

136 SYNOPSES OF LABORATORY COURSES

About 25 c.c. of urine to be tested is cooled to 0°C . in a mixture of ice and water. Pour enough urine into tube to cover the bulb of the thermometer ; replace the cork, carrying the thermometer and stirrer. Manipulate the two stirrers, and watch the thermometer very carefully. A gradual fall of the mercury occurs, followed in a few minutes by a sudden rise. After a few oscillations it comes to rest. The temperature which the thermometer shows when the mercury is at rest after the sudden rise is the freezing point.

Before freezing, liquids are usually super-cooled. The thermometer then registers a temperature below the true freezing point. By constant stirring the over-cooling is lessened, but occasionally excessive super-cooling occurs. Then a minute fragment of ice introduced by the side arm causes instant freezing.

Results are stated as the number of degrees or fraction of a degree below 0°C . at which the urine freezes. D (the depression) varies from 1.30°C . to 2.20°C .

See Hawk, pp. 279.

NINTH LABORATORY PERIOD

FOODS

MILK

1. Take the *specific gravity* of the sample of milk using a picnometer and the chemical balance. Regulate the temperature of the milk carefully, and avoid bubbles in the picnometer.