

Manuscript ID : 00001-59390

Source ID : 00000522

International Journal of Scientific Research in Chemical Sciences

Volume 7, Issue 2, April 2020, Pages 1-3, Page Count - 3



## Separation of a Mixture of Benzoic acid ( $C_6H_5COOH$ ) and Benzophenone ( $C_6H_5COC_6H_5$ ) by Extraction

Ilias Darsaklis <sup>(1)</sup>

<sup>(1)</sup> Department of Chemistry, University of Ioannina, Greece.

### Abstract

Extraction is a technique used to isolate and purify organic compounds when they are in a mixture with other compounds. The reactions between acids and bases were initially studied, with the solubilization and recovery of both the acidic and the basic properties of the compounds. Benzoic acid, naphthole and acetic acid are the acids that reacted with  $NaOH$ ,  $Na_2CO_3$  and  $NaHCO_3$  and the corresponding salt was formed. Naphthol did not react with  $NaHCO_3$  because it is a weaker acid. Depending on the ability to react with or not an acid with carbonates, the compound can be identified as carboxylic acid or phenol. Salt solutions were neutralized with  $HCl$  and the original insoluble acids were re-formed. This was followed by the dissolution of amine with  $HCl$  to form its salt, and the original molecule was recovered with  $NaOH$ . In addition, a mixture of benzoic acid and benzophenone was separated by extraction. Dichloromethane was used as the solvent and the solution was dissolved with  $NaOH$ . As a result, benzoic acid was moved to the aqueous layer as salt and benzophenone was moved to the organic layer. After these two layers were separated, the salt of the benzoic acid was neutralized with  $HCl$  and the initial acid was formed.

### Author Keywords

Extraction, Separation, Benzoic Acid, Benzophenone, Phenol

### ISSN Print:

Source Type: Journals

Publication Language: English

Abbreviated Journal Title: IJSRCS

Publisher Name: ISROSET

Major Subject: Physical Sciences

Subject area: Filtration and Separation

### ISSN Online: 2455-3174

Document Type: Journal Article

DOI:

Access Type: Open Access

Resource Licence: CC BY-NC

Subject Area classification: Chemical Engineering

Source: SCOPEDATABASE

### Reference