ABSTRACT

VALIDATION OF UV-Vis SPECTROPHOTOMETRY METHOD FOR DETERMINATION OF FORMALIN IN SQUID

Formalin is often misused on certain food product such as squid as a preservative. Therefore the determination of formalin in squid is very necessary. UV-Vis Spectrophotometric method with chromotropic acid as a reagent has been used for determination of formaldehyde in this research. Before doing validation, optimalization of method to find the optimum condition was carried out firstly.

The optimum condition of Spectrophotometric method was performed in the wavelength of 567 nm. It was carried out in pH 1. It was needed 1.2 ml solution of 0.5 % chromotropic acid and 6 ml concentrated sulfuric acid then the absorbance was observed after 15 minutes.

In that condition, the equation of regression was y y = 0,3672 x + 0.0542, r = 0.9990 > r table = 0.874; p = 0.008 ($p < 0.01$) and $Vx_0 = 3.58\%$ ($Vxo \leq 5$ %). The limits of detection and quantification were found to be 0.0063 ppm and 0.0192 ppm respectively, while the accuracy gave average recovery of 70.4 % with coeficient variation 1.50% and the precision gave variation coefficient of 0.4039 %. The determination of formalin in squid was carried out in three sample which was taken from a traditional market in Surabaya. The result showed that all of three sample were positive of formalin and the concentration were 4,27 (mg/g) or 0.427 % (b/b); 1,33 (mg/g) or 0.133% (b/b); 2,58 (mg/g) or 0.258 (% b/b)

Keyword : Validation, Spectrophotometry, formalin, squid