



## Development and Evaluation of Naproxen Sodium 250 Mg Effervescent Tablets

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**SUMMARY.** Effervescent tablets have always been convenient, simple and measured dosage form. The phenomenon of carbonation, in this type of dosage form, accelerates the solubility and enhances the bioavailability of the drug and the addition of flavorant also masks the objectionable taste of the medication in a more patient compliant way. The present study focuses on developing a new, simple, cost effective formulation of naproxen sodium 250 mg as an effervescent tablet using direct compression technique. Nine different trial formulations of naproxen 250 mg were designed with varying proportions of sodium carbonate, sodium bicarbonate, citric acid and PEG 6000 and were prepared by direct compression method, and evaluated for pharmaceutical quality attributes. Quality assessment proved formulations F8 as a satisfactory one showing respectively mean weight of  $2200 \pm 50.52$  having hardness and friability of  $14.78421 \pm 1.3791$  kg and 1.241 %. Tablets took 4 min and 36 s to disintegrate completely. The average pH of the solution was within the range of 5.65 to 5.85. Dissolution profile comparison with the conventional formulation was carried out and maximum drug release by the trial formulation was observed within 15 min. spectrophotometric determination of drug content was found to be  $99.82 \pm 1.754$ . Stability characterization was also conducted on the formulations under stress (40 °C/75 % R.H.) that showed formulations remained stable throughout the study duration with acceptable difference in physical and chemical characteristics. Such formulations increases patient compliance and have possibly improved bioavailability. The work also emphasizes on the benefit of using direct compression method as a cost effective technique in terms of process, materials handling with productivity.

**KEY WORDS:** Direct compression effervescent tablet, Naproxen, Pharmaceutical evaluation, Tableting technique.

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