

# 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.

## APPARATUS

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

## 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%.

## 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