

abstract

A spectrophotometric kinetic study of Niclosamide alkaline degradation as a function of drug concentration, alkaline concentration and temperature has been established utilizing double divisor-ratio spectra spectrophotometric method. The developed method allowed determination of Niclosamide in presence of its alkaline degradation products; namely; 2-chloro-4-nitro aniline (DEG I) and 5-chloro salicylic acid (DEG II) with characterization of its degradation mechanism. It was found that degradation kinetic of Niclosamide followed pseudo-first order under the established experimental conditions with a degradation rate constant (k) of 0.0829 mol/h and half life ($t_{1/2}$) of 8.35 h. The overall degradation rate constant as a function of the temperature under the given conditions obeyed Arrhenius equation where the activation energy was calculated to be 3.41 kcal/mol.