Exp.13 Saponification Value of Fats

Introduction:

Saponification is the alkaline hydrolysis of the fatty acid esters. It is commonly used to refer to the reaction of a metallic alkali (base) with a fat or oil to form soap.

Determination of Saponification Number：

The saponification number (Sap. No.) is defined as the milligram of KOH required to saponify one gram of a fat (an oil).

Reagents:

1. Fats
2. ~0.5M KOH in 90% ethanol
3. ~0.1M HCl
4. Phenolphthalein

Procedure:

Saponification number:

Weigh 0.2g of unknown oil into a 50 ml round flask and transfer accurately 5ml of alcoholic KOH into the flask. Place condenser in position and reflux gently for 0.5 hr on a water bath at ~90℃. Then titrate while hot with standardized 0.1M HCl, using phenolphthalein as an indicator. For blank determination, sample (oil) is omitted.

Results：

1. Record your observations.
2. Calculate saponification value.

Discussions：