MICRO-MELTING POINT

The melting point of a substance can be determined even if not much of the material is available for testing. The melting point is a physical property of the material and can be used to help identify the substance.

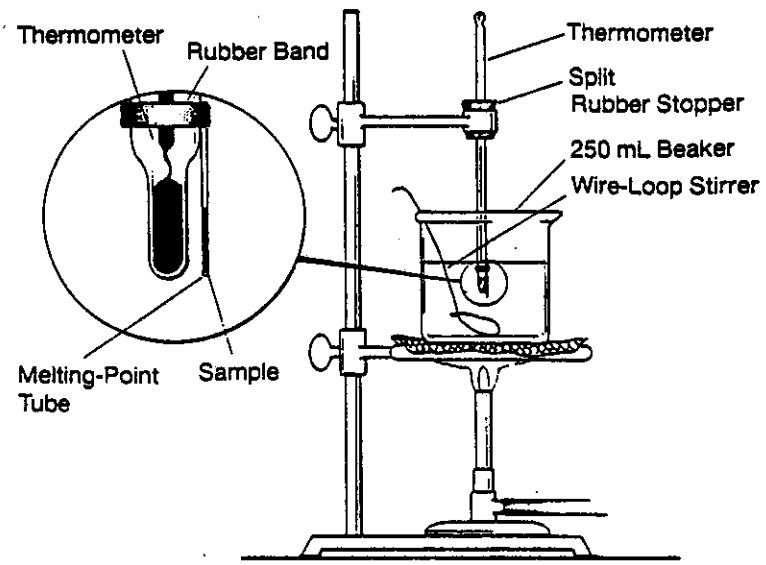
PROCEDURE

1. Obtain a capillary tube. Heat one end of the tube in a burner flame until the glass seals. Allow the tube to cool.

2. Place a small amount of paradichlorobenzene into a mortar. Grind it until there are no longer any large crystals.

3. Push the open end of the capillary tube into the powder. When two or three millimeters are packed into the tube, turn it upright. Drop the tube through a glass rod so that the sample will fall to the bottom of the tube.

4. Use a rubber band to attach the capillary tube to a thermometer. Place the thermometer and tube into a beaker of water as shown in the diagram below.



5. Warm the beaker, using a low-temperature bunsen burner.

6. Record the temperature at which the material in the capillary tube starts to melt.

7. Record the temperature when all of the material is melted.

ANALYSIS

1. Compare the melting point obtained in this lab to the melting point obtained from the heating and cooling curve. Comment on any differences.

2. What might be an advantage of using the micro-melting point technique?