

12.2 Gross energy of urine

Sample preparation

- 1) Cut out 12 cm diameter discs from 50 gauge polyethylene sheet and weigh the disc.
- 2) Take 20 ml of urine sample in a glass beaker. Adjust its pH to about 6.0 with dilute sulphuric acid.
- 3) Then take 15 ml of urine from the above sample into a previously weighed polyethylene sheet of known energy value in a evaporating basin. Dry the urine on the polyethylene sheet in the basis at 40°C in a vacuum drying oven.
- 4) After drying, carefully fold up the dry urine and polyethylene.

Bombing procedure

The steps (1) to (15) as described in case of bomb equivalent determination may be repeated.

Calculation

The gross energy of the urine sample may thus be calculated using the following equation:

$$\text{GE (cal/ ml)} = \frac{(\text{Bomb equivalent} \times T) \times B \times A}{\text{Amount of the urine (ml)}}$$

Where,

T = Rise in temperature (°C)

B = Gross energy of polyethylene used for the sample

A = Correction factor for wire, thread, N and sulphur