

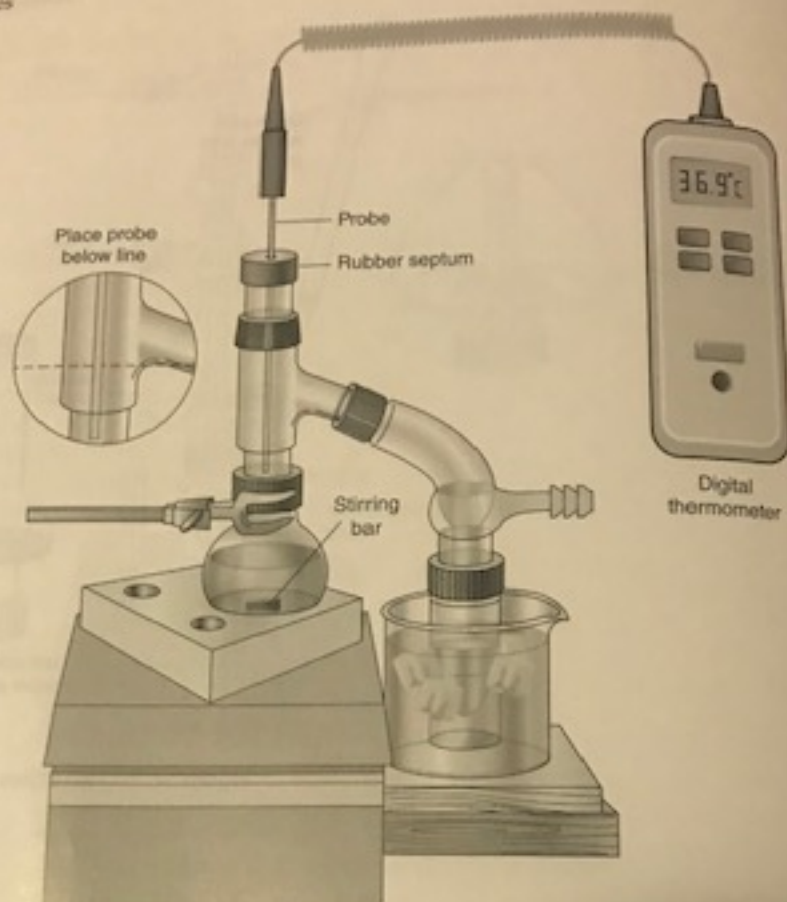


Figure 14.9 Distillation using a digital thermometer.

Digital

Rather than using a glass thermometer to monitor the temperature during a distillation, one can use a digital thermometer with a stainless-steel temperature probe. The use of a digital thermometer for a semi-microscale distillation is illustrated in Figure. Digital thermometers may, of course, also be used in other styles of apparatus such as a standard distillation with a condenser or a microscale distillation. Technique 13, Section discusses the use of digital thermometers, or the LabQuest and LabPro systems, in more detail.

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1. Using Figure 14.4, answer the following questions.
 - a. What is the molar composition of the vapor in equilibrium with a boiling liquid that has a composition of 60% A and 40% B?
 - b. A sample of vapor has the composition 50% A and 50% B. What is the composition of the boiling liquid that produced this vapor?