SYNTHESIS OF SURFACE-ACTIVE SUBSTANCES ON THE BASIS OF PRODUCTION WASTES OF PREPARATION OF ETIHYLBENZENE

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It is known that in styrene production on the stage of rectification of ethylbenzene the stillage residue which consists of mixture of mono-, di-, and trialkylbenzenes is formed. An efficient use of this hydrocarbon raw materials for synthesis of surface-active substances (SAS) has an important practical value.

In this work the results of investigations on development of the preparation of anion active SAS on the basis of indicated hydrocarbon raw materials are presented.

The process of preparation of SAS has been based on contacting of production waste of preparation of 100% ethylbenzene (composition weight %:isopropylbenzene - 1,0-1,5, polyalkylbenzene - 96,0-97,0, resinous substances - 2,0-2,5) with chlorosulfone acid in weight ratio 1: (0,4-0,5) correspondingly at 15-25°C for 2-2,5h with subsequent neutralization of the prepared sulfoproduct by 40-42% alkali. The yield of SAS is 98,4 - 99,0% for initial raw materials.

The decrease of quantity of chlorosulfone acid decreases the yield of SAS but the increase - deteriorates the quality by formation of side product - sodium sulphate. An increase of feeding time of acid is unadvisable since it does not practically influence on yield of SAS.

When introduction of 0,5% aqueous solution of prepared SAS the surface tension of water is decreased to 35,5mH/m.

It has been established that the synthesized SAS may be used both as de-emulgator of oil emulsions and for oil output of streams in petrochemical industry.