

## Experiment No. 9

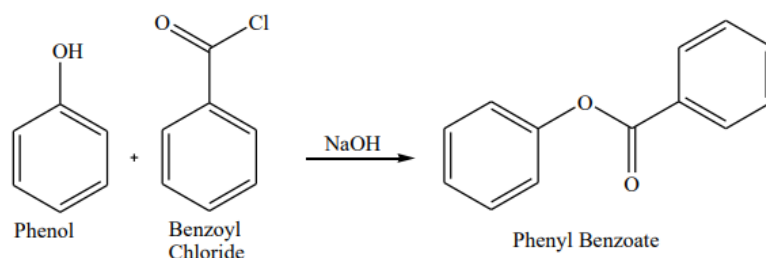
**Aim of the experiment:** To synthesize phenyl benzoate from phenol.

**Apparatus required:** Apparatus: Iodine flask /Erlen Meyer flask with a cork, measuring cylinder, funnel, filter paper, glass rod etc.

**Chemicals required:** Phenol-1g, Benzoyl chloride-2ml, Sodium hydroxide (10%)-15ml.

**Principle:** Phenyl benzoate is prepared by Schotten- Baumann method of benzylation. In this method of benzylation phenols are reacted with benzoyl chloride in presence of aqueous sodium hydroxide and the reaction mixture is shaken vigorously. Benzylation proceeds smoothly under these conditions and the solid benzoyl compound being insoluble in water separates out. Phenols when subjected to the Schotten- Baumann benzylation, first dissolves in sodium hydroxide to give sodium phenoxide, which then undergoes benzylation to give phenyl benzoate.

**Reaction:**



**Procedure:** Dissolve phenol in 10% sodium hydroxide solution contained in an Iodine flask or Erlen Meyer flask with a cork of about 250ml capacity. Then add benzoyl chloride, cork the flask securely and shake the mixture vigorously for 15 minutes. The solid product obtained is filtered off, washed with water, dried and submitted.

Calculation

Percentage yield = (practical yield/theoretical yield)×100