



Metformin Reactivity with Biuret: Application to Tablets

Cecilia L. CHAHIN, Mario R. DELFINO, & María del C. SARNO*

*School of Exact and Natural Sciences - Northeastern National University (UNNE),
Instrumental Analysis Laboratory - Av. Libertad 5460- Corrientes- Argentina*

SUMMARY. A spectrophotometric method was developed for the analysis of metformin, based on its reaction with the biuret reagent. A complex with $\lambda_{\max} = 495$ nm and stoichiometry 2:1 (metformin-Cu) is generated which allows the quantification of metformin in tablets. Physicochemical parameters of the product were determined. Sample conditioning by centrifugation was necessary to separate insoluble excipients. Polyvinylpyrrolidone (PVP) was isolated by a solid-liquid extraction with SPE-SCX resin in order to eliminate its interference on the absorbance of the complex. The proposed method was found to be highly precise, having a relative standard deviation, CV % = 0.68. Using this approach the calibration curve showed $r^2 = 0.9949$ with 95 % confidence level, value included inside the limits established by USP. Accuracy based on the average recovery of known amounts of drug in placebo was in the range of 98.61 to 99.97. Results allow the application of this analytical methodology to metformin tablets.

KEY WORDS: biuret, metformin, UV-visible spectrophotometry.

*Author to whom correspondence should be addressed. E-mail: mcsarno@exa.unne.edu.ar