

DETERMINATION OF TOTAL LIPID CONTENT

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INTRODUCTION

This method enables the total lipid of the fresh fish sample to be determined without the destruction of the lipid extract.

I APPARATUS

Analytical balance (at least 1 mg sensitivity)
Rotary vacuum pump (max vacuum = 3×10^{-2} mbar)
Water bath with temperature control system (40°C)
Desiccator
Test-tubes
Pipette (5 ml)

II PROCEDURE

1. Dry test-tube in desiccator for half an hour and weigh accurately.
2. Pipette accurately 5 ml of the extract into the dry preweighed test-tube.
3. Remove solvent completely using the rotary evaporator under reduced pressure at 40°C (Water-bath temperature)
4. *Attach the test-tube to a rotary vacuum pump and dry the sample for about 5 min.
5. Leave the test-tube in a desiccator for 30 min and weigh the test-tube and contents accurately.

* Drying can also be done in an electric air oven at 105°C for 30 min. However, the lipid may oxidise and hence increase the weight of the dry sample by about 4 to 10%.

III CALCULATIONS

$$\text{Total lipid content (\%)} = \frac{W_1}{V_e} \times \frac{V_t}{W_s} \times 100$$

where W_1 = weight of dried lipid

W_s = weight of skin or meat used

V_e = volume of extract used

V_t = total volume of extract prepared