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Petroleum desalting by electrically pulverized rinsing water

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Abstract

A method of preparing petroleum and rinsing water emulsion using electric pulverization is described. The influence of various factors on the process of electric pulverization was studied in laboratory electropulverizing devices (EPD) with different lay out and configuration of electrodes. It is shown that by increasing electric field intensity, the size of water drops introduced into petroleum can be varied from a hundred to several micrometers with high degree of their monodispersion. It is ascertained that with an increase in electric conductivity the mean diameter of water drops reduces insignificantly. The emulsion dispersion does not depend on petroleum electric conductivity. With a decrease in interphase tension the mean size of drops in dispersed phase decreases. The possibility to improve petroleum desalting using EPD with required distribution of rinsing water drops over sizes is confirmed.
