

Peculiarities of salt-free *N,N*-dimethyl-*N,N*-diethylammonium chloride polymer and on the basis thereof

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Abstract

One highly effective flocculants currently in use is poly-*N,N*-dimethyl-*N,N*-diethylammonium chloride synthesized by radical polymerization of *N,N*-dimethyl-*N,N*-diethylammonium chloride in aqueous solution. The aim of the research is to develop methods and technologies of production polyDADMAC not containing in its composition of sodium chloride. For the experiments to determine the feasibility of synthesis of salt-free monomer it was analyzed the chemistry of the process of obtaining DMDAAC. The experiments revealed that this method has the following disadvantages: in the synthesis accumulate in the system, sodium chloride, which is necessary to deduce therefrom; water introduced into it from each new batch of sodium hydroxide. Increasing the amount of water in the system involves losses of product since DMAC part is in the aqueous phase within the solubility. It has been proposed a process flow diagram of the monomer unit for production of salt-free DMDAAC. The advantage of the proposed method and technology is the lack of education is organically polluted wastewater, which distinguishes it from the known technologies for producing salt-free polyDADMAC.