

Experiment No.(3) Test for Rancidity of lipids :

- **Rancidity** is the change in the physical and chemical properties of lipids due to several effects. These changes results in appearance of **unpleasant test and smell due** to the production of **aldehydes and ketones**.
- **There are three types of rancidity:**
 1. Rancidity caused by lipids hydrolysis due to reaction of lipid with water (**Hydrolytic rancidity**).
 2. Rancidity caused by lipids oxidation due oxygen in the air (**Oxidative rancidity**).
 3. Rancidity caused by micro-organisms, such as bacteria or molds, uses their enzymes to break down lipids (**Microbial rancidity**).

Materials:

1. Fresh oil.
2. Used oil.
3. Solution of sodium hydroxide 0.5%.
4. Phenolphthalein 1%.

Procedure:

1. Mix 2 ml of sodium hydroxide with 2 drops of phenolphthalein in a beaker.
2. Prepare two test tubes one for fresh oil and the other for used oil.
3. Add the mixture of base-phenolphthalein to the two test tubes drop by drop.
4. Notice the produces colors.

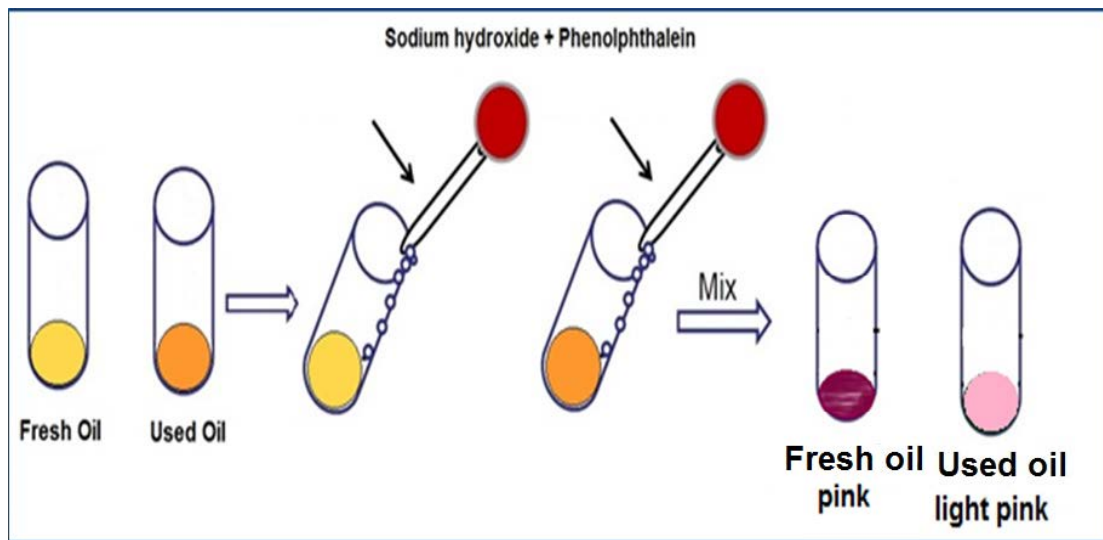


Figure 3. Test for Rancidity of lipids.