

capillary will form a continuous, rapid stream. When the capillary begins to bubble continuously, remove the heat from the Thiele tube. The liquid will continue to boil.

Watch the capillary in the unknown sample carefully after removing the heat. The bubbling will slow down and stop after a few minutes, and the capillary will begin to fill with the unknown liquid. Record the temperature at which the bubbling stops. At this point (where bubbling stops), the vapor pressure of the liquid is just equal to the barometric pressure.

Allow the oil bath to cool by at least 20°C. Add additional unknown liquid to the small test tube, as well as a fresh length of capillary tube (it is not necessary to remove the previous capillary). Repeat the determination of the boiling point of the unknown. If the repeat determination of boiling point differs from the first determination by more than one degree, do a third determination.

Your instructor may provide you with the identity of your boiling-point sample. If so, look up the true boiling point of your sample in a handbook of chemical data. Calculate the percent difference between your measured boiling point and the literature value.