

# Spectrophotometric Determination of Polyacrylamide Type Flocculants

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*A comparative study of the influence of polymeric and monomeric surfactants on the formation of chelate complexes of molybdenum (VI) with bromopyrogallol red (BPR) and copper (II) with nitrophenylfluorone (NPhF) was made. The similarity in the action of polymeric flocculants (PF) and monomeric surfactants on the spectrophotometric characteristics of the investigated complexes was established. A simple, sensitive and selective spectrophotometric method for determination of the content of cationic flocculants (acrylamide copolymers with trimethylammoniummethylacrylate chloride) in natural waters was developed based on the formation of ionic associates of PF with anionic complex compounds  $\text{Cu}(\text{NPhF})_2$  and  $\text{Mo}(\text{BPR})_2$ . The advantages of the proposed methods were shown including the ability to determine polymers with different charge densities using the same calibration curve as well as high selectivity towards strong electrolytes and metal ions. The detection limit for PF brand FO is 0.1 mg/L ( $S_r < 0.11$ ). The developed procedures were applied to the analysis of tap water.*

**Keywords:** polymeric flocculant, bromopyrogallol red, nitrophenylfluorone, chelate complex, polymer charge density

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