

Quaternary Ammonium Salts Based Algerian Petroleum Products: Synthesis and Characterization

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Abstract : Quaternary ammonium salts (QACs) are the most common cationic surfactants of natural or synthetic origin usually. They possess one or more hydrophobic hydrocarbon chains and hydrophilic cationic group. In fact, the hydrophobic groups are derived from three main sources: petrochemicals, vegetable oils, and animal fats. These QACs have attracted the attention of chemists for a long time, due to their general simple synthesis and their broad application in several fields. They are important as ingredients of cosmetic products and are also used as corrosion inhibitors, in emulsion polymerization and textile processing. Within biological applications, QACs show a good antimicrobial activity and can be used as medicines, gene delivery agents or in DNA extraction methods. The 2004 worldwide annual consumption of QACs was reported as 500,000 tons. The petroleum product is considered a true reservoir of a variety of chemical species, which can be used in the synthesis of quaternary ammonium salts. The purpose of the present contribution is to synthesize the quaternary ammonium salts by Menshutkin reaction, via chloromethylation/quaternization sequences, from Algerian petroleum products namely: reformate, light naphtha and kerosene and characterize.

Keywords : quaternary ammonium salts, reformate, light naphtha, kerosene

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