

Maheshwari RK, Gupta S, Gharia A, Garg SK, Shilpkar R. Simple ecofriendly spectrophotometric estimation of tinidazole tablets by application of mixed-solvency techniques. *Bull. Pharm. Res.* 2011;1(1):22-5.

Abstract: All substances whether liquid, gas or solid possess solubilizing power and hence the concentrated aqueous solution containing various dissolved substances can also improve the solubility of poorly water-soluble drugs. In the present investigation, blends of solubilizers (sodium benzoate, niacinamide as hydrotropic agents, PEG 300, glycerin, propylene glycol as cosolvents and PEG 6000 as a water soluble solid) have been tried for solubilizing tinidazole according to mixed-solvency concept. More than 3 fold enhancement was observed in the solubility of tinidazole in blend-1 (sodium benzoate-8%, niacinamide-2%, PEG 300-3%, glycerin-7%, propylene glycol-3% and PEG 6000-4%) and blend-2 (sodium benzoate-7%, niacinamide-3%, PEG 300-8%, glycerin-4%, propylene glycol-4% and PEG 6000-4%) solutions as compared to solubility in distilled water. Proposed method is new, simple, economic, eco-friendly, safe, rapid, accurate and reproducible. Recovery studies and statistical data proved the accuracy, reproducibility and precision of the proposed method. The presence of hydrotropic agents did not interfere in the analysis.

Key words: Mixed-solvency, Tinidazole, Niacinamide, PEG 300, Glycerin, Propylene glycol.

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