Process: MELTING POINT APPARATUS

Minimum PPD’s: Safety glasses

Objectives: The reader will learn how to use a melting point apparatus

Training Schedule:
1. Initial training - upon joining group
2. Annual retraining

CAUTION:
The plate into which the tubes are inserted becomes very hot. Be careful not to touch it when it is heated.

Operating Procedure

1. A small amount (ca. 2–4 mg) of sample should be put into a small closed-end capillary tube and gently tapped on the bench top until the sample is at the bottom of the tube. Firm packing of the material in the end is not desired, as it makes it harder to see the sample melt.

2. Adjust the stirrer knob to stir at a slow to medium speed. You can see the stirrer move by looking at the bottom of the viewport. Do not stir too fast or bubbles can be introduced, which can interfere with viewing the sample. If bubbles are seen, slow the stirring rate.

3. Place the sample(s) in the holes located in the top of the silver round plate on top of the base unit. The tubes should be inserted nearly vertically and closed end downwards.

4. Adjust the dial to the appropriate temperature. Written on the dial are the approximate temperatures reached by the oil bath at that setting. These numbers can serve as an
 approximate guide to determine the appropriate setting for the dial. For samples with unknown melting points, the temperature should only be gradually raised, i.e., a few degrees per minute. For samples whose melting points are essentially known, you can quickly raise the temperature to about 20° less than the expected MP. Then raise the bath temperature slowly. Consult the Owner's Manual for more information.

6. Carry out the melting point determination, using the periscopic viewer to help monitor the temperature at which the sample melts

7. After completing the determination, remove your sample tubes from the sample holder, turn down the temperature dial and turn off the power switch. Clean up the area.

Maintenance:

Use a silicone oil if replacement of the oil is necessary. In order to replace the oil, the central unit containing the thermometer, periscope and bath is lifted out. A 100 ml beaker (no lip) is the container for the oil. Consult the Owner's Manual for more details.

Each person using the melting point apparatus must:

1. Read and understand this document.

2. Be able to properly:
   a) Start up the melting point apparatus and set the temperature
   b) Understand the rules regarding the use of the melting point apparatus

Approved: ________________________________ Date: __________________
Arthur Winter x4-2813