as approximately 6.75.***



Note: This correlation table can be programmed into the AR200, AR400, AR600, AR700, AUTOABBE, and ARIAS 500 to allow the instrument to read out directly in Percent Concentration. Temperature Compensation factors can also be input via this method to allow for temperature corrected readings. For more details, please contact your local Reichert, Inc. representative or contact us directly at 716-686-4580.

Thank you,

Michael Reimer