

Voltammetric Study of Nimesulide and Its Differential Pulse Polarographic Determination in Pharmaceuticals

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Nimesulide, N-(4-nitro-2-phenoxyphenyl)methanesulfonamide is an antiinflammatory analgesic agent that is both reducible at the mercury electrode and oxidizable at the glassy carbon electrode.

Nimesulide in hydroalcoholic solution, presents cathodic response in a wide range of pH (2-12), both, by differential pulse and last polarography techniques. The obtained results show only one main well-defined peak or wave in all the pH range studied. This peak (or wave) corresponds to the nitro group reduction in position 4. The voltammetric oxidation shows one well-resolved signal in all the pH range studied. This anodic signal could be attributed to the methylsulfonamide group oxidation. For analytical purposes, a very well resolved diffusion controlled differential pulse polarographic peak obtained at pH 7 was selected. This peak was used to develop a new method for the determination of nimesulide in pharmaceutical dosage forms. The recovery study (104.8% with a RSD of 1.3%) shows that the meth