



## Procedure for TAN

### Total Acid Number (TAN)

Total Acid number (TAN) is the weight (mg) of Potassium Hydroxide (KOH) required to neutralize one gram of the materials in the oil that will react with Potassium Hydroxide under specific test conditions. Determination of acid value

Total acid number of the sample was also determined by ASTM method (ASTM – D 974(00). 0.2 g of sample was weighed into 250ml conical flask. 50ml of neutralized ethyl alcohol was added. The mixture was heated on a water bath to dissolve the sample. The solution was titrated against 0.1M KOH using phenolphthalein as indicator. The acid value was determined after which the free fatty acid was calculated respectively as follows;

$$\text{Acid Value (mgKOH/g)} = \frac{C_{\text{titrant}} (\text{eq/L}) * V_{\text{titrant}} (\text{m})_{\text{MKOH}}}{\text{Mass}_{\text{sample}}} \cdot$$

(g)

Source (f) : ASTM-D 664 – 18e2 (2018)

Where, A = ml of 0.1M KOH consumed by sample

M = Molarity of KOH

W = weight in grams of the sample