**Experiment No.3**

**Object:** Determine Acid value of given sample of castor oil.

# References: Singh S.P., Practical Manual of Biochemistry, 7th edition, CBS publishers, Pvt. Ltd page no. 24.

**Requirements:** Castor oil, phenolphthalein indicator, KOH solution, Burette, beaker.etc

**Theory:**

1. **Acid value**: It indicates the amount of free acid present in the oil or fat.

It is defined as the number of milligrams of KOH required to neutralize the free acid present in one gram of the oil or fat.

It is determined by dissolving a weighed amount of oil or fat in alcohol and titrating it against a standard solution of KOH using phenolphthalein as an indicator



**Significance:**

* It indicates the amount of free acid present in the oil or fat.
* Acid value measure the degree of hydrolytic rancidity.
* It gives an idea about edibility of oil/fat; pharmaceutical oil must not have acidity.
* Edible oil should contain acid value less than 1%.

**Procedure:**

* Take 5 gm castor oil in a conical flask add 50 ml of ethanol & ether mixture (1:1).
* Heat the content of the flask for 10 minute at low flame & add 1-2 drops of phenolphthalein indicator and titrate with 0.1 N KOH solution from burette till the pink color of the solution appear for 30 second. Note down the burette reading.
* Formula for determination of Acid value:

Acid Value = 56.1 x Vx N

 Wt of oil/fat in gm

Where:

 N = Normality of KOH

 V = Volume of standard KOH consumed in determination of

 acid in test sample

**Result:** Acidvalue of given sample of castor oil was found to be……