

ABSTRACT

QUANTITATIVE ANALYSIS OF FORMALDEHYDE CONTENT IN TUNA (*Euthynnus affinis*) USING CHROMATROPIC ACID REAGENT

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Formalin is one of the toxic and dangerous chemicals which is increasingly being abused by irresponsible traders as a food additive. In general, foodstuffs with a lot of moisture content are very susceptible to the addition of chemicals such as formalin, because they spoil easily in storage. The purpose of this study was to analyze the level of formalin in tuna (*Euthynnus affinis*) which is suspected to contain formalin using a chromatropic acid reagent because in strong acid conditions it produces a complex compound that is purplish red or violet in color and provides chromopore groups or conjugated bonds in formalin compounds to be able to analyzed quantitatively using UV-Vis spectrophotometer at a maximum wavelength of 572 nm obtained from a working standard solution of 6 mg/L. First, the formalin solution is standardized to determine the actual concentration of formalin. The result of standardizing the formalin solution was 36.1324% w/v. Furthermore, a quantitative analysis of the formaldehyde content in tuna (*Euthynnus affinis*) was carried out which was taken by *total sampling* from the three tuna traders at LKMK Siwalankerto market, Surabaya City using chromatropic acid reagent UV-Vis spectrophotometry method. The test results of 3 tuna samples showed no absorption in UV-Vis spectrophotometer measurements at a wavelength of 572 nm. Thus, it can be concluded that the tuna sample (-) was negative for formaldehyde.

Keywords : formalin, *total sampling*, tuna fish (*Euthynnus affinis*), chromatropic acid, UV-Vis spectrophotometry