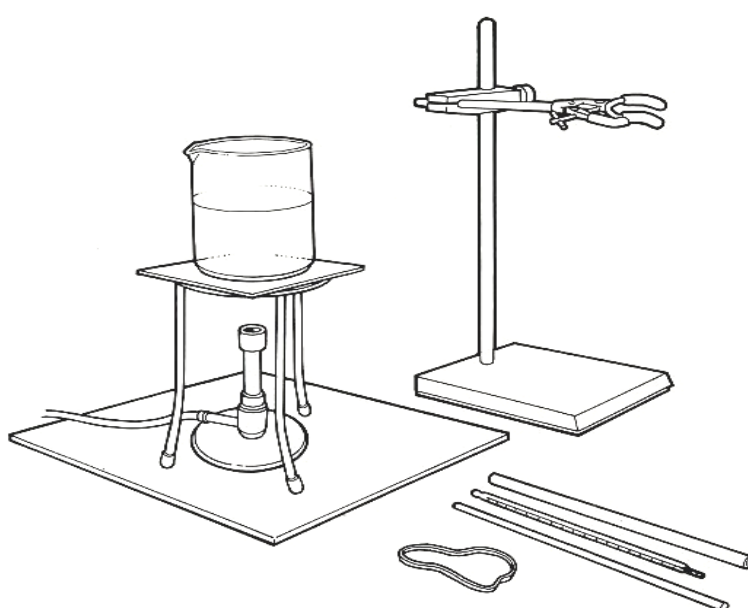


Comparison of Melting Point of Fats

Introduction

This test shows the temperature at which a fat starts to melt. Fats and oils are chemically similar but generally fats are solid and oils are liquid at room temperature. Each fat has a different melting temperature which is dictated by its chemical composition.

You will need



Equipment

Capillary tube
Paper tissue
0-100°C Thermometer
Elastic band
Retort stand and clamp
250cm³ beaker
Bunsen burner
Tripod
Gauze
Mat (or a small pan of water on a hotplate)
Glass rod
Eye protection

Materials

Samples of solid fats

Safety



Be careful not to burn yourself with hot fat.



Wear eye protection.

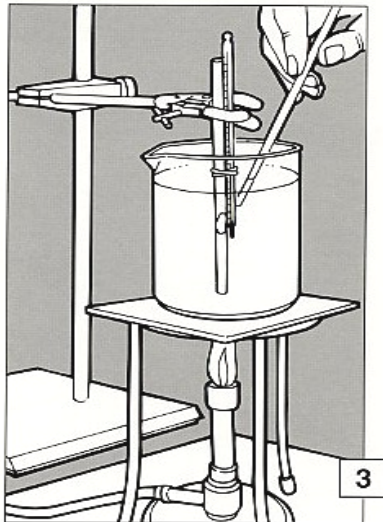
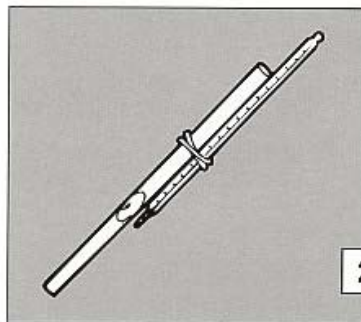
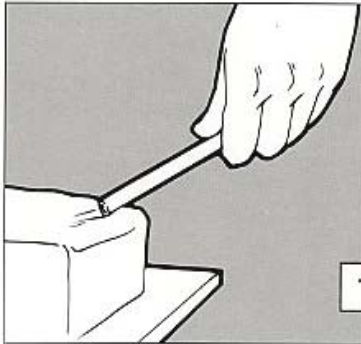


Do not consume food in a laboratory, or any food used for experiments, because it may be contaminated.



Some people are allergic to peanuts and peanut products eg peanut butter and peanut oil (ground nut oil).

Method



1. Scrape a capillary tube along a block of fat. Wipe the outside of the tube.
2. Attach a thermometer to the capillary tube with an elastic band, so that the bulb of the thermometer is next to the plug of fat.
3. Using a retort stand, clamp the tube and thermometer in a beaker of cold water, so that they do not touch the sides or bottom of the beaker.
4. Heat the water gently with a Bunsen burner, stirring occasionally.
5. Observe the fat and note the temperature at which it becomes clear and begins to run out of the tube.

Extension work

Repeat the test using a range of different fats such as hard and soft margarines and lard to compare their melting points.