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Colloidal properties of aqueous dispersions of dextran

© **Irina B. Dmitriyeva**,* **Alexander S. Chukhno**,+ **Ekaterina Yu. Rodionova**,
and **Albina R. Nazipova**
Department of Physical and Colloidal Chemistry. St. Petersburg State Chemical-Pharmaceutical Academy.
Professor Popov St., 14. St. Petersburg, 197376. Russia.
Phone: +7 (905) 214-59-73. E-mail: alex-chuhno@yandex.ru

*Supervising author; +Corresponding author

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Abstract

The colloidal properties of aqueous dispersions of dextran have been investigated in this paper. The study of the rheological properties by viscometric method has allowed to establish that its aqueous dispersion is a Newtonian liquid at all studied concentrations of dextran. The zeta potential of dextran particles has been determined by electrophoresis depending on the composition of the dispersion medium (pH, nature and concentration of electrolyte). The influence of various electrolytes and pH on the sorption of hydrogen ions and hydroxide ions has been investigated. The isoelectric point (pH_{IET} = 5) and the point of zero charge of dextran have been determined. The point of zero charge varies in the range pH_{PZC} = 4.3-4.8. The difference of the isoelectric point and the point of zero charge is related to the specific sorption of ions. It is found that dextran coagulation at pH> pH_{IET} occurs by concentration mechanism.