

Mehrotra A, Malviya G, Maheshwari RK. Application of mixed hydrotrophy in spectrophotometric analysis of frusemide in different formulations. *Bull. Pharm. Res.* 2011;1(2):15-21.

Abstract: The present study describes the use of an aqueous solution containing a blend of hydrotropic solubilizing agents (mixed hydrotropic substance's solution) as a successful solvent system utilizing the concept of mixed hydrotrophy for spectrophotometric analytical estimation of various conventional formulations as well as novel drug delivery systems. Frusemide, a poorly water-soluble drug, was estimated by application of mixed hydrotropic solubilization method. There was more than 15-fold enhancement in aqueous solubility of frusemide in a solution of blend of hydrotropic agents which consisted of 30% urea, 13.6% sodium acetate and 11.8% sodium citrate. This solvent mixture was employed to solubilize the drug from the fine powder of tablet formulations as well as the niosomes of frusemide. The selected λ_{\max} for spectrophotometric estimation was 333 nm. The hydrotropic agents used in the analysis and additives used in the manufacture of tablets and preparation of niosomes did not interfere in the analysis. Statistical data proved the accuracy, reproducibility and precision of the proposed method. The results suggested that proposed method is new, rapid, simple, accurate, and reproducible as well as employed aqueous solvent instead of organic solvents in estimation of drug from the dosage forms.

Key words: Mixed hydrotrophy, Frusemide, Urea, Hydrotropic agents, Niosomes, Sodium acetate.

References: [25](#)

Total Pages: 07

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